



# DRAFT ENVIRONMENTAL IMPACT REPORT

FOR THE

## PITTSBURG 2040 GENERAL PLAN UPDATE

(SCH # 2022040427)

DECEMBER 2023

*Prepared for:*

City of Pittsburg  
Community and Economic Development Department  
65 Civic Avenue  
Pittsburg, CA 94565

*Prepared by:*

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D e N o v o P l a n n i n g G r o u p

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A Land Use Planning, Design, and Environmental Firm







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## PURPOSE

The City of Pittsburg (City) as lead agency, determined that the 2040 Pittsburg General Plan project (2040 General Plan, General Plan, or project) is a "project" within the definition of the California Environmental Quality Act (CEQA), and requires the preparation of an Environmental Impact Report (EIR). This Draft EIR has been prepared to evaluate the environmental impacts associated with implementation of the project. This EIR is designed to fully inform decision-makers in the City, other responsible and trustee agencies, and the general public of the potential environmental consequences of approval and implementation of the General Plan. A detailed description of the proposed project, including the components and characteristics of the project, project objectives, and how the EIR will be used, is provided in Chapter 2.0 (Project Description).

## AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the project that are known to the City, raised during the Notice of Preparation (NOP) scoping process, or were raised during preparation of the Draft EIR. This Draft EIR addresses the potentially significant impacts associated with aesthetics, agriculture and forest resources, air quality, biological resources, cultural and tribal cultural resources, geology, greenhouse gas emissions and energy, hazards and hazardous materials, hydrology and water quality, land use planning and population/housing, mineral resources, noise, public services and recreation, transportation, utilities and service systems, wildfire, and cumulative impacts.

During the NOP process, ten comment letters were received from interested agencies and organizations. The comments are summarized in Chapter 1.0 (Introduction), and are also provided in Appendix A.

## ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed project. The alternatives analyzed in this EIR include the following:

- **Alternative A: No Project.** Under Alternative A, the City would not adopt the General Plan Update. The existing Pittsburg General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or actions would occur. Changes to address environmental justice, sustainability, climate adaptation, economic development, greenhouse gases, and VMT would not be implemented. Subsequent projects, such as amending the Municipal Code (including the zoning map), would not occur.
- **Alternative B: Core Area Employment.** Alternative B continues to provide for a balance of job-creating and residential development land uses throughout the City and Planning Area

and increases jobs in the core area. This alternative would allow a 100% increase in FAR in the Downtown Mixed Use, Community Commercial, and Public/Quasi-public land use designations in the core area, resulting in an additional 264 jobs and 88,563 square feet of employment-generating uses. This alternative was developed to potentially reduce the severity of impacts associated with air quality, greenhouse gases, energy, and transportation.

- **Alternative C: Reduced Intensity.** Alternative C would revise the General Plan Land Use Map to update the North Central River subarea to reflect the proposed Bay Walk project. This modification affects approximately 1,000 acres and would place more emphasis on residential land uses, open space preservation, and brownfields remediation. This Alternative would result in a reduction of 266 housing units, 6.3 million square feet of employment-generating uses, and 5,479 jobs in comparison to the General Plan. This alternative was developed to potentially reduce the severity of less than significant impacts related to biological resources, public services, and utilities and to reduce impacts associated with air quality, greenhouse gases, energy, and transportation.

A comparative analysis of the proposed General Plan and each of the Project alternatives is provided in Table ES-1 below. The table includes a numerical scoring system, which assigns a score of 1 to 5 to each of the alternatives with respect to how each alternative compares to the proposed project in terms of the severity of the environmental topics addressed in this EIR. A score of “3” indicates that the alternative would have the same level of impact when compared to the proposed project. A score of “1” indicates that the alternative would have a better (or reduced) impact when compared to the proposed project. A Score of “2” indicates that the alternative would have a slightly better (or slightly reduced) impact when compared to the proposed project. A score of “4” indicates that the alternative would have a slightly worse (or slightly increased) impact when compared to the proposed project. A score of “5” indicates that the alternative would have a worse (or increased) impact when compared to the proposed project. The project alternative with the lowest total score is considered the environmentally superior alternative.

As shown in Table ES-1, Alternative A (the No Project Alternative) is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, Alternative C (the Reduced Intensity Alternative) is the environmentally superior alternative when looked at in terms of all potential environmental impacts. While Alternative C has the highest score, Alternative C fails to reduce the severity of any of the significant and unavoidable impacts of the proposed project.

Overall, Alternative C is the environmentally superior alternative as it is the most effective in terms of overall reductions of impacts compared to the proposed General Plan and all other alternatives. As such, Alternative C is the environmentally superior alternative for the purposes of this EIR analysis. Additionally, similar to the Proposed General Plan, Alternative C meets all project objectives.

**TABLE ES-1: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT**

<i>ENVIRONMENTAL ISSUE</i>	<i>PROPOSED PROJECT</i>	<i>ALTERNATIVE A (NO PROJECT)</i>	<i>ALTERNATIVE B (CORE AREA EMPLOYMENT)</i>	<i>ALTERNATIVE C (REDUCED INTENSITY)</i>
Aesthetics and Visual Resources	3 – Same	3 – Same	4 – Slightly Worse	2 – Slightly Better
Agricultural and Forest Resources	3 – Same	3 – Same	3 – Same	3 – Same
Air Quality	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Biological Resources	3 – Same	3 – Same	3 – Same	3 – Same
Cultural and Tribal Cultural Resources	3 – Same	3 – Same	3 – Same	3 – Same
Geology and Soils	3 – Same	3 – Same	3 – Same	3 – Same
Greenhouse Gases, Climate Change, and Energy	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Hazards and Hazardous Materials	3 – Same	3 – Same	3 – Same	2 – Slightly Better
Hydrology and Water Quality	3 – Same	3 – Same	3 – Same	3 – Same
Land Use Planning and Population/Housing	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Mineral Resources	3 – Same	3 – Same	3 – Same	3 – Same
Noise	3 – Same	3 – Same	2 – Slightly Better	2 – Slightly Better
Public Services and Recreation	3 – Same	3 – Same	3 – Same	3 – Same
Transportation and Circulation	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Utilities	3 – Same	3 – Same	3 – Same	3 – Same
Wildfire	3 – Same	3 – Same	3 – Same	3 – Same
Irreversible Effects	3 – Same	3 – Same	3 – Same	3 – Same
<b>SUMMARY</b>	<b>51</b>	<b>49</b>	<b>48</b>	<b>45</b>

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the project's significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations. "Beneficial" effect is not defined in the CEQA Guidelines, but for purposes of this EIR a beneficial effect is one in which an environmental condition is enhanced or improved.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

**TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
<b>AESTHETICS AND VISUAL RESOURCES</b>			
Impact 3.1-1: General Plan implementation would not have a substantial adverse effect on a scenic vista	LS	<i>None Required</i>	LS
Impact 3.1-2: General Plan implementation would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway	LS	<i>None Required</i>	LS
Impact 3.1-3: General Plan implementation would not, in a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings, or in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality	LS	<i>None Required</i>	LS
Impact 3.1-4: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare	LS	<i>None Required</i>	LS
<b>AGRICULTURAL AND FOREST RESOURCES</b>			
Impact 3.2-1: General Plan implementation would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use	LS	<i>None Required</i>	LS
Impact 3.2-2: General Plan implementation would not result in conflicts with existing zoning	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
for agricultural use, or a Williamson Act contract			
Impact 3.2-3: General Plan implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use	LS	None Required	LS
<b>AIR QUALITY</b>			
Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan	LS	None Required	LS
Impact 3.3-2: General Plan implementation could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU
Impact 3.3-3: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU
Impact 3.3-4: General Plan implementation would result in other emissions (such as those leading to odors adversely affecting a substantial number of people)	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU
<b>BIOLOGICAL RESOURCES</b>			
Impact 3.4-1: General Plan implementation could have a substantial adverse effect, either directly or through habitat modifications, on any	LS	None Required	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service			
Impact 3.4-2: General Plan implementation could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	LS	None Required	LS
Impact 3.4-3: General Plan implementation could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	LS	None Required	LS
Impact 3.4-4: General Plan implementation would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	LS	None Required	LS
Impact 3.4-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LS	None Required	LS
Impact 3.4-6: General Plan implementation would not conflict with the provisions of an	LS	None Required	LS



<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan			
<b>CULTURAL AND TRIBAL RESOURCES</b>			
Impact 3.5-1: General Plan implementation could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5	LS	<i>None Required</i>	LS
Impact 3.5-2: General Plan implementation could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5	LS	<i>None Required</i>	LS
Impact 3.5-3: Implementation of the General Plan could lead to the disturbance of any human remains	LS	<i>None Required</i>	LS
Impact 3.5-4: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency	LS	<i>None Required</i>	LS
<b>GEOLOGY AND SOILS</b>			
Impact 3.6-1: General Plan implementation has the potential to expose people or structures to	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides			
Impact 3.6-2: General Plan implementation has the potential to result in substantial soil erosion or the loss of topsoil	LS	None Required	LS
Impact 3.6-3: General Plan implementation has the potential to result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse	LS	None Required	LS
Impact 3.6-4: General Plan implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property	LS	None Required	LS
Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water	LS	None Required	LS
Impact 3.6-6: General Plan implementation has the potential to directly or indirectly destroy a unique paleontological resource or site or	LS	None Required	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
unique geologic feature			
<b>GREENHOUSE GAS EMISSIONS, CLIMATE CHANGE, AND ENERGY</b>			
Impact 3.7-1: Project implementation could generate greenhouse gas emissions that could have a significant impact on the environment and could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.7-2: General Plan implementation has the potential to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency	LS	<i>None Required</i>	LS
<b>HAZARDS AND HAZARDOUS MATERIALS</b>			
Impact 3.8-1: General Plan implementation has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	LS	<i>None Required</i>	LS
Impact 3.8-2: General Plan implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 3.8-3: General Plan implementation has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	LS	None Required	LS
Impact 3.8-4: General Plan implementation is not located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area	LS	None Required	LS
Impact 3.8-5: General Plan implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	None Required	LS
Impact 3.8-6: General Plan implementation has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires	LS	None Required	LS
<b>HYDROLOGY AND WATER QUALITY</b>			
Impact 3.9-1: General Plan implementation could violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan	LS	None Required	LS
Impact 3.9-2: General Plan implementation could result in the depletion of groundwater supplies or interfere substantially with groundwater recharge or conflict with a	LS	None Required	LS

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groundwater management plan			
Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff	LS	<i>None Required</i>	LS
Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche.	LS	<i>None Required</i>	LS
<b>LAND USE PLANNING AND POPULATION/HOUSING</b>			
Impact 3.10-1: General Plan implementation would not physically divide an established community	LS	<i>None Required</i>	LS
Impact 3.10-2: General Plan implementation would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	LS	<i>None Required</i>	LS
Impact 3.10-3: General Plan implementation would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)	LS	<i>None Required</i>	LS
Impact 3.10-4: General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
construction of replacement housing elsewhere			
<b>MINERAL RESOURCES</b>			
Impact 3.11-1: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	LS	<i>None Required</i>	LS
Impact 3.11-2: General Plan implementation would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan	LS	<i>None Required</i>	LS
<b>NOISE</b>			
Impact 3.12-1: General Plan implementation may result in exposure to significant traffic noise sources	LS	<i>None Required</i>	LS
Impact 3.12-2: General Plan implementation may result in exposure to excessive railroad noise sources	LS	<i>None Required</i>	LS
Impact 3.12-3: General Plan implementation could result in the generation of excessive stationary noise sources	LS	<i>None Required</i>	LS
Impact 3.12-4: General Plan implementation may result in an increase in construction noise sources	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.12-5: General Plan implementation may result in exposure to excessive aircraft noise	LS	<i>None Required</i>	LS

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
sources			
Impact 3.12-6: General Plan implementation may result in construction vibration	LS	<i>None Required</i>	LS
Impact 3.12-7: General Plan implementation may result in exposure to groundborne vibration	LS	<i>None Required</i>	LS
<b>PUBLIC SERVICES AND RECREATION</b>			
Impact 3.13-1: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new fire protection facilities or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts and the provision of public services	LS	<i>None Required</i>	LS
Impact 3.13-2: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new police protection facilities or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts and the provision of public services	LS	<i>None Required</i>	LS
Impact 3.13-3: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new school facilities or the need for new or physically altered school facilities, the construction of which could cause significant environmental	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
impacts and the provision of public services			
Impact 3.13-4: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new park facilities or the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts and the provision of public services	LS	None Required	LS
Impact 3.13-5: General Plan implementation could result in adverse physical impacts on the environment associated with the need for other public facilities or the need for new or physically altered facilities, the construction of which could cause significant environmental impacts and the provision of public services	LS	None Required	LS
Impact 3.13-6: General Plan implementation may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities	LS	None Required	LS
<b>TRANSPORTATION AND CIRCULATION</b>			
Impact 3.14-1: General Plan implementation would result in VMT per employee that is greater than 85 percent of Baseline conditions	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU
Impact 3.14-2: General Plan implementation would conflict with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU



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facilities			
Impact 3.14-3: General Plan implementation would increase hazards due to a design feature, incompatible uses, or inadequate emergency access	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
<b>UTILITIES AND SERVICE SYSTEMS</b>			
Impact 3.15-1: General Plan implementation would result in insufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry and multiple dry years	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	SU
Impact 3.15-2: General Plan implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS	<i>None Required</i>	LS
Impact 3.15-3: General Plan implementation has the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	LS	<i>None Required</i>	LS
Impact 3.15-4: General Plan implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects	LS	<i>None Required</i>	LS

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 3.15-5: General Plan implementation may require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects	LS	None Required	LS
Impact 3.15-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals	LS	None Required	LS
<b>WILDFIRES</b>			
Impact 3.16-1: General Plan implementation would not substantially impair an adopted emergency response plan or emergency evacuation plan	LS	None Required	LS
Impact 3.16-2: General Plan implementation could, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	LS	None Required	LS
Impact 3.16-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in	LS	None Required	LS

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
temporary or ongoing impacts to the environment			
Impact 3.16-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes	LS	<i>None Required</i>	LS
<b>OTHER CEQA-REQUIRED TOPICS</b>			
Impact 4.1: Cumulative degradation of the existing visual character of the region	LS	<i>None Required</i>	LCC
Impact 4.2: Cumulative impact to agricultural lands and resources	LS	<i>None Required</i>	LCC
Impact 4.3: Cumulative impact on the region's air quality	PS	<i>Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.</i>	CC and SU
Impact 4.4: Cumulative loss of biological resources, including habitats and special status species	LS	<i>None Required</i>	LCC
Impact 4.5: Cumulative impacts on known and undiscovered cultural resources	LS	<i>None Required</i>	LCC
Impact 4.6: Cumulative impacts related to geology and soils	LS	<i>None Required</i>	LCC
Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy	LS	<i>None Required</i>	LCC
Impact 4.8: Cumulative impacts related to hazardous materials and human health risks	LS	<i>None Required</i>	LCC

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 4.9: Cumulative impacts related to hydrology and water quality	LS	None Required	LCC
Impact 4.10: Cumulative impacts related to local land use, population, and housing	LS	None Required	LCC
Impact 4.11: Cumulative impacts related to mineral resources	LS	None Required	LCC
Impact 4.12: Cumulative impacts related to noise	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	CC and SU
Impact 4.13: Cumulative impacts to public services and recreation	LS	None Required	LCC
Impact 4.14: Cumulative impacts on the transportation network	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU
Impact 4.15: Cumulative impacts related to utilities	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU
Impact 4.16: Cumulative impact related to wildfire	LS	None Required	LCC
Impact 4.17: Irreversible Effects	PS	Minimized to the greatest extent feasible through General Plan Policies and Actions. No feasible mitigation is available.	SU

NOTES:

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

SU – significant and unavoidable

## 1.1 INTRODUCTION

In 2019, the City of Pittsburg (City) began a multi-year process to update the City’s General Plan. State law requires every city and county in California to prepare and maintain a planning document called a general plan. A general plan is a “constitution” or “blueprint” for the future physical development of a county or city. As part of the Pittsburg General Plan Update process, a General Plan Existing Conditions Report was prepared to establish a baseline of existing conditions in the City. Additionally, a Land Use Alternatives and Capacity Report was prepared to evaluate three land use alternative scenarios and identify the population and jobs that would result from each scenarios, to provide an opportunity for citizens and policymakers to come together in a process of developing a common vision for the future, and to identify a range of options available to the City as the General Plan Land Use Map was modified and updated.

The proposed 2040 General Plan includes a framework of goals, policies, and actions that will guide the community toward its common vision. The 2040 General Plan is supported with a variety of maps, including a Land Use Map and Circulation Diagram.

## 2040 GENERAL PLAN

The 2040 Pittsburg General Plan (General Plan, General Plan Update, or proposed project) is the overarching policy document that guides land use, housing, transportation, open space, public safety, community services, and other policy decisions throughout Pittsburg. The General Plan includes the eight elements mandated by State law, to the extent that they are relevant locally, including: Circulation, Conservation, Housing, Environmental Justice, Land Use, Noise, Open Space, and Safety. The City may also address other topics of interest; this General Plan includes elements related to Community Facilities (including infrastructure), Downtown, Economic Development, Growth Management, and Urban Design. The General Plan sets out the goals, policies, and actions in each of these areas, serves as a policy guide for how the City will make key planning decisions in the future, and guides how the City will interact with Contra Costa County, surrounding cities, and other local, regional, State, and Federal agencies.

The General Plan contains the goals and policies that will guide future decisions within the City. It also identifies implementation programs, in the form of actions, that will ensure the goals and policies in the General Plan are carried out. As part of the 2040 General Plan Update, the City and the consultant team prepared several supporting documents that serve as the building blocks for the General Plan and analyze the environmental impacts associated with implementing the General Plan. Outreach efforts and supporting documents associated with the 2040 General Plan are summarized in Chapter 2.0, Project Description.

## GENERAL PLAN ENVIRONMENTAL IMPACT REPORT

An EIR responds to the requirements of the California Environmental Quality Act (CEQA) as set forth in Sections 15126, 15175, and 15176 of the CEQA Guidelines. The Planning Commission and City Council will use the EIR during the General Plan Update process in order to understand the

potential environmental implications associated with implementing the General Plan. This EIR was prepared concurrently with the General Plan policy document in order to facilitate the development of a General Plan that is largely self-mitigating. In other words, as environmental impacts associated with the new General Plan, including the Land Use Map, were identified; policies and actions were incorporated into the General Plan policy document in order to reduce or avoid potential environmental impacts.

### 1.2 PURPOSE OF THE EIR

The City of Pittsburg, as lead agency, determined that the Pittsburg General Plan Update is a "project" within the meaning of CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the Pittsburg General Plan. A copy of the Public Draft General Plan is located on the Pittsburg General Plan Update website, at [pittsburg.generalplan.org](http://pittsburg.generalplan.org). The Draft EIR also discusses alternatives to the General Plan and methods to offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR has been prepared in accordance with CEQA, California Resources Code Section 21000 et seq.; and the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3).

An EIR must disclose the expected direct and indirect environmental impacts associated with a project, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize significant environmental impacts of proposed development.

### 1.3 TYPE OF EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

“A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

- 1) Geographically;
- 2) As logical parts in the chain of contemplated actions;
- 3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or

- 4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.”

The program-level analysis considers the broad environmental effects of the proposed project. This EIR will be used to evaluate subsequent projects and activities under the proposed project. This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the proposed project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project’s consistency with the General Plan and the analysis in this EIR, as required under CEQA. It may be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities under the General Plan are proposed, the lead agency that would approve and/or implement the individual project will examine the projects or activities to determine whether their effects were adequately analyzed in this program EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this EIR, no further CEQA compliance would be required.

## 1.4 INTENDED USES OF THE EIR

The City of Pittsburg, as the lead agency, has prepared this EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from adoption of the Pittsburg General Plan and subsequent implementation of projects consistent with the General Plan. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the General Plan. Subsequent actions that may be associated with the General Plan are identified in Chapter 2.0, Project Description. This EIR may also be used by other agencies within Contra Costa County.

## 1.5 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term “Responsible Agency” includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

## 1.0 INTRODUCTION

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While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the Pittsburg General Plan, implementation of future projects within Pittsburg may require permits and approvals from such agencies, which may include the following:

- California Department of Fish and Wildlife (CDFW);
- Bay Area Air Quality Management District (BAAQMD);
- San Francisco Bay Conservation and Development Commission (BCDC);
- California Department of Transportation (Caltrans);
- California Department of Toxic Substances Control (DTSC);
- East Contra Costa County Habitat Conservancy (ECCC HCP/NCCP);
- Regional Water Quality Control Board (RWQCB);
- U.S. Army Corps of Engineers (USACE);
- U.S. Environmental Protection Agency (USEPA);
- U.S. Fish and Wildlife Service (USFWS);
- Metropolitan Transportation Commission (MTC);
- California Department of Resources, Recycling, and Recovery (Cal Recycle);
- East Bay Regional Park District (EBRPD);
- California Office of Historic Preservation (OHP); and
- California Department of Conservation (DOC).

## 1.6 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

### NOTICE OF PREPARATION

The City of Pittsburg circulated a Notice of Preparation (NOP) of an EIR for the proposed project on April 20, 2022, to trustee and responsible agencies, the State Clearinghouse, and the public. A scoping meeting was held on May 5, 2022, via a web-based video meeting. No public or agency comments on the NOP related to the EIR analysis were presented or submitted during the scoping meeting. However, during the 30-day public review period for the NOP, which ended on May 20, 2022, ten written comment letters were received on the NOP. A summary of the NOP comments is provided later in this chapter. The NOP and all comments received on the NOP are presented in Appendix A.

### DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of the project's direct and indirect impacts on the environment and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in



preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Pittsburg will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

## PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the City of Pittsburg will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR is sixty (60) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

John Funderburg, Assistant Director of Community and Economic Development  
City of Pittsburg  
65 Civic Avenue  
Pittsburg, CA 94565

## RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to both oral and written comments received during the public review period.

## CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Pittsburg City Council will review and consider the Final EIR. If the City finds that the Final EIR is "adequate and complete," the City Council may certify the Final EIR in accordance with CEQA. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the proposed project that intelligently take account of environmental consequences.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or deny the project. If the EIR determines that the project would result in significant adverse impacts to the environment that cannot be mitigated to less than significant levels, the City Council would be required to adopt a statement of overriding considerations as well as written findings in accordance with State CEQA Guidelines Sections 15091 and 15093. If additional mitigation measures are required (beyond the General Plan policies and actions that reduce potentially significant impacts, as identified throughout this EIR), a Mitigation Monitoring and Reporting Program (MMRP) would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. The MMRP would be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

## 1.7 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an

environmental impact analysis, mitigation measures for any significant impacts, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The EIR reviews environmental and planning documentation developed for the project, environmental and planning documentation prepared for recent projects located within the City of Pittsburg, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

### EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed project.

### CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the proposed project, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

### CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent projects and activities, and a list of related agency action requirements.

### CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

**Environmental Setting.** A description of the existing environment as it pertains to the topical area.

**Regulatory Setting.** A description of the regulatory environment that may be applicable to the project.

**Impacts and Mitigation Measures.** Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Agricultural and Forest Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Resources
- Geology and Soils
- Greenhouse Gas Emissions, Climate Change, and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning/Population and Housing
- Mineral Resources
- Noise
- Public Services and Recreation
- Transportation and Circulation
- Utilities and Service Systems
- Wildfires

## CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental effects.

## CHAPTER 5.0 – ALTERNATIVES

Chapter 5.0 provides a comparative analysis between the merits of the proposed project and the selected alternatives. State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain the basic objectives of the project and avoid and/or lessen any significant environmental effects of the project.

## CHAPTER 6.0 – REPORT PREPARERS

Chapter 6.0 lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

## APPENDICES

This section includes all notices and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.

## 1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City received ten comment letters on the NOP. Copies of these letters are provided in Appendix A of this Draft EIR and the comments are summarized below.

## 1.0 INTRODUCTION

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- Bay Area Air Quality Management District, Greg Nudd, Deputy Air Pollution Control Officer, May 16, 2022: Draft EIR should evaluate impacts to air quality in accordance with the Air District’s CEQA Guidelines, including consistency with the Clean Air Plan, greenhouse gas emissions should be evaluated, measures to reduce construction, operational and transportation impacts, as well as complying with all applicable rules and regulations related to air quality.
- San Francisco Bay Area Rapid Transit District, Tim Chan, Group Manager – Station Area Planning, May 20, 2022. Zoning proposed for Bay Area Rapid Transit land at Pittsburg-Bay Point and Pittsburg Center Station is not in conformance with baseline zoning standards, as related to Assembly Bill 2923.
- California Department of Transportation, Mark Leong, District Branch Chief, Local Development Review, May 17, 2022. General Plan Update and its EIR should consider the requirements of Senate Bill 743, related to Traven Demand Analysis, and consistency with regulatory requirements related to congestion management. City should gain a determination of conformity from Contra Costa County Transportation Authority related to the Regional Transportation Plan. Transportation impact fees for multi-modal and regional transit improvements are encouraged. Compliance with the Americans with Disabilities Act standards should be maintained, as well as bicycle and pedestrian access during future project construction.
- Contra Costa County Flood Control and Water Conservation District, Joe Smithonic, Staff Engineer, May 12, 2022. Draft EIR should address the following: include a map of watersheds within the Planning Area, proposed changes in density, stormwater runoff management, stormwater drainage and conveyance facilities, adequacy of drainage facilities and design criteria, Kirker Creek and other FEMA special flood hazard areas, payment of drainage area fees as mitigation, incorporation of natural features to flood control channels, identification of appropriate environmental regulatory agencies, compliance with National Pollutant Discharge Elimination System requirements, and a request to include the Flood Control District in review of all drainage facilities with regional impacts or benefits.
- Cox Castle Nickolson, Linda Klein (on behalf of “Making Waves Academy), May 20, 2022. General Plan Update and its EIR should provide goals and policies that support additional housing at all income levels, and clarification regarding housing and mixed-use residential/commercial development should be allowed on land designated as Marina Commercial.
- Delta Stewardship Council, Jeff Henderson, Deputy Executive Officer, May 23, 2022. General Plan Update and its EIR should ensure consistency and compliance with the Delta Plan regulatory policies and related climate change scenarios.
- East Bay Regional Park District, Brian Hold, Chief – Planning, Trails and GIS Division, May 20, 2022. Draft EIR Should consider transportation opportunities involving the advancement of the Great California Delta Trail alignment, including long-term planning related to this recreational asset, and sea level rise protection and adaptation plans should also be considered.

- Mt. Diablo Unified School District, Dr. Lisa Gonzales, Chief Business Officer, May 4, 2022. Additional housing resulting from General Plan implementation could result in increased demand for schools, which currently do not have capacity to accommodate a significant number of new students.
- City of Pittsburg Engineering Department, Jolan Longway, Development Manager/Clean Water Program Coordinator, May 12, 2022. Feasibility of special park designations in creek and tributary areas should be considered, including language that supports the implementation of the City's Green Stormwater Infrastructure Plan should be included in General Plan Update.
- Federal Aviation Administration, Christopher Jones, June 22, 2022. Coordination with Contract Costa County Airports Division requested. Other issues noted are related to airport noise, wildlife attractants on or near airports, and potential affects to airport operations and navigable airspace.

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## 2.1 BACKGROUND AND OVERVIEW

### STATE GENERAL PLAN LAW

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California Government Code Section 65300 et seq. requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate adaptation and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 et seq.) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860, subd. [c]).

### GENERAL PLAN UPDATE PROCESS

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The City was incorporated in June 1903. The City's current General Plan was last comprehensively updated in 2001, and an update to the Housing Element was completed in 2015. In March of 2018, the City issued a request for proposals (RFP) inviting bids from qualified consulting firms to assist the City in the preparation of a comprehensive update to the General Plan.

The process to update the Pittsburg General Plan began in January 2019 and is scheduled to be completed with the adoption of the updated Pittsburg General Plan by the City Council in 2024. The Pittsburg General Plan (General Plan or proposed project) was developed with extensive community input.

The City provided multiple opportunities for public input on the development of the Draft Land Use Map. The Land Use Alternatives were presented to stakeholders at a meeting for initial feedback and recommendations regarding community input. The City held two community

workshops, in April 2021, to receive feedback on the Land Use Alternatives. Following public review and input on the Land Use Alternatives, the City held three joint Planning Commission/City Council workshops to provide additional opportunities for public comment and to refine the Draft Land Use Map. The joint workshops resulted in development of an additional alternative (Alternative D) for consideration and culminated with identification of the Draft Land Use Map that is analyzed in the Draft EIR and included in the Draft General Plan.

### **Community Outreach**

A summary of the community outreach and public participation process is provided below.

#### OUTREACH OBJECTIVES

The goals established for the Community Engagement Plan are to:

- Gather meaningful input and feedback from the community at-large.
- Engage and empower community members in the visioning and planning process for their community.
- Provide an open and transparent process.
- Achieve broad demographic and geographic representation from community members and other stakeholders.
- Achieve an end product that has community support and ownership because community members feel that their voice has been heard.
- Develop easily understood informational materials that are culturally appropriate.
- Engage the community in a planning process that results in sustainable and implementable recommendations after the new general plan is adopted.
- Involve stakeholders and the general public at key points with interactive participation that ranges from one-on-one activities to large scale community meetings and activities.

#### COMMUNITY VISIONING

In 2019, the City conducted a visioning process to solicit input from residents, business owners, service providers, and other community stakeholders regarding issues and priorities for the General Plan Update to address. The visioning process included a series of Visioning Workshops, pop-up events throughout the community, and an Envision Pittsburg survey.

#### ***Visioning Workshops***

In 2019, the General Plan Update team held three Visioning Workshops to help kick-off the General Plan Update process. City residents and stakeholders attended workshops at the Pittsburg City Hall. City staff also hosted a series of pop-up events at locations throughout the community during this same time period to encourage participation and input from community members that may not attend formal workshops. The Visioning Workshops and pop-up events provided an opportunity for the public to offer its thoughts on what it values about its community and the city, and what important issues should be addressed in updating the General Plan.

Each Visioning Workshop included a presentation by the General Plan Update team that explained the role of the General Plan, an overview of the General Plan Update process, and an opportunity



for the Visioning Workshop participants to ask questions and seek clarification on the process and the role of the community. Visioning Workshop participants were asked to complete activities and exercises in order to provide information to the General Plan Update team. Each Visioning Workshop focused on different themes and topics to be addressed in the General Plan. At each Visioning Workshop, participants were provided an opportunity to identify where future land uses should be located within the community, ideas for community design, and transportation priorities. The maps prepared by the Visioning Workshop participants were reviewed and organized by theme, and major themes from the Visioning Workshop mapping activities were considered during the development of the land use alternatives.

### ***Pop-up Events***

During the initial visioning outreach, City staff attended numerous events throughout the community, including festivals, neighborhood meetings, community events, and school events, to obtain input from a broad and diverse segment of the community that may not attend typical City meetings. Pop-up events included the Earth Day Festival on April 24, 2019, the annual Taco, Tequila, Cerveza Festival on May 4, 2019, a San Marco Neighborhood Watch meeting on May 11, 2019, two Neighborhood Improvement Team (NIT) meetings, one on May 15, 2019 at Buchanan Park and the second on May 18, 2019 at the California Theater, the Art in the Park event on May 23, 2019, an event at the Pittsburg High School quad on May 30, 2019,, and at the Car Show in Old Town Pittsburg on May 30, 2019.

### ***Envision Pittsburg Survey***

During the Visioning process, an on-line survey was distributed on the City's Engage Pittsburg platform to obtain additional community input. The survey received 127 responses. It included questions regarding residency, place of work, age, and home ownership. The survey also had a series of questions to help identify what people love most about Pittsburg; their satisfaction with Pittsburg over a range of topic areas; and their priorities for the General Plan Update.

### VISIONING REPORT

The feedback provided by the community at the three Visioning Workshops, through the pop-up events, and through the Envision Pittsburg survey provides the City with a broad, overarching vision for the development of the General Plan Update and identifies key community values and priorities for careful consideration in the General Plan Update process. A full summary of the input received during the Visioning Workshops, pop-up events, and Envision Pittsburg survey is available online in the Visioning Report, available here:

<https://pittsburg.generalplan.org/documents-and-maps>

### ***Opportunity Areas Virtual Workshop and Survey***

In August and September 2020, the City hosted an on-line virtual workshop and survey to receive community input related to land use preferences for four opportunity areas in the City. The virtual workshop informed the community of the City's related efforts for the 2040 Pittsburg General Plan Update and the Brownfields Revitalization Planning effort. The virtual workshop included a video presentation that introduced the effort and described the purpose of the workshop, an on-line 'tour' introducing the four opportunity areas and identifying their locations and key characteristics,

and a survey for participants to share their preferences and priorities for each opportunity area with the City. The Pittsburg Opportunity Sites Survey Results document is available on the project's website:

<https://pittsburg.generalplan.org/documents-and-maps>

### ***Land Use Alternatives Workshops***

In 2021, the City released the Land Use Alternatives and Capacity Report and conducted a survey and a series of workshops, including community workshops and joint workshops with the City Council and Planning Commission, to receive feedback on the alternatives. The Land Use Alternatives and Capacity Report presents possible modifications associated with three alternatives (Alternatives A through C) to land use and development intensity in a manner that will support the community's vision for increased economic development opportunities, a range of housing options, preservation of established residential neighborhoods, and quality job growth. The community provided feedback on the Land Use Alternatives through a series of workshops and a survey; the community's feedback is summarized in the Community Input Memo: Land Use Map Alternatives.

A summary of the feedback received from the community and stakeholders is provided in the the Community Input Memo: Land Use Map Alternatives, which is available on the project's website:

<https://pittsburg.generalplan.org/documents-and-maps>

As a result of Planning Commission and City Council consideration of the Land Use Alternatives and Capacity Report and the community's feedback regarding the alternatives, the Planning Commission and City Council provided input that resulted in a hybrid alternative land use map alternative, Alternative D, which contained elements of the three initial alternatives.

## **2040 General Plan Supporting Documents**

The 2040 General Plan is the policy document that serves as the City's General Plan. The 2040 General Plan is supported by a number of reports and documents that informed its development, established conditions in the City, and evaluated the effects of the General Plan. Supporting documents prepared as part of the 2040 General Plan effort are listed in below in order of completion.

### VISIONING REPORT

In the Spring and early Summer of 2019, the City of Pittsburg hosted three visioning workshops, a series of pop-up events, and an on-line Envision Pittsburg survey to understand the community's vision for the future of Pittsburg. The feedback provided by the community at these workshops and events has been summarized in the Visioning Report. The Visioning Report identifies the core values expressed by the community, identifies the input received at each visioning workshop and pop-up event, including a list of all comments/input provided at each event and maps with notes from small group sessions during the visioning workshops, and summarizes input from the Envision Pittsburg survey. The Visioning Report includes attachments with the results of community

participation activities from the Visioning Workshops and a complete report of all Envision Pittsburg survey responses.

#### ECONOMIC TRENDS REPORT

The Economic Trends Report was prepared in August 2019 and describes existing economic development conditions, including patterns in sectoral employment, business activity, retail sales, and the commercial and industrial real estate markets and addresses projected employment growth and the associated potential demand for new workspace during the Envision Pittsburg timeframe, which generally runs from 2020 to 2040.

#### EXISTING CONDITIONS REPORT

The Existing Conditions Report, published in November 2019, establishes a baseline of existing conditions in the planning area for the General Plan Update process. Specifically, the report identifies development patterns, demographic and housing trends, circulation and transportation patterns and resources, community services and facilities, natural resources, and environmental constraints, and identifies the regulatory environment for each topic. The Existing Conditions Report is principally a technical document that comprises a substantial amount of data. To make this information more accessible to all readers, the report incorporates numerous maps and graphics. The report serves as a resource for the City Council, the Planning Commission, members of the public, City staff, and the consultant team through the General Plan Update process. This facilitates all parties informed participation in the process, ensuring that the updated General Plan addresses Pittsburg's unique circumstances at the time it was prepared. The Existing Conditions Report also serves to inform users of this 2040 General Plan of the conditions and issues in the City that are addressed by the General Plan.

#### LAND USE ALTERNATIVES AND CAPACITY REPORT

The Land Use Alternatives and Capacity Report presents possible modifications to land use and development intensity in a manner that will support the community's vision for increased economic development opportunities, a range of housing options, preservation of established residential neighborhoods, and quality job growth. The Land Use Alternatives and Capacity Report examines three alternatives (Alternatives A through C). The potential changes to the Land Use Map identified in this report are based upon public input gathered to date, information contained in the Existing Conditions Report, Visioning Report, Opportunity Areas Virtual Workshop and Survey, and City staff and consultant's team consideration of development opportunities and land use constraints. The community provided feedback on the Land Use Alternatives through a series of workshops and a survey; the community's feedback is summarized in the Community Input Memo: Land Use Map Alternatives.

As a result of Planning Commission and City Council consideration of the Land Use Alternatives and Capacity Report and the community's feedback regarding the alternatives, the Planning Commission and City Council provided input that resulted in a new alternative land use map alternative, Alternative D.

### 2040 GENERAL PLAN (POLICY DOCUMENT)

The 2040 General Plan establishes the City's goals, policies, and strategies and addresses the state-mandated element, including land use, environmental justice, circulation, housing, open space, conservation, noise, and safety, and optional elements addressing locally relevant topics (growth management, urban design, Downtown, economic development, community health and wellness, youth and recreation, and community facilities). The General Plan sets out the goals, policies, and action items in each of these areas and serves as a policy guide for how the City will make key planning decisions in the future. It also identifies how the City will interact with Contra Costa County, adjacent and nearby cities, and other local, regional, State, and Federal agencies on shared development-related decisions and actions.

## 2.2 PROJECT LOCATION

### REGIONAL SETTING

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Pittsburg is a city in eastern Contra Costa County and is bordered by Suisun Bay to the north and Solano County to the north, the City of Antioch and unincorporated Contra Costa County to the east, the City of Concord to the west, and unincorporated Contra Costa County to the south. See Figure 2.0-1, Regional Location Map.

Pittsburg is well-connected within the Bay Area region with access to all modes of transportation, from regional rail services, airports, state routes and more, including Pittsburg/Bay Point BART and the extension of BART services to eastern Contra Costa County. State Route 4 (SR-4) provides regional motor vehicle access to the other major cities and towns in the Bay Area. This part of the region is characterized by rolling hills and proximity to the San Francisco Bay and Sacramento River Delta.

Pittsburg's early growth centered around industrial development. The growth of the Bay Area has brought many changes to the Pittsburg region, including residential, commercial development and marina development. Pittsburg has grown outward from the downtown area since the 1990s. Residential development continues in the southwestern portion of the City, generally south of Leland Road. Infill commercial development continues to occur along SR-4. The expansion of BART to serve Pittsburg, with the Bay Point Station opening in 1996 and the Pittsburg Center Station opening in 2018, has encouraged transit-oriented development, including new retail, commercial offices, restaurants, and residential uses around the stations.

### ENVIRONMENTAL IMPACT REPORT PLANNING AREA

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In addition to the lands within the City boundaries, state law requires that a municipality adopt a General Plan that addresses "any land outside its boundaries which in the planning agency's judgment bears relation to its planning (California Government Code §65300)." The City's Planning Area is the extent of the area addressed by the General Plan. The Planning Area includes lands within the City, the City's Sphere of Influence (SOI), and lands outside of the SOI. The Planning Area includes the unincorporated community of Bay Point to the northwest, west and a much

larger area south of the City that predominantly includes open space uses. See Figure 2.0-2, Planning Areas.

## 2.3 PROJECT OBJECTIVES

The 2040 Pittsburg General Plan Update addresses issues of concern identified through the Visioning and community outreach efforts, including but not limited to:

- maintaining and enhancing Pittsburg’s character;
- managing the location, type, and amount of growth and ensuring that the community’s infrastructures and services are planned to keep pace with growth;
- providing for high-quality employment opportunities;
- providing recreation, entertainment, shopping, restaurants, and services for the City’s households, with an emphasis on increasing opportunities for the City’s youth;
- addressing environmental justice, including identifying and reducing any adverse effects to disadvantaged communities and identifying opportunities to improve equity and access to resources and amenities necessary for a high quality of life; and
- conserving natural resources; and addressing environmental effects, including methods to adapt to the effects of a changing climate and sea level rise.

## 2.4 DESCRIPTION OF PROPOSED 2040 GENERAL PLAN PROJECT

State law requires the City to adopt a comprehensive, long-term general plan for the physical development of its planning area. The General Plan must include land use, circulation, housing, conservation, open space, noise, and safety elements, and address environmental justice and climate adaptation, as specified in Government Code Section 65302, to the extent that the issues identified by State law exist in the City’s planning area. Additional elements that relate to the physical development of the City may also be addressed in the General Plan. The degree of specificity and level of detail of the discussion of each General Plan Element need only reflect local conditions and circumstances.

Upon adoption, the 2040 General Plan will replace the City’s existing 2020 General Plan, which was adopted in 2001, with subsequent updates to various elements.

The City is also updating the Housing Element, which will address the City’s Regional Housing Needs Allocation and the 2023-2031 planning period, in a process separate from the General Plan Update.

The City will implement the General Plan by requiring development, infrastructure improvements, and other projects to be consistent with its policies and by implementing the actions included in the General Plan, including subsequent project-level environmental review, as required under CEQA.

This environmental impact report analyzes potential impacts to the environment associated with implementation and buildout of the proposed General Plan, which includes future development

projects, infrastructure improvements, and the implementation of policies and actions included in the proposed General Plan.

### GENERAL PLAN CONTENTS

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The 2040 Pittsburg General Plan includes a comprehensive set of goals, policies, and implementation measures, as well as a revised Land Use Map (Figure 2.0-3).

- A **goal** is a description of the general desired result that the City seeks to create through the implementation of the General Plan.
- A **policy** is a specific statement that guides decision-making as the City works to achieve its goals. Once adopted, policies represent statements of City regulations. The General Plan's policies set out the standards that will be used by City staff, the Planning Commission, and the City Council in their review of land development projects, resource protection activities, infrastructure improvements, and other City actions. Policies are on-going and don't necessarily require specific action on behalf of the City.
- An **implementation measure** is an action, procedure, technique, or specific program to be undertaken by the City to help achieve a specified goal or implement an adopted policy. The City must take additional steps to implement each action in the General Plan. An action is something that can and will be completed.

A General Plan covers a wide range of social, economic, infrastructure, and natural resource issues. The 2040 General Plan will include goals, policies and implementation programs to address the state-mandated topics and will continue to have components that address optional topics, including growth management, urban design, downtown, education, economic development, youth and recreation, and public facilities.

### Land Use Element

The Land Use Element establishes the framework for the goals, policies, and implementation Programs that will shape the physical form of Pittsburg. The Land Use Element addresses the intensity and distribution of land uses and identifies areas of the City where change will be encouraged and those areas where the existing land use patterns will be maintained and enhanced.

The Land Use Element establishes the land use designations, including the allowed uses, intensities, and densities of development, established by the Land Use Map, shown in Figure 2.0-3. Table 2.0-1 shows the total acreages for each land use designation shown on the proposed Land Use Map.

**TABLE 2.0-1: 2040 GENERAL PLAN LAND USE DESIGNATIONS BY ACREAGE**

<i>LAND USE DESIGNATION</i>	<i>CITY</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>TOTAL</i>
<i>RESIDENTIAL DESIGNATIONS</i>				
Hillside Low Density Residential	146.1	66.2	0	212.3
Low Density Residential	2,842.6	1,054.0	0	3,896.6
Medium Density Residential	511.9	45.3	0	557.2
High Density Residential	214.6	159.5	0	374.1
Very High Density Residential	18.7	0	0	18.7
Downtown Low Density Residential	50.6	0	0	50.6
Downtown Medium Density Residential	111.3	0	0	111.3
Downtown High Density Residential	14.1	0	0	14.1
<b><i>Subtotal Residential</i></b>	<b><i>3,909.8</i></b>	<b><i>1,325</i></b>	<b><i>0</i></b>	<b><i>5,234.9</i></b>
<i>MIXED USE DESIGNATIONS</i>				
Mixed Use (Community Commercial)	21.3	0	0	21.3
Mixed Use (Downtown)	18.5	0	0	18.5
Mixed Use (General)	30.2	0	0	30.2
Mixed Use (P/BP BART)	52.7	0	0	52.7
Mixed Use (Railroad Ave SPA)	110.1	0	0	110.1
<b><i>Subtotal Mixed Use</i></b>	<b><i>232.8</i></b>	<b><i>0</i></b>	<b><i>0</i></b>	<b><i>232.8</i></b>
<i>COMMERCIAL AND INDUSTRIAL DESIGNATIONS</i>				
Community Commercial	181.1	56.0	0	237.1
Downtown Commercial	8.9	0	0	8.9
Employment Center Industrial	691.7	16.9	0	708.6
Industrial	981.6	382.9	0	1,364.5
Marina Commercial	89.8	51.5	0	141.3
Regional Commercial	174.9	0	0	174.9
Service Commercial	115.8	0	0	115.8
<b><i>Subtotal Commercial and Industrial</i></b>	<b><i>2,243.8</i></b>	<b><i>507.3</i></b>	<b><i>0</i></b>	<b><i>2,751.1</i></b>
<i>OTHER DESIGNATIONS</i>				
Landfill	0	0	195.7	195.7
Public/Institutional	457.3	725.0	0	1,182.3
Park	1,258.1	176.2	1,431.8	2,866.1
Open Space	1,521.6	1,771.3	5,354.1	8,647.0
Roadway	62.1	6.0	0	68.1
Utility/ROW	161.9	109.5	387.8	659.2
Water	221.7	351.0	0	572.7
<b><i>Subtotal Other</i></b>	<b><i>3,682.7</i></b>	<b><i>3,139.0</i></b>	<b><i>7,369.4</i></b>	<b><i>14,191.1</i></b>
<b>TOTAL</b>	<b>10,069.9</b>	<b>4,971.3</b>	<b>7,369.4</b>	<b>22,409.9</b>

SOURCE: CONTRA COSTA COUNTY GIS/ASSESSOR DATA, CITY OF PITTSBURG, DE NOVO PLANNING GROUP, 2022

Table 2.0-2 lists each land use designation and overlay and provides the density and floor area ratio (FAR) requirements for each designation, including any modifications associated with each land use alternative.

**TABLE 2.0-2: 2040 GENERAL PLAN LAND USE DESIGNATIONS AND DENSITIES/FAR**

<i>GENERAL PLAN LAND USE DESIGNATION OR OVERLAY</i>	<i>PROPOSED 2040 GENERAL PLAN DENSITY AND FAR</i>
<i>RESIDENTIAL DESIGNATIONS</i>	
<p><b>Hillside Low Density Residential</b> Allows single-family residential (attached or detached) development in the southern hills built at a density of less than 5 units per gross acre. Maximum densities should be allowed only in flatter, natural slope areas, or on non-environmentally sensitive level areas. An open, natural character is encouraged by clustering homes and minimizing cut-and-fill of natural hillsides.</p>	Density: Less than 5 units per gross acre FAR: -
<p><b>Low Density Residential</b> Allows primarily single-family residential (detached), attached single-family units permitted with ground-floor living area and private or common outdoor open space, duplexes where allowed by State law.</p>	Density: 1-7 units per gross acre FAR: -
<p><b>Medium Density Residential</b> Allowed one or two-story garden apartments, townhouses, single-family residential (attached or detached)..</p>	Density: 7.1-16 units per gross acre FAR: -
<p><b>High Density Residential</b> Allows a wide range of housing types, from single-family attached units to multi-family complexes are permitted. Subject to design review by the Planning Commission, additional discretionary density increases, up to a maximum project density of 40 units per gross acre, may be granted to projects that fulfill community objectives.</p>	Density: 16.1-30 units per gross acre; up to 40 units per acre for projects that fulfill community objectives FAR: -
<p><b>Very High Density Residential</b> Allows a wide range of housing types from single-family attached units to multi-family complexes.</p>	Density: 30.1-50 units per acre FAR: -
<p><b>Downtown Low Density Residential</b> Allows single-family residential (attached or detached), duplexes where allowed by State law.</p>	Density: 4-12 units per gross acre FAR: -
<p><b>Downtown Medium Density Residential</b> Allows single-family residential (attached or detached), multifamily complexes.</p>	Density: 12.1-18 units per gross acre FAR: -
<p><b>Downtown High Density Residential</b> Allows single-family residential (attached or detached), multifamily complexes</p>	Density: 18.1-30 units per gross acre FAR: -
<i>MIXED USE DESIGNATIONS</i>	
<p><b>Mixed Use (P/BP BART)</b> Applied to the approximately 54-acre area west of the Oak Hills Shopping Center, including the Pittsburg/Bay Point BART station parking lot. Allows for residential and non-residential uses up to the maximum permitted density and FAR.</p>	Density: 30-65 units per gross acre FAR: Non-residential: Up to 1.0
<p><b>Mixed Use (Railroad Ave)</b> Applied to the approximately 97-acre area located within approximately ½-mile of the Railroad Avenue/State Route 4 intersection. Allows for mixed uses that implement the Railroad Avenue Specific Plan, including high density and intensity office, residential, and community services and retail that support the City Center BART station and promote economic development.</p>	Density: 15-65 units per acre FAR: Up to 1.0



<i>GENERAL PLAN LAND USE DESIGNATION OR OVERLAY</i>	<i>PROPOSED 2040 GENERAL PLAN DENSITY AND FAR</i>
<p><b>Mixed Use (Downtown)</b> Encompasses approximately 20 acres located in and near the Downtown. Allows for mixed use and multi-family residential development in a well-designed walkable environment; uses intended to promote vitality of the Downtown and include Downtown-serving commercial, service, recreational, and residential uses. Residential uses include multi-family apartments, apartments, townhouses, and cluster housing.</p>	<p>Density: 12-30 units per gross acre FAR: W. 10th St – 0.25-0.6 Railroad Ave – 0.4-1.0 Other: 0.75-2.0</p>
<p><b>Mixed Use (General)</b> Accommodates mixed use with focus on providing community-serving retail, dining, office, and other uses in conjunction with residential development.</p>	<p>Density: 10-40 units per gross acre FAR: 0.25-1.6</p>
<p><b>Mixed Use (Community Commercial)</b> Accommodates mixed use with focus on providing community-serving retail, dining, office, and other uses in conjunction with residential development.</p>	<p>Density: 10-40 units per gross acre FAR: 0.0-1.0</p>
<i>COMMERCIAL AND INDUSTRIAL DESIGNATIONS</i>	
<p><b>Regional Commercial</b> Accommodated large-scale retailers and big-box retail center, automobile sales and services.</p>	<p>FAR: 0.0-0.5</p>
<p><b>Community Commercial</b> Accommodates commercial and community-serving businesses, including retail stores, eating and drinking establishments, commercial recreation and entertainment, service stations, financial, educational and social services.</p>	<p>Density: 0-30 units per gross acre FAR: 0.0-0.5</p>
<p><b>Downtown Commercial</b> Accommodates Specialty retail, personal services, restaurants, offices, financial organizations, institutions, and other businesses serving the daily needs of Downtown residents, Upper-story residential and mixed commercial/residential ground-floor uses are also permitted.</p>	<p>Density: 0-30 units per gross acre FAR: 1.0-2.0</p>
<p><b>Marina Commercial</b> Accommodates waterfront-oriented recreational, visitor and community uses, business and professional services, offices, convenience sales, restaurants, public marketplaces, repair services, specialty retail (such as boat sales and repair), hotel/motel with a coastal orientation, recreational facilities, research and development, custom manufacturing, and marinas.</p>	<p>Density: 0-40 FAR: 0.0-0.5 for retail, recreation, and restaurant uses; 0.0-1.5 for offices; 0.0-1.0 for hotels; no separate FAR for residential</p>
<p><b>Service Commercial</b> Accommodates commercial business with potentially intense levels of noise or traffic, including automobile sales and services, building materials, nurseries, equipment rentals, contractors, wholesaling, warehousing, storage, and similar uses; offices, retail uses, restaurants, and convenience stores allowed as ancillary uses; residential uses permitted above ground floor commercial uses.</p>	<p>Density: No residential FAR: 0.0-0.5</p>
<p><b>Employment Center Industrial</b> Fosters vibrant, diverse, and dynamic employment hubs that accommodate technology, advanced manufacturing, logistics, and other sectors that generate substantial employment opportunities;</p>	<p>Density: No residential 0.0-1.5 FAR</p>

<i>GENERAL PLAN LAND USE DESIGNATION OR OVERLAY</i>	<i>PROPOSED 2040 GENERAL PLAN DENSITY AND FAR</i>
uses may also include administrative, financial, business, professional, medical and public offices, business incubators, research and development, custom and light manufacturing, limited assembly, warehousing and distribution, data centers, technology and innovation, energy, hospitals and large-scale medical facilities, services, light and heavy automobile services, and supporting commercial uses.	
<b>Industrial</b> Manufacturing, wholesale, warehousing and distribution, commercial and business services, research and development, storage uses, agricultural, food and drug, and industrial processing; small restaurant and ancillary commercial uses are permitted subject to design standards.	Density: No residential FAR: 0.0-0.5 for general; 0.0-1.0 for low-employment intensity uses
<i>OTHER DESIGNATIONS</i>	
<b>Public/Institutional</b> Intended to provide for schools, government offices, transit sites, public utilities, cultural facilities, religious institutions fraternal organizations, and similar uses.	FAR: 0.0-0.6
<b>Parks</b> Provides for parks, recreation complexes, community fields, public golf courses, stadiums, greenways, and local and regional trails.	Density: No residential FAR: 0.0-0.6
<b>Open Space – Resource Conservation</b> Sites with safety constraints, such as riparian corridors, sensitive habitats, and wetlands. No construction is allowed on land unsuitable for development due to safety constraints or protected natural resources.	Density: 1 unit per legal parcel FAR: None specified
<b>Open Space – Agricultural and Resource Management</b> Orchards and cropland, grasslands, incidental agricultural or related sales, very low-density rural residential	Density: 1 unit per 20 acres FAR: None specified
<b>Utility/ROW</b> Intended to designate land area dedicated to utilities, infrastructure, or road right-of-way.	Density: - FAR: None specified
<i>OVERLAYS</i>	
<b>BART TOD</b> New overlay designation applied to Bay Area Rapid Transit (BART)-owned parcels to implement minimum density and maximum FAR standards required by State law (Assembly Bill 2923).	Density: 30-75 units per gross acre FAR: 0.0-3.0
<b>PG&amp;E Conversion Corridor</b> New overlay designation applied to the PG&E transmission line corridor extending from the Pittsburg PG&E Power Plant through the City to the Contra Costa Canal. This overlay designation is intended to provide for the relocation of the power plant and the conversion of the transmission line corridor to urban and recreation uses.	To be established by a corridor conversion plan

NOTES: <sup>1</sup> DENSITY AND/OR FAR BASED ON IMPLEMENTING ZONING DISTRICT(S)

<sup>2</sup> FARs ARE NOT APPLIED TO THE RESIDENTIAL LAND USE DESIGNATIONS AND THAT RESIDENTIAL DENSITIES ARE NOT APPLIED TO NON-RESIDENTIAL LAND USE DESIGNATIONS THAT DO NOT ALLOW RESIDENTIAL USES.

SOURCE: DRAFT 2040 GENERAL PLAN, 2023.

### **Growth Management Element**

The Growth Management Element will continue to establish goals, policies and implementation programs that will be used to manage and mitigate the impacts of future growth and development within Pittsburg upon local streets and services, particularly local, regional, and countywide transportation systems.

### **Urban Design Element**

The Urban Design Element will continue to provide hillside and ridgeline preservation policies, identify local views and city edges, outline improvement strategies for key corridors within the City, and provide policies relating to design and development of residential neighborhoods.

### **Downtown Element**

The Downtown Element will continue to describe the development strategy, streetscape design, waterfront access, historical resources, and off-street parking for the City's Downtown.

### **Economic Development Element**

The Economic Development Element will continue to provide a policy framework for ensuring Pittsburg's long-term economic competitiveness in the region. This element reflects business trends and available resources and outlines the City's economic development objectives to ensure that economic decision-making is integrated with other aspects of the City's development.

### **Housing Element**

The Housing Element will continue to provide and develop local housing programs to meet its fair share of existing and future housing needs for all income groups. The Housing Element is being prepared separately from the General Plan Update and is anticipated to be completed following the 2040 General Plan.

### **Circulation & Transportation Element**

The Circulation & Transportation Element will continue to address the City's long-term transportation system, primarily through policies and standards to encourage active transportation, complete streets, adequate capacity, and linkages to further an integrated multi-modal transportation system, including walking, cycling, transit, and ferry access.

### **Community Health & Environmental Justice Element**

The Community Health & Environmental Justice Element will address environmental justice and disadvantaged communities' concerns, including reducing pollution exposure, promoting public facilities in disadvantaged communities, promoting food access, promoting safe and sanitary homes in disadvantaged communities, promoting opportunities for physical activity, reducing unique and compounded health risks, and encouraging resident engagement in the City's decision-making process.

### **Recreation & Youth**

The Recreation & Youth Element will provide the policy approach to developing parks, active open spaces, and trails, in addition to supporting recreational, cultural, and educational programs and facilities.

### **Resource Conservation & Open Space Element**

The Resource Conservation & Open Space Element will establish the policy approach to resource- and energy-conscious growth, addressing biological resources and habitat conservation, drainage and erosion, water quality, air quality, greenhouse gas emissions, and historical resources conservation.

### **Safety & Resiliency Element**

The Safety & Resiliency Element will continue to address risks posed by geologic and seismic conditions, prevent man-made risks stemming from use and transport of hazardous materials, and ensure that local emergency response agencies are prepared for potential disaster relief. This element will also include new policies and implementation measures to address climate adaptation; and take proactive steps to prepare for vulnerabilities and risks associated with climate change impacts.

### **Noise Element**

The Noise element outlines a comprehensive program of achieving acceptable noise levels throughout Pittsburg, and ensures compliance with State noise requirements.

### **Community Facilities Element**

The Community Facilities Element will continue to address the provision of public services and facilities, including water supply and distribution, wastewater collection and treatment, solid waste collection and disposal, fire protection in urban and wildland areas, and public utility corridors.

## **2.5 GENERAL PLAN BUILDOUT ANALYSIS**

The EIR evaluates the anticipated development that could occur within the Planning Area if every parcel in the city developed at the densities and intensities expected under the proposed General Plan. While no specific development projects are proposed as part of the General Plan Update, the General Plan will accommodate future growth in Pittsburg, including new businesses, expansion of existing businesses, and new residential uses. The buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan.

The General Plan will accommodate future growth in Pittsburg, including new businesses, expansion of existing businesses, and new residential uses consistent with the Land Use Designations (Table 2.0-1) and Land Use Map (Figure 2.0-3). Table 2.0-3 summarizes the net new development potential projected for the proposed 2040 General Plan.

**TABLE 2.0-3: 2040 GENERAL PLAN NEW DEVELOPMENT POTENTIAL**

<i>RESIDENTIAL UNITS OR NONRESIDENTIAL SQUARE FOOTAGE</i>	<i>CITY</i>	<i>SOI/PLANNING AREA</i>	<i>TOTAL GROWTH</i>
<i>RESIDENTIAL UNITS</i>			
Single-Family Residential	5,693	752	6,445
Multiple-Family Residential	8,056	1,055	9,111
Live Work Units	20	0	20
<b>TOTAL</b>	<b>13,769</b>	<b>1,807</b>	<b>15,576</b>
<i>NONRESIDENTIAL SQUARE FOOTAGE</i>			
Retail	1,562,037	103,696	1,665,732
Service	3,150,900	134,236	3,285,137
Office	1,753,368	65,666	1,819,034
Commercial Recreation	352,358	-	352,358
Hotel	449,495	(725)	448,770
Institutional	53,023	(1,633)	51,390
Heavy Industrial	3,901,988	2,522,901	6,424,889
Light Industrial	8,683,789	1,427,499	10,111,287
Public/Quasi-Public	1,437,870	493,032	1,930,902
<b>TOTAL</b>	<b>21,344,828</b>	<b>4,744,671</b>	<b>26,089,499</b>

SOURCE: CONTRA COSTA COUNTY GIS/ASSESSOR DATA, CITY OF PITTSBURG, DE NOVO PLANNING GROUP, 2022.

The actual amount of development that will occur throughout the planning horizon of the General Plan is based on many factors outside of the City's control. Actual future development would depend on future real estate and labor market conditions, property owner preferences and decisions, site-specific constraints, and other factors. New development and growth are largely dictated by existing development conditions, market conditions, and land turnover rates. Very few communities in California actually develop to the full potential allowed in their respective General Plans during the planning horizon.

As shown in Table 2.0-3, approximately 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions. This new growth would result in a population increase of approximately 20,470 persons, assuming 3.34 persons per household based on U.S. Census 2016-2020 American Community Survey household size data, and approximately 24,659 new jobs, based on U.S. Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey data released March 18, 2016.

## 2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed project.

### CITY OF PITTSBURG

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The City of Pittsburg is the lead agency for the proposed project. The updated Pittsburg General Plan will be presented to the Planning Commission for review and recommendation and to the City Council for comment, review, and consideration for adoption. The City Council has the sole discretionary authority to approve and adopt the Pittsburg General Plan. In order to approve the proposed project, the City Council would consider the following actions:

- Certification of the General Plan EIR;
- Adoption of required CEQA findings and Statement of Overriding Considerations for the above action;
- Adoption of a Mitigation Monitoring and Reporting Program; and
- Approval of the General Plan Update.

### SUBSEQUENT USE OF THE EIR

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This EIR provides a review of environmental effects associated with implementation of the proposed General Plan. When considering approval of subsequent activities under the proposed General Plan, the City of Pittsburg would utilize this EIR as the basis in determining potential environmental effects and the appropriate level of environmental review, if any, of a subsequent activity. Projects or activities successive to this EIR may include, but are not limited to, the following:

- Approval and funding of major projects and capital improvements;
- Future Specific Plan, Planned Unit Development, or Master Plan approvals;
- Revisions to the Pittsburg Municipal Code (Zoning Ordinance);
- Development plan approvals, such as tentative subdivision maps, variances, conditional use permits, and other land use permits;
- Development Agreements;
- Property rezoning consistent with the General Plan;
- Permit issuances and other approvals necessary for public and private development projects; and
- Issuance of permits and other approvals necessary for implementation of the General Plan.

### OTHER GOVERNMENTAL AGENCY APPROVALS

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City approval of the proposed project would not require any actions or approvals by other public agencies. Subsequent projects and other actions to support implementation of the proposed project would require actions, including permits and approvals, by other public agencies that may include, but are not necessarily limited to:

- California Department of Fish and Wildlife (CDFW);
- Bay Area Air Quality Management District (BAAQMD);
- San Francisco Bay Conservation and Development Commission (BCDC);

- California Department of Transportation (Caltrans);
- California Department of Toxic Substances Control (DTSC);
- East Contra Costa County Habitat Conservancy (ECCC HCP/NCCP);
- Regional Water Quality Control Board (RWQCB);
- U.S. Army Corps of Engineers (USACE);
- U.S. Environmental Protection Agency (USEPA);
- U.S. Fish and Wildlife Service (USFWS);
- Metropolitan Transportation Commission (MTC);
- California Department of Resources, Recycling, and Recovery (Cal Recycle);
- East Bay Regional Park District (EBRPD);
- California Office of Historic Preservation (OHP); and
- California Department of Conservation (DOC).




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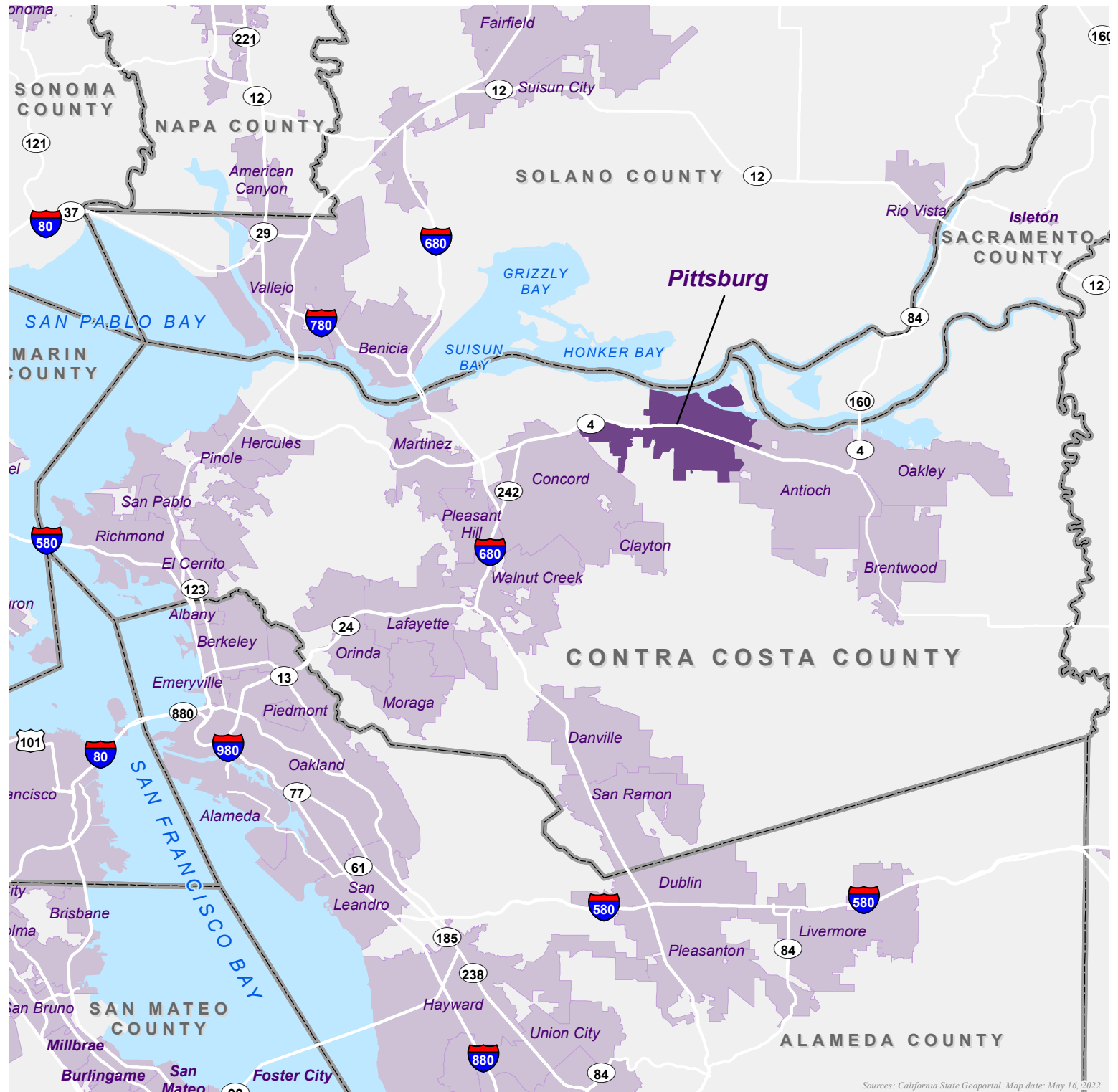


Figure 2.0-1:

# REGIONAL LOCATION MAP

## Legend

-  City of Pittsburg
-  Other Incorporated Areas
-  County Boundary








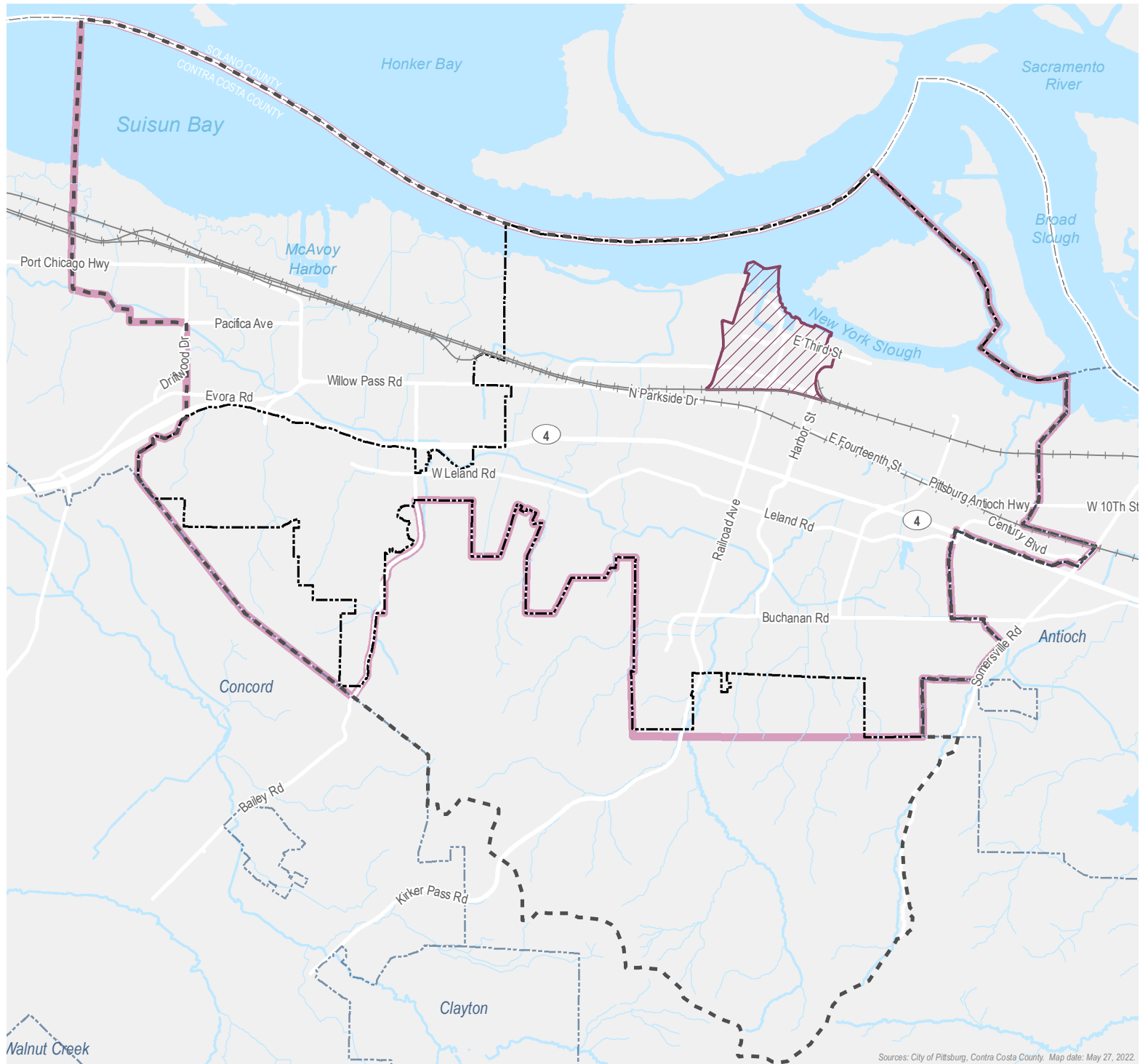
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Figure 2.0-2:

# PLANNING BOUNDARIES

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Subarea
-  Neighboring City



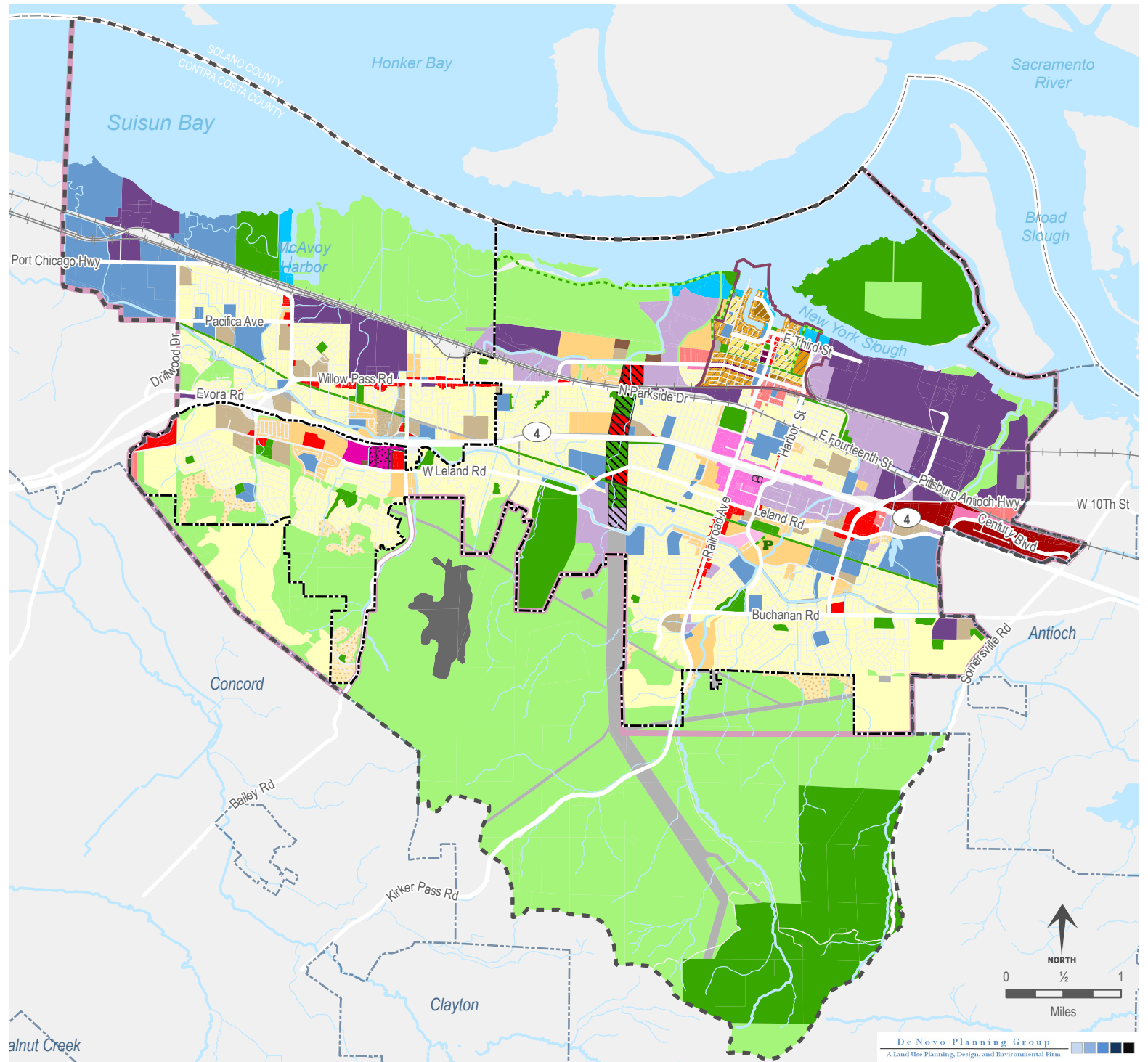
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Figure 2.0-3:

# LAND USE MAP

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Downtown Subarea
-  Planning Area
-  Neighboring City
- General Plan Land Use Designation**
-  Hillside Low Density Residential
-  Low Density Residential
-  Medium Density Residential
-  High Density Residential
-  Very High Density Residential
-  Regional Commercial
-  Service Commercial
-  Community Commercial
-  Mixed Use (General)
-  Mixed Use (Community Commercial)
-  Mixed Use (Downtown)
-  Mixed Use (P/BP BART)
-  Mixed Use (Railroad Ave SPA)
-  Marina Commercial
-  Employment Center Industrial
-  Industrial
-  Landfill
-  Open Space
-  Park
-  Public/Institutional
-  Utility/ROW
-  Downtown Low Density Residential
-  Downtown Medium Density Residential
-  Downtown High Density Residential
-  Downtown Commercial
-  Water
-  PG&E Corridor Conversion Overlay
-  BART TOD Overlay
-  Park/Greenway
-  Future Park



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The City of Pittsburg possesses numerous scenic resources, and there are also many scenic resources within the unincorporated areas of Contra Costa County. These resources enhance the quality of life for Pittsburg residents and provide for numerous outdoor recreational uses. Landscapes can be defined as a combination of four visual elements: landforms, water, vegetation, and man-made structures. Scenic resource quality is an assessment of the uniqueness or desirability of a visual element.

This section was prepared based on existing reports and literature for Pittsburg and the surrounding areas in Contra Costa County. Additional sources of information included the California Department of Transportation's (Caltrans) Designated Scenic Route map for Contra Costa County.

This section provides a background discussion of the scenic highways and corridors, and natural scenic resources such as waterfront areas, wildlife areas, and prominent visual features found in the Pittsburg Planning Area. This section is organized with an existing setting, regulatory setting, and impact analysis.

There were no comments received during the NOP comment period related to this environmental topic.

## CONCEPTS AND TERMINOLOGY

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The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

**Visual Character.** Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features. The appearance of the landscape is described in terms of the dominance of each of these components.

**Visual Quality.** Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration, employing the concepts of vividness, intactness, and unity, which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

**Viewer Exposure and Sensitivity.** The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related, in part, to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic region or types of terrain, the standard foreground zone is 0.25 to 0.5 mile from the viewer, the middle ground zone is from the foreground zone to three to five miles from the viewer, and the background zone is from the middle ground to infinity.

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure, people engaging in recreational activities such as hiking, biking, or camping, and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work. Commuters and non-recreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.



Judgments of visual quality and viewer response must be made based on a regional frame of reference. The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element within a flat landscape but have very little significance in mountainous terrain.

**Scenic Highway Corridor.** The area outside of a highway right-of-way that is generally visible to persons traveling on the highway.

**Scenic Highway/Scenic Route.** A highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources and access or direct views to areas or scenes of exceptional beauty (including those of historic or cultural interest). The aesthetic values of scenic routes often are protected and enhanced by regulations governing the development of property or the placement of outdoor advertising. Until the mid-1980's, general plans in California were required to include a Scenic Highways Element.

**View Corridor.** A view corridor is a highway, road, trail, or other linear feature that offers travelers a vista of scenic areas within a city or county.

### 3.1.1 ENVIRONMENTAL SETTING

#### REGIONAL SCENIC RESOURCES

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Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed), such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

#### SCENIC HIGHWAYS AND CORRIDORS

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Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist-related activities of the region's economy.

**Scenic Highways:** A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

One highway section in Contra Costa County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of State Route (SR) 24 from the east portal of the Caldecott Tunnel to SR 680 near Walnut Creek. This roadway segment is not within the Planning Area and the Planning Area is not visible from this roadway segment.

**Scenic Corridors:** A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

The City of Pittsburg General Plan does not designate any scenic corridors.

### OTHER SCENIC RESOURCE AREAS

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Visual and aesthetic resources in the City's Planning Area include open space, viewshed areas, ridgelines, hillsides, and creeks. The City's current General Plan identifies four viewshed areas and major and minor ridgelines visible from each viewshed. Areas visible from all four viewpoints include multiple small ridgelines in the southern hills, particularly areas southwest of existing development surrounding the Pittsburg/Bay Point BART station. These southern hills lend Pittsburg residents a sense of identity. Drivers recognize the transition into Pittsburg as they crest the ridgeline on SR-4 from Concord. Views of the hills to the south, and Suisun Bay to the north create an identifiable entryway for the City. Views from the southern hills include vistas of the cityscape and Suisun Bay beyond.

The City's current General Plan also notes that the San Joaquin River Delta (Delta) shoreline is one of the City's most identifiable resources, although it is not designated as a scenic resource. Views of the Delta shoreline from public spaces are limited. The General Plan notes that waterfront development standards should also ensure that new development projects are designed to

provide maximum views of the shoreline. Increasing the shoreline's presence within Pittsburg can provide local residents with an improved sense of community identity.

The Contra Costa County General Plan identifies scenic resources in the region that include scenic ridges, hillsides, and rock outcroppings and the San Francisco Bay/Delta estuary system. Figure 9-1, Scenic Ridges and Waterways, of Contra Costa County's General Plan identifies one scenic area within the vicinity of the City's Planning Area: the scenic ridgeway area in the southern portion of Pittsburg and Antioch, some of which is within the City's Planning Area near Kirker Pass Road.

## LIGHT AND GLARE

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During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be divided into both stationary and mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, and streetlights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination. This ambient light environment can be accentuated during periods of low clouds or fog.

The variety of urban land uses in the Planning Area are the main source of daytime and nighttime light and glare. They are typified by single- and multi-family residences, commercial structures, industrial areas, vehicle headlights, and streetlights. These areas and their associated human activities (including vehicular traffic) characterize the existing light and glare environment present during daytime and nighttime hours in the urbanized portions of the Planning Area. Areas to the west and south, outside of the City limits, near the fringes of the Planning Area, are characterized primarily by open space uses and lower intensity residential development, and generally have lower levels of ambient nighttime lighting and daytime glare.

Sources of glare in urbanized portions of the Planning Area come from light reflecting off surfaces, including glass and certain siding and paving materials, as well as metal roofing. The urbanized areas of Pittsburg contain sidewalks and paved parking areas which reflect street and vehicle lights. The existing light environment found in the project area is considered typical of suburban areas.

Sky glow is the effect created by light reflecting into the night sky. Sky glow is of particular concern in areas surrounding observatories, where darker night sky conditions are necessary, but is also of concern in more rural or natural areas where a darker night sky is either the norm or is important to wildlife. Due to the urban nature of the City limits, a number of existing light sources affect residential areas and illuminate the night sky. Isolating impacts of particular sources of light or glare is, therefore, not appropriate or feasible for the project.

### 3.1.2 REGULATORY SETTING

#### FEDERAL

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There are no Federal regulations that apply to the proposed project related to visual resources in the study area.

## STATE

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### **California Department of Transportation – California Scenic Highway Program**

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

### **California Trails Act**

This law requires every city and county to consider trail-oriented recreational uses and consider such demands in developing specific open space programs in their General Plan. Every city, county, and district must also consider the feasibility of integrating trail routes with appropriate segments of the state trail system.

### **California Building Standards Code**

Title 24 of the California Building Standards Code serves as the basis for the design and construction of buildings in California. In addition to safety, sustainability, new technology and reliability, the California Building Standards Code addresses light pollution and glare hazards through the establishment of maximum allowable backlight, up light, and glare (BUG) ratings.

## LOCAL

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### **City of Pittsburg 2020 General Plan**

The Urban Design Element of the City's adopted General Plan provides hillside and ridgeline preservation policies and identifies goals and policies which address views, ridges and edges, while also providing for the preservation of ridgelines and protection of views of major and minor ridgelines within the southern hills. The following goals and policies relate to the preservation of views, ridges, edges:

Goal 4-G-1: Retain views of major and minor ridgelines within the southern hills, as designated in Figure 4-2.

Goal 4-G-2: Preserve minor ridgelines south of State Route 4 as open space to provide screening for hillside development.

Goal 4-G-3: Ensure that new residential development in the southern hills provides adequate transition between urban and open space uses on the City's edge.

Policy 4-P-1: Require ridge setbacks for all new hillside development. Building pads should be located at least 150 feet away from the crest of a major ridgeline (measured horizontally from the centerline), as designated in Figure 4-3.

Policy 4-P-2: As part of the development review process, require design review of proposed hillside development. Encourage:

- Hillside development that is clustered in small valleys and behind minor ridgelines, to preserve more prominent views of the southern hills.
- Hillside streets that are designed to allow open views by limiting the building of structures or planting of tall trees along the southern edge or terminus of streets.

Policy 4-P-3: As part of the development review process, limit building heights and massing where views of the hills from adjacent properties and public spaces could be preserved.

Policy 4-P-6: Ensure that developers of new residential projects in the southern hills plant trees and other vegetation along collector and arterial roadways, in order to maintain the sense of “rural” open space at the City’s southern boundary.

Policy 4-P-7: Ensure that design treatment of new development at the City’s southern boundary retains a rural feel by:

- Discouraging the use of solid walls along these edges (fences must be visually permeable; however, discourage use of chain link in front and side yards);
- Using materials and design to promote a rural feeling (for example, wooden or other rustic materials); and
- Encouraging development at the outer edge of the City to face outwards toward the rural landscape (preventing a solid wall of residential back yard fences).

The adopted General Plan also includes goals and policies related to hillside development. These policies are applicable to development occurring on land above 500 feet in elevation, ensuring that new hillside development is integrated into the surrounding landscape and setting.

Goal 4-G-4: Encourage development that preserves unique natural features, such as topography, rock outcroppings, mature trees, creeks, and designated major and minor ridgelines, in the design of hillside neighborhoods.

Goal 4-G-5: Encourage a sense of rural character in the design and construction of hillside development, including extensive landscaping, rooftop terraces, sloping rooflines, and use of natural materials.

Policy 4-P-9: Encourage new hillside development to preserve unique natural features by mapping all natural features as part of development applications, including landforms, mature tree stands, rock outcroppings, creek ways, and ridgelines. During development and design review, ensure that site layout is sensitive to such mapped features.

Policy 4-P-11: Limit grading of hillside areas over 30 percent slope (see Figure 10-1 [of the General Plan]) to elevations less than 900 feet, foothills, knolls, and ridges not classified as major or minor ridgelines (see Figure 4-2 [of the General Plan]), unless deemed necessary for slope stability, remedial grading, or installation of City infrastructure.

Policy 4-P-15: Minimize the visual prominence of hillside development by taking advantage of existing site features for screening, such as tree clusters, depressions in topography, setback hillside plateau areas, and other natural features.

Policy 4-P-23: As part of the City’s Hillside Development Standards, encourage architectural design that reflects the undulating forms of the hillside setting, such as “breaking” buildings and rooflines into several smaller components (see Figure 4-6).

Policy 4-P-24: Building forms should be “stepped” to conform to site topography. Encourage use of rooftop terraces and decks atop lower stories.

Policy 4-P-27: Maximize water conservation, fire resistance, and erosion control in landscape design through use of sturdy, native species. Use irregular planting on graded slopes to achieve a natural appearance.

### **City of Pittsburg Municipal Code**

Chapter 18 (Zoning) of Pittsburg Municipal Code, includes requirements for lighting and glass installation with the intent of minimizing the effects of lighting and glare. Section 18.82.030, Glare, states:

- a) From Glass. Mirror or highly reflective glass may not cover more than 20 percent of a building surface visible from a street unless an applicant submits information demonstrating to the satisfaction of the city planner that use of such glass will not significantly increase glare visible from an adjacent street and property or pose a hazard for moving vehicles.
- b) From Outdoor Lighting. Parking lot lighting must comply with Pittsburg Municipal Code 18.78.050(F). Security lighting may be indirect or diffused, or be shielded or directed away from an R district within 100 feet. Lighting for outdoor court or field games within 300 feet of an R district requires approval of a use permit.

Section 18.36 of the Pittsburg Municipal Code provides for a Design Review process for all development in the City. Pursuant to Pittsburg Municipal Code section 18.36.200, design review is required for all applications for land use and building permits in each land use district other than single family residential. Therefore, typical residential subdivision projects and any non-residential development projects are subject to Design Review by the City of Pittsburg Planning Commission or delegated authority, during which it is determined whether the proposed project meets the design requirements of the Pittsburg Municipal Code and any applicable plans (such as the proposed General Plan).

### **Pittsburg Development Review Design Guidelines**

The City's Development Review Design Guidelines contain development and architectural guidelines for future development. The Guidelines contain specific standards for residential, commercial and industrial uses. Generally, the Guidelines are intended to assure that individual development blend harmoniously with surrounding development and that new development is constructed of high-quality design and materials. Specifically, the Guidelines applicable to residential and commercial development call for relief and architectural treatment on all building elevations, variation in required yards, limitation on garage frontages and long expanses of blank walls, provision of a variety of building sizes and masses resulting in varying elevations from a streetscape perspective, location of parking lots so that they do not dominate the area adjacent to public right-of-way, screening of all utilities, inclusion of recyclable areas in trash enclosures, and design of building entries as focal points, among other provisions.

### **Railroad Avenue Specific Plan**

The Railroad Avenue Specific Plan (RASP) was adopted by the City Council in 2009 to implement the goals for the Railroad subarea of the General Plan. The RASP envisions a vibrant, walkable, mixed-use, and transit-oriented activity center around the Pittsburg Center BART Station complete with housing options, neighborhood retail, public amenities, open space, and strong employment uses. The Land Use, Design and Development chapter of the RASP includes design and development goals and policies, sub-area urban design concepts, development standards, and architectural and site design criteria for projects in the RASP.

In conjunction with the City of Pittsburg's General Plan, the Specific Plan's guidelines and standards provide a road map for the area's future development. The Land Use, Design and Development Chapter establishes design and development goals and policies, sub-area urban design concepts, development standards, and architectural and design criteria. The development standards address land use densities and intensities, building height, setbacks, parking, and landscaping. The architectural and design criteria address site design and building orientation, massing, facades, design, materials, and finish.

### **Pittsburg/Bay Point Master Plan**

The Pittsburg/Bay Point Master Plan was adopted in October 2011. The Plan guides the future development of approximately 50.6 acres adjacent to the Pittsburg/Bay Point BART Station over the course of 20 years. This Master Plan describes allowed land uses and densities, transportation and circulation improvements, pedestrian pathways and improvements, urban design guidelines and standards, infrastructure development and financing, and phasing and implementation strategies and guidelines. The Master Plan establishes the nature, character, and intensity of development in order to create a successful transit-oriented community, integrated with the existing neighborhood context.

### **Old Town Pittsburg Design Guidelines and Principles**

The Old Town Pittsburg Design Guidelines and Principles apply to the area on Railroad Avenue between 3<sup>rd</sup> and 10<sup>th</sup> streets bound by Cumberland and Black Diamond as outlined in General Plan

Figure 5-1, page 5-6. 1. The following types of improvements to properties in Old Town are subject to review and approval or denial by the City Planner/Zoning Administrator:

- New Signage. New sign must be consistent with these adopted Old Town Design Guidelines and architecturally compatible with the associated building.
- Minor storefront remodels, including building colors, awnings, fenestration and finishes.
- Replacement of existing landscaping with new landscaping.
- Additions to existing buildings. Addition must be less than 2,500 square feet and be designed to complement existing building architecture.
- Changes in building color.

### 3.1.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

#### IMPACTS AND MITIGATION MEASURES

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##### **Impact 3.1-1: General Plan implementation would not have a substantial adverse effect on a scenic vista (Less than Significant)**

While the Pittsburg Planning Area contains numerous areas and viewsheds with relatively high scenic value, there are no officially designated scenic vista points in the Planning Area. However, the current General Plan describes important views in the City's Planning Area, including open space, viewshed areas, ridgelines, hillsides, and creeks. Areas visible from the four viewsheds identified in the current General Plan include major and minor ridgelines, particularly multiple small ridgelines in the southern hills, particularly areas southwest of existing development surrounding the Pittsburg/Bay Point BART station. These southern hills lend Pittsburg residents a sense of identity. Drivers recognize the transition into Pittsburg as they crest the ridgeline on SR-4 from Concord. Views of the hills to the south, and Suisun Bay to the north create an identifiable entryway for the City. Views from the southern hills include vistas of cityscape and Suisun Bay beyond.



The City's current General Plan also notes that the Delta shoreline is one of the City's most identifiable resources, although it is not designated as a scenic resource or scenic vista. Views of the Delta shoreline from public spaces are limited. Additionally, the Contra Costa County General Plan identifies scenic resources in the region that include scenic ridges, hillsides, and rock outcroppings and the San Francisco Bay/Delta estuary system. Figure 9-1, Scenic Ridges and Waterways, of County's General Plan identifies one scenic area within the vicinity of the City's Planning Area: the scenic ridgeway area in the southern portion of Pittsburg and Antioch, some of which is within the City's Planning Area near Kirker Pass Road.

There are very few areas within the City of Pittsburg that are designated for urban land uses by the proposed Land Use Map which are not already designated for urban uses by the existing General Plan Land Use Map. Existing areas within the City that are undeveloped and in a naturalized condition are designated for open space uses by both the existing and proposed General Plan Land Use Maps. The proposed Land Use Map does not convert any open space lands to urban uses.

New development accommodated by implementation of the General Plan may result in changes to the existing availability of publicly available scenic vistas; however, the proposed General Plan includes measures to preserve scenic vistas and views to ridgelines from identified viewsheds and notes that preserving these ridgelines from development will help preserve the aesthetic value of the viewshed. Potential changes to scenic vistas resulting from project implementation is unknown, as the General Plan does not propose any development, in and of itself; however, future development projects would be required to comply with applicable urban design and other applicable policies and regulations related to the preservation of scenic vistas and within hillside areas. The currently adopted General Plan includes goals and policies which include measures to protect scenic vistas and hillsides, and the proposed 2040 General Plan carries forward the protections to visual resources from the currently adopted General Plan. Buildout accommodated by the 2040 General Plan and implementation of the General Plan Land Use Map has the potential to result in new or expanded development within areas identified by the General Plan as being within viewsheds to major ridgelines; however, General Plan policies related to the preservation of ridgelines and hillsides, as well as views of them, are provided in Goal 9-P-5.

Additionally, as noted in greater detail in the Project Description chapter (Chapter 2.0), implementation of the 2040 General Plan could lead to new and expanded urban and suburban development throughout the City. This new development may result in changes to the skyline throughout the Planning Area, which may obstruct or interfere with views of visual features surrounding the Planning Area, including views of open space, viewshed areas, ridgelines, hillsides, and creeks.

Future development would be required to be consistent with the 2040 General Plan. A central theme of the General Plan is to preserve and protect the City's natural resources and scenic resources. This is expressed in Policy 9-P-1.6, which seeks to preserve and enhance the City's creeks for their value in providing visual amenity, drainage capacity, and habitat value. Goal 9-P-5 seeks to promote improved views of ridgelines and shorelines from public parks and rights-of-way and encourage the preservation, protection, enhancement and use of historical structures and past eras. Policy 9-P-5.1 provides guidance regarding residential development in hillside areas by

promoting residential rooflines that are oriented in the same direction as the natural hillside slope. Policy 9-P-5.2 encourages the preservation and enhancement of the natural characteristics of the San Joaquin River Delta in a manner that encourages public access, and Policy 9-P-5.3 seeks to maintain views to and from the San Joaquin River Delta. Furthermore, Goal 9-P-5.4 seeks to preserve views of natural landforms, by seeking to preserve significant visual resources that include unique landforms (e.g., skyline ridges, intermediate ridges, hilltops, and rock outcroppings), creeks, lakes, and open spaces areas in a natural state, to the extent possible.

The 2040 General Plan has been developed to preserve expansive areas of open space and to ensure that new development is located in and around existing urbanized areas, thus ensuring that new development is primarily an extension of the existing urban landscape and minimizes interruption of views of nearby visual features.

In addition to the goals and policies identified above that provide protection for open space resources and visually prominent resources in the Planning Area, a range of policies and actions contained in the Land Use Element are intended to maintain and enhance the overall visual character of the Planning Area, and to avoid the installation of structures or features that conflict with the character of the surrounding area. Policies 2-P-1.1, 2-P-2.8, and 2-P-12.1 and Action 2-A-12.a seek to ensure that new development fits within the existing community setting and is compatible with surrounding uses while supporting the preservation and protection of the City's existing neighborhoods. Urban Design Element Policies 4-P-1.2, 4-P-1.4, 4-P-2.1 through 4-P-2.10, and 4-P-4.1 through 4-P-4.6 and Actions 4-A-2.a, 4-A-2.b, 4-A-2.c, and 4-A-4.a through 4-A-4.e include standards for development including preservation of open space areas, viewsheds, ridgelines and the promotion of visual quality through design, landscaping, streetscapes and other physical features.

The implementation of the policies and actions contained in the 2040 General Plan listed below would ensure that new urban residential and non-residential development in the Pittsburg Planning Area is located in and around existing urbanized areas and developed to be visually compatible with nearby open space resources. Additionally, the implementation of the policies and actions contained in the Land Use Element and Urban Design Element would further ensure that future development accommodated by the 2040 General Plan is designed in a way that enhances the visual quality of the community, compliments the visual character of the City, and that adverse effects on public views are minimized. Therefore, the impact would be **less than significant**, and no mitigation measures are necessary.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

9-P-1.6: Preserve and enhance Pittsburg's creeks for their value in providing visual amenity, drainage capacity, and habitat value.

9-P-5.1: Promote residential rooflines that are oriented in the same direction as the natural hillside slope.

9-P-5.2: Encourage preservation and enhancement of the natural characteristics of the San Joaquin River Delta in a manner that encourages public access.

9-P-5.3: Maintain and enhance views to and from the San Joaquin River Delta.

9-P-5.4: Preserve significant visual resources that include unique landforms (e.g., skyline ridges, intermediate ridges, hilltops, and rock outcroppings), creeks, lakes, and open space areas in a natural state, to the extent possible.

9-P-5.5: Require new development to avoid obstructing views of, and to minimize impacts to, significant visual resources through the following: creative site planning; integration of natural features into the project; appropriate scale, materials, and design to complement the surrounding natural landscape; clustering of development to preserve open space vistas and natural features; minimal disturbance of topography; and creation of contiguous open space networks

9-P-5.6: Ensure that the visibility of new development from natural features and open space areas is minimized to preserve the landforms and ridgelines that provide a natural backdrop to the open space systems.

9-P-5.7: Pursue preservation of lands where streets terminate at the waterfront during review of development plans. Such lands should be improved as public open space to ensure that undisturbed views of Suisun Bay and New York Slough are preserved.

9-P-5.8: Emphasize the importance of public views of the shoreline (from public spaces and rights-of-way) when reviewing new development projects along the water.

9-P-5.9: Explore all potential improvements to fully integrate the City's shoreline into the urban fabric, including waterfront parks, passive recreation and open space areas, and other community-oriented uses.

- Waterfront Parks: Pursue and develop small pockets of open space that provide physical and visual access to the waterfront.
- Waterfront Trail/Bikeway. A linear park along the shoreline, featuring a path for both walking and biking, would encourage more vibrant activity along the waterfront. Landscaping. Plant low-growing and flowering greenery near waterfront access points to extend streetscaping to the shoreline.
- Linear Trail Connections. The City's current linear trail network within Downtown and adjacent residential neighborhoods could be extended to provide convenient access to waterfront parks and activities.

#### POLICIES – LAND USE ELEMENT

2-P-1.1: Promote land use compatibility through development standards, use restrictions, environmental review, and design considerations.

2-P-2.8: Ensure that the scale and massing of new development is sensitive to the physical and visual character of existing neighborhoods.

2-P-12.1: Support new residential development in locations that do not significantly impact the natural setting.

#### ACTIONS – LAND USE ELEMENT

2-A-12.a: Update the Zoning Ordinance to:

- Allow Low Density Residential development in selected areas along Kirker Pass Road and other valley floors as appropriate, under the following criteria:
  1. Permanent greenbelt buffers be established to encompass: 1) the southerly 1/5 (approximately) of the Montreux property; and 2) the area south of the existing PG&E transmission corridor and south of the final alignment of the Buchanan Road Bypass, just east of Kirker Pass Road. The City will consider, in conjunction with subdivision applications on these properties and related environmental analysis, general plan and/or the transfer of lost development rights as a result of the greenbelts to other portions of these properties, while not increasing the overall number of units permitted on these properties
  2. Natural topography be retained to the maximum extent feasible, and large-scale grading discouraged
  3. No development on minor and major ridgelines (as identified in Figure 4-2), with residential construction on flatter natural slopes encouraged
  4. Development designed and clustered so as to be minimally visible from Kirker Pass Road
  5. Creeks and adjacent riparian habitat protected
  6. An assessment of biological resources completed
  7. Be limited to a maximum density of 3.0 du/ac
- Pursue development of a community park in proximity to the Kirker Pass Road/Nortonville Road intersection during review and approval of new residential uses.
- Cluster new residential development within the hills to maximize preservation of open space resources and viewsheds.
- Ensure that new residential development along Kirker Creek preserves natural riparian habitat. New development shall be setback at least 50 feet from the top of the streambank, with continuous multi-use trail access along the west side of the creek.

#### POLICIES – URBAN DESIGN ELEMENT

4-P-1.2: Encourage and support high-quality design that evokes Pittsburg's history and unique character through ensuring standards and guidelines for residential, commercial, industrial, mixed use, civic, and other uses incorporate features and materials consistent with Pittsburg's history and character.

4-P-1.4: Seek methods to improve the visual character and design of Pittsburg, including establishing design standards for gateways, key corridors, residential uses, and non-residential uses, promoting high-quality redevelopment and reuse projects, and addressing features that may adversely affect views of gateways, ridgelines, open space, and other identified visual resources.

4-P-2.1: Encourage development that preserves unique natural features, such as topography, rock outcroppings, mature trees, creeks, and designated major and minor ridgelines in the design of hillside neighborhoods.

4-P-2.2: In areas not addressed under Policy 4-P-2.1, encourage development that preserves unique natural features, such as topography, rock outcroppings, mature trees, creeks, designated major and minor ridgelines, and views of such areas (as delineated in Figure 4-1) in new development as well as redeveloped sites.

4-P-2.3: Preserve significant visual resources that include skyline ridges, intermediate ridges, hilltops, and rock outcroppings, creeks, lakes, and open space areas in a natural state, to the extent possible (see also Downtown Policy 5-P-3.1 and Resource Conservation and Open Space Policy 9-P-5.4).

4-P-2.4: Retain views of major and minor ridgelines within the southern hills, as designated in Figure 4-1.

4-P-2.5: Ensure that hillside development enhances the built environment, improves safety through slope stabilization, is respectful of topography and other natural constraints, and preserves ridgelines and viewsheds.

4-P-2.6: Ensure that hillside lands not environmentally suitable for development are maintained as open space.

4-P-2.7: Require new development to minimize impacts to, and avoid obstructing views of and from, significant visual resources including major and minor ridgelines through creative site planning, integration of natural features into the project, appropriate scale, materials, and design to complement the surrounding natural landscape, and clustering of development (see also Downtown Policy 9-P-3.2 and Resource Conservation and Open Space Policy 9-P-5.5).

4-P-2.8: As part of the development review process, require design review of hillside development. Encourage:

- Hillside development that is clustered in small valleys and behind minor ridgelines, to preserve more prominent views of the southern hills.

4-P-2.9: Hillside streets that are designed to allow open views by limiting the building of structures or planting of tall trees along the southern edge or terminus of streets.

4-P-2.10: Use revegetation as an erosion control measure to maintain the natural character of a hillside; utilize hydro-seed, silt traps, and other engineering solutions where erosion potential exists during development.

4-P-4.1: Design landscape to enhance structures, neighborhoods, and to create and define public and private spaces.

4-P-4.2: Use open space and landscape to define and link neighborhoods and community areas,

4-P-4.3: Support the incorporation of landscaping and vegetation, with preferences for linear parks and median improvements, along roadways to provide a sense of open space.

4-P-4.4: Limit plant palette to select native trees of identifiable non-native species.

4-P-4.5: Improve highway landscaping and retain significant views.

4-P-4.6: Encourage existing residential areas to improve landscaping and fencing along fenced areas.

#### ACTIONS – URBAN DESIGN ELEMENT

4-A-2.a: Develop an open space preservation program to preserve open space consistent with the land uses planned in the General Plan in portions of the City and Planning Area.

4-A-2.b: Amend the City’s Hillside Development Standards:

(i) Site Design:

1. Ensure that site layout is sensitive to mapped natural features.
  - a. Encourage open space pockets within the most visible hillside slopes.
  - b. Require ridge setbacks for all new hillside development; building pads should be located at least 150 feet away from the crest of a major ridgeline (measured horizontally from the centerline), as shown in Figure 4-2.
  - c. Require new residential development to provide an adequate transition between urban and open space uses on the City’s edge.
  - d. Encourage lot configuration such that perimeter walls and fences along arterial corridors within the southern hills are not needed.
  - e. Cluster hillside development to preserve prominent views.
    - i. Reduce density bonuses from 25 percent to 10 percent (maximum) for new hillside development that preserves 40 percent of natural hill contours and has a minimum of 50 percent of housing units designed to fit the natural terrain.
    - ii. Allow flexible (for example, staggered) front and side building setbacks (including zero-lot-line and attached conditions) within clustered hillside residential areas if this allowance will protect an existing slope.
  - f. Limit grading of hillside areas over 30 percent slope (see Figure 11-3) to elevations less than 900 feet, foothills, knolls, and ridges not classified as major or minor ridgelines (see Figure 4-1), unless deemed necessary for slope stability remedial grading, or installation of City infrastructure.
  - g. Allow flag lots with common driveways within hillside neighborhoods in order to encourage terracing of buildings while minimizing roadway cut-and-fill (see Figure 4-3).
  - h. Prohibit construction of decks elevated on visible poles over sloped areas.
2. Incorporate erosion control and revegetation programs as part of grading plan submittals.
3. Limit development height and massing of new structures within the viewshed of designated ridgelines to ensure that new development retains significant views of the below-listed ridgelines, including but not limited to:
  - a. Major and minor ridgelines as identified on Figure 4-1.
  - b. SR4 near Avila Road
  - c. Willow Pass/SR4

- d. Bailey Road/SR4
  - e. Railroad Avenue/SR4
  - f. Bailey Road in Lawlor Ravine
- (ii) Building Design:
1. Encourage architectural design that reflects the undulating forms of the hillside setting, such as “breaking” buildings and rooflines into several smaller components (see Figure 4-4).
  2. Limit building heights and massing where views of the hills from adjacent properties and public spaces could be preserved.
  3. Require developers to grade only building pads, and to blend toe graded area with adjacent hillside properties to minimize the potential to destroy the City’s character and increase risk of geologic and landslide hazards.
  4. Encourage use of rooftop terraces and decks atop lower stories.
    - a. Building forms should be “stepped” to conform to site topography.
- (iii) Landscape Design:
1. Require developers to utilize mapping tools to identify and preserve unique natural features, including landforms, mature tree stands, rock outcroppings, creek ways, and ridgelines.
  2. Require residential developers in the southern hills to plant trees and other vegetation along collector and arterial roadways in order to maintain the sense of “rural” open space at the City’s southern boundary
  3. Use sturdy, native species to maximize water conservation, fire resistance, and erosion control in landscape design.
  4. Use irregular planting on graded slopes to achieve a natural appearance.
  5. Require residential developers provide multi-use trails or trailheads connecting to local schools and parks, commercial centers, and regional open spaces.
  6. Require extensive landscaping, rooftop terraces, sloping rooflines, and use of natural materials in the design and construction of hillside development to encourage a sense of rural character.
  7. Incorporate the use of “man-made” streams (manufactured drainage courses designed to simulate natural creeks) draining into natural creeks (minimizing concrete channels) for ensuring adequate surface drainage in new hillside development.
  8. Take advantage of existing site features for screening, such as tree clusters, depressions in topography, setback hillside plateau areas, and other natural features by minimizing the visual prominence of hillside development.
  9. Encourage terracing in new hillside development to be designed in small incremental steps; limit extensive flat pad areas.
- (iv) Streetscape Design:
1. Encourage single-loaded streets parallel to steep slopes, with placement of lots on the uphill side of the street, such that homes front down-slope and allow open vistas from the public street
  2. Provide on-street parking along hillside roads in parking bays where topography allows.
  3. Encourage the construction of split roadways on steep hillsides, where appropriate.

4. Limit the building of structures or planting of tall trees along the edge or terminus of streets where necessary to preserve views.
5. Minimize visibility of streets from other areas within the City (see Figure 4-5).
6. Encourage developers to align and construct streets along natural grades.
7. Split roadways to allow the integration of natural features, such as mature trees and rock outcroppings, into the street design.
8. Implement ridgeline preservation policies to retain views of the southern hills from the State Route 4 corridor.

4-A-2.c: Be responsive to natural and institutional elements through community design components such as land use, development intensity and street layout, including:

- Creeks. Ensure protection of riparian corridors through building setbacks. Ensure adequate pedestrian access to creeks and provide connections from local trails and sidewalks. Integrate parks and open space areas within creeks.
- Urban Edges. Ensure feathering from urban to rural intensities and City boundaries.
- Adjacent Uses. Promote connections with surrounding land uses by integrating street networks and visual/architectural treatments.

4-A-4.a: Update the Zoning Ordinance to:

- Establish standards for landscaping and fencing for all districts/use categories, with a focus on unified design and character throughout Pittsburg.
- Encourage use of native plant species and locally-recognized non-native species with low watering and maintenance requirements in linear parks, landscaped medians, and other quasi-public landscaping applications to enhance the City's overall identity.
- Establish a minimum amount of shade trees to be provided in parking lots (e.g., one tree per six parking spaces).
- Require landscaped screening for utility boxes, loading areas, and large facilities such as tanks in multifamily, mixed use, and non-residential developments.
- Require landscaping and tree planting along key roadways, arterials, and collectors.

4-A-4.b: Work with the California Department of Transportation to implement a uniform landscape theme along the State Route 4 corridor throughout the Planning Area.

4-A-4.c: Work with the California Department of Transportation to incorporate landscaping and signage to improve views and access to the Pittsburg Civic Center and other destination points – such as the Suisun Bay waterfront – from State Route 4.

4-A-4.d: Ensure that all development adjacent to State Route 4 provides landscaping along new sound walls during development review.

4-A-4.e: Vegetate existing parking lots and add shade trees as the opportunity arises.



**Impact 3.1-2: General Plan implementation would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway (Less than Significant)**

As discussed above in the Existing Setting section, one highway section in Contra Costa County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of SR-24 from the east portal of the Caldecott Tunnel to SR-680 near Walnut Creek. This segment is not located within or near the Planning Area and the Planning Area is not visible from this roadway segment. Additionally, there are no sections of highway in the Pittsburg vicinity eligible for Scenic Highway designation. Further, the City of Pittsburg General Plan does not designate any scenic corridors.

Figure 9-1, Scenic Ridges and Waterways, of County's General Plan identifies one scenic area within the vicinity of the City's Planning Area, which is the scenic ridgeway area in the southern portion of Pittsburg and Antioch, some of which is within the City's Planning Area near Kirker Pass Road. Implementation of the Pittsburg General Plan would not conflict with this designation. Given that no adopted State scenic highways are located within the Planning Area, and that no scenic highways provide views of the Planning Area, State scenic highway impacts associated with General Plan implementation would be **less than significant**, and no mitigation is required.

**Impact 3.1-3: General Plan implementation would not, in a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings, or in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality (Less than Significant)**

CEQA Guidelines Section 15387 defines an urbanized area as a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. The Planning Area consists of the City of Pittsburg, which can be considered an urbanized area, as well as Pittsburg's SOI, which is contiguous with its City limits. Zoning and other regulations governing scenic quality applicable to the City of Pittsburg include the Pittsburg Municipal Code (Section 18.36) and the Development Review Design Guidelines (Adopted November 2010). Implementation of the General Plan would not in and of itself directly result in development, as policies in the proposed General Plan are intended to complement and further the intent of provisions regulating scenic quality and resources. Future development accommodated by the 2040 General Plan would be subject to compliance with these guidelines, as well as the applicable regulations set forth in the Pittsburg Municipal Code. Therefore, the proposed General Plan would not substantially degrade the existing visual character or quality of public views within the Planning Areas or the SOI and its surroundings. Scenic quality-related impacts associated with the General Plan implementation would thus be **less than significant**, and no mitigation is required.

In order to further ensure that future development accommodated under the General Plan would not degrade the existing visual character of the environment, the City has included the following policies and actions in the General Plan.

**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

**POLICIES – RESOURCE CONSERVATION & OPENS SPACE ELEMENT, LAND USE ELEMENT AND URBAN DESIGN ELEMENT**

See applicable policies from the Resource Conservation & Open Space, Land Use and Urban Design Elements listed above in Impact 3.1-1.

**ACTIONS – RESOURCE CONSERVATION & OPENS SPACE ELEMENT, LAND USE ELEMENT AND URBAN DESIGN ELEMENT**

See applicable actions from the Resource Conservation & Open Space, Land Use and Urban Design Elements listed above in Impact 3.1-1.

**Impact 3.1-4: General Plan implementation could result in the creation of new sources of nighttime lighting and daytime glare (Less than Significant)**

The primary sources of daytime glare are generally sunlight reflecting from structures, vehicles, and other reflective surfaces and windows. Implementation of the proposed General Plan would introduce new sources of daytime glare into previously developed areas of the Planning Area and increase the amount of daytime glare in existing urbanized areas. The General Plan Land Use Map identifies areas for the future development of residential, commercial, industrial, recreational, and public uses. Such uses may utilize materials that produce glare. Daytime glare impacts would be most severe in the limited areas of the City that have not been previously developed, including the limited number of vacant parcels designated for urbanized land uses, and in areas that receive a high level of daily viewership.

The primary sources of nighttime lighting are generally from exterior building lights, streetlights, and vehicle headlights. Exterior lighting around commercial and industrial areas may be present throughout the night to facilitate extended employee work hours, ensure worker safety, and to provide security lighting around structures and facilities. Nighttime lighting impacts would be most severe in areas that do not currently experience high levels of nighttime lighting. Increased nighttime lighting can reduce visibility of the night sky, resulting in fewer stars being visible and generally detracting from the quality of life in Pittsburg.

Future development would be required to be consistent with the General Plan, as well as glare and lighting design requirements in Chapter 18 of the Pittsburg Municipal Code. The proposed General Plan contains policies and actions related to the regulation and reduction of daytime glare and nighttime lighting. Implementation of General Plan Land Use Policy 2-P-2.4 would require that residences and other sensitive receptors be located away from areas of lighting and other nuisances. Land Use Policy 2-P-4.10 would ensure that employment-generating development (i.e.,

industrial, warehouse, distribution, logistics, etc.) do not result in adverse impacts related to lighting and other environmental considerations. Additionally, Action 2-A-4.b would ensure that the City's development review process ensures that employment-generating projects are designed to avoid excessive light and glare impacts.

Chapter 18 (Zoning) of Pittsburg Municipal Code, includes requirements for lighting and glass installation with the intent of minimizing the effects of lighting and glare. Section 18.82.030, Glare, states:

- a) From Glass. Mirror or highly reflective glass may not cover more than 20 percent of a building surface visible from a street unless an applicant submits information demonstrating to the satisfaction of the city planner that use of such glass will not significantly increase glare visible from an adjacent street and property or pose a hazard for moving vehicles.
- b) From Outdoor Lighting. Parking lot lighting must comply with Pittsburg Municipal Code 18.78.050(F). Security lighting may be indirect or diffused, or be shielded or directed away from an R district within 100 feet. Lighting for outdoor court or field games within 300 feet of an R district requires approval of a use permit.

These actions would ensure that new development projects utilize appropriate building materials that do not result in significant increases in nighttime lighting or daytime glare.

Through the implementation of these actions during the development review process, the City can ensure that adverse impacts associated with daytime glare and nighttime lighting are **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – LAND USE ELEMENT**

2-P-2.4: Locate residences and sensitive receptors away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents. 2-P-4.10: Ensure that employment-generating development, such as industrial, warehouse, distribution, logistics, and fulfillment projects, does not result in adverse impacts (including health risks and nuisances), particularly to residential uses and other sensitive receptors, including impacts related to the location and scale of buildings, lighting, noise, smell, and other environmental and environmental justice considerations. When development is incompatible, require adequate buffers and/or architectural consideration to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas.

## ACTIONS – LAND USE ELEMENT

2-A-4.b: As part of the City’s development review process, continue to ensure that employment-generating projects are designed to minimize conflicts with residential uses, sensitive receptors, and disadvantaged communities. Review of employment-generating projects should ensure that the following design concepts are addressed in projects that abut residential areas, sensitive receptors, or disadvantaged communities:

- Appropriate building scale and/or siting;
- Site design and features to protect residential uses and other sensitive receptors, developed or undeveloped, from impacts of non-residential development activities that may cause unwanted nuisances and health risks and to ensure that disadvantaged communities are not exposed to disproportionate environmental or health risks. The site design and features shall be based on best management practices as recommended by CARB, Bay Area Air Quality Management District (BAAQMD), and the California Attorney General;
- Site design and noise-attenuating features to avoid exposure to excessive noise due to long hours of operation or inappropriate location of accessory structures;
- Site and structure design to avoid excessive glare or excessive impacts from light sources onto adjacent properties; and
- Site design to avoid unnecessary loss of community and environmental resources (archaeological, historical, ecological, recreational, etc.).

This section provides a background discussion of agricultural lands, agricultural resources, and forest/timber resources found in the Pittsburg Planning Area. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments on this environmental topic were received during the NOP comment period.

### 3.2.1 ENVIRONMENTAL SETTING

#### AGRICULTURAL RESOURCES

There are no lands within the Planning Area that are designated for agricultural use on the existing or proposed Pittsburg Land Use Map.

Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is not found in the City's Planning Area. Agricultural lands surrounding the City, outside of the Planning Area in unincorporated Contra Costa County, are designated as Agricultural Lands or Agricultural Core on the Contra Costa County General Plan Land Use Map. The County's Agricultural Lands land use category includes most of the privately-owned rural lands in the County, excluding private lands that are composed of prime soils or lands located in or near the Delta. Most of these lands are in hilly portions of the County and are used for grazing livestock or dry grain farming. The County's Agricultural Core land use category applies to agricultural lands that are composed primarily of prime (Class I or II) soils in the National Resources Conservation System (NRCS) Land Capability Classifications, which are considered the very best soils for farming a wide variety of crops. Lands designated as Agricultural Core are located in East County outside the Urban Limit Line to the east and south of the City of Brentwood. Much of the land in this designation is under active cultivation of intensive row crops, orchards, and vineyards.

#### **Important Farmlands**

The California Department of Conservation (DOC), as part of its Farmland Mapping and Monitoring Program (FMMP), prepares Important Farmland Maps indicating the potential value of land for agricultural production. The FMMP was created in DOC to continue the mapping activity with a greater level of detail, which was achieved by modifying the LIM criteria for use in California. The Land Inventory and Monitoring (LIM) criteria in California utilize the Soil Capability Classification and Storie Index Rating systems, but also consider physical conditions, such as a dependable water supply for agricultural production, soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth.

Important Farmland Maps for California are compiled using the modified LIM criteria, as described above, and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into the surrounding classification.

The Contra Costa County Important Farmland Map identifies five agriculture-related categories and three non-agricultural categories:

## 3.2 AGRICULTURAL AND FOREST RESOURCES

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**Prime Farmland:** Prime farmland is land with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

**Farmland of Statewide Importance:** Farmland of statewide importance is farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

**Unique Farmland:** Unique farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

**Farmland of Local Importance:** Farmland of local importance is considered land important to the local agricultural economy but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

**Grazing Land:** Grazing land is land on which the existing vegetation is suitable for the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for this category is 40 acres.

**Urban and Built-up Land:** This category consists of non-agricultural land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

**Other Land:** Other land is non-agricultural land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

**WATER AREA:** *THIS CATEGORY CONSISTS OF BODIES OF WATER.*

### IMPORTANT FARMLANDS IN PLANNING AREA

Limited agricultural production exists within the City. The existing agricultural land within the City is primarily located within one parcel. The Planning Area contains approximately 6,694.42 acres of grazing land and 16.02 acres of farmland of local importance. Table 3.2-1 provides an overview of the types of farmlands within the City, and Figure 3.2-1 shows the location of the farmlands within the City.

**TABLE 3.2-1: FARMLAND TYPES IN PITTSBURG**

<i>FARMLAND TYPE</i>	<i>ACRES IN PLANNING AREA</i>	<i>ACRES IN CITY</i>	<i>ACRES IN SOI</i>	<i>GRAND TOTAL</i>
Urban/Built-Up Land	436.90	7,810.01	1,826.72	10,073.63
Grazing Land	6,694.42	1,345.72	1,494.38	9,534.53
Farmland of Local Importance	16.02	176.05	40.99	233.07
Water	--	1,297.58	2,179.82	3,477.40
Other Land	247.48	2,016.48	1,668.39	3,932.35
<i>Grand Total</i>	<b>7,394.82</b>	<b>12,645.85</b>	<b>7,210.30</b>	<b>27,250.97</b>

SOURCE: DEPARTMENT OF CONSERVATION, 2022.

### Farmland Preservation

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. The Williamson Act is described in greater detail under the Regulatory Setting section of this chapter.

There are approximately 1,736.53 acres of land under a Williamson Act contract in the Pittsburg Planning Area (with 156.26 acres located in the Pittsburg SOI). Locations of the Williamson Act lands in the Planning Area are shown in Figure 3.2-2. As shown, the Williamson Act lands are primarily located outside the Pittsburg SOI, and all Williamson Act lands are located south of Leland Road. None of the land within the Planning Area is within a Farmland Security Zone.

## FOREST RESOURCES

Forest land is defined by Public Resources Code Section 12220(g) and includes *"land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."*

Timber land is defined by Public Resources Code Section 4526, and means *"land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."*

There are no forest lands or timber lands located within the Pittsburg Planning Area.

### 3.2.2 REGULATORY SETTING

#### FEDERAL

#### Farmland Protection Policy Act

The Natural Resource Conservation Service (NRCS), an agency within the U.S. Department of Agriculture, is responsible for implementation of the Farmland Protection Policy Act (FPPA). The

purpose of the FPPA is to minimize Federal programs' contribution to the conversion of farmland to non-agricultural uses by ensuring that Federal programs are administered in a manner that is compatible with state, local, and private programs designed to protect farmland. The NRCS provides technical assistance to Federal agencies, state and local governments, tribes, and nonprofit organizations that desire to develop farmland protection programs and policies. The NRCS summarizes FPPA implementation in an annual report to Congress.

### **Farm and Ranch Lands Protection Program**

The NRCS administers the Farm and Ranch Lands Protection Program (FRPP), a voluntary program aimed at keeping productive farmland in agricultural use. Under the FRPP, the NRCS provides matching funds to state, local, or tribal government entities and nonprofit organizations with existing farmland protection programs to purchase conservation easements. According to the 1996 Farm Bill, the goal of the program is to protect between 170,000 and 340,000 acres of farmland per year. Participating landowners agree not to convert their land to non-agricultural use and retain all rights to use the property for agriculture. A conservation plan must be developed for all lands enrolled based upon the standards contained in the NRCS Field Office Technical Guide. A minimum of 30 years is required for conservation easements, and priority is given to applications with perpetual easements. The NRCS provides up to 50 percent of the fair market value of the easement being conserved (NRCS, 2004). To qualify for a conservation easement, farm or ranch land must meet several criteria. The land must be:

- Prime, Unique, or other productive soil, as defined by NRCS based on factors such as water moisture regimes, available water capacity, developed irrigation water supply, soil temperature range, acid-alkali balance, water table, soil sodium content, potential for flooding, erodibility, permeability rate, rock fragment content, and soil rooting depth;
- Included in a pending offer to be managed by a nonprofit organization, state, tribal, or local farmland protection program;
- Privately owned;
- Placed under a conservation plan;
- Large enough to sustain agricultural production;
- Accessible to markets for the crop that the land produces; and
- Surrounded by parcels of land that can support long-term agricultural production.

## STATE

### **California Department of Conservation**

DOC administers and supports a number of programs, including the Williamson Act, Farmland Security Zones, the California Farmland Conservancy Program (CFCP), the Williamson Act Easement Exchange Program (WAEEP), and the FMMP. These programs are designed to preserve agricultural land and provide data on conversion of agricultural land to urban use.

DOC has authority for the approval of agreements entered into under the WAEEP. Key DOC tools available for land conservation planning are conservation grants, tax incentives to keep land in agriculture or open space, and farmland mapping and monitoring.



### **Williamson Act**

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. In order to preserve these uses, the Act established an agricultural preserve contract procedure by which any county or city taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties remain under agricultural production for a 10-year period. The contract is self-renewing; however, the landowner may notify the county or city at any time of the intent to withdraw the land from its preserve status. There are two means by which the landowner may withdraw the land from its contract preserve status. First, the landowner may seek to cancel the contract. This takes the land out of the contract quickly with a minimal waiting period but the landowner pays a statutory penalty to the State. Second, the landowner may notice a non-renewal or seek a partial non-renewal of the contract. Land withdrawal through the non-renewal process involves a 9- or 10-year period (depending on the timing of the notice) of tax adjustment to full market value before protected open space can be converted to urban uses.

Williamson Act subvention payments to local governments have been suspended since the fiscal year 2009-10 due to the State's fiscal constraints. The Williamson Act contracts between landowners and local governments remain in force, regardless of the availability of subvention payments.

### **Farmland Security Zones**

A Farmland Security Zone is an area created within an agricultural preserve by a board of supervisors (board) or city council (council) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a city or county will enter into contracts with landowners. The boundary is designated by resolution of the board or council having jurisdiction. Agricultural preserves must generally be at least 100 acres in size. Farmland Security Zone contracts offer landowners greater property tax reduction. Land restricted by a Farmland Security Zone contract is valued for property assessment purposes at 65 percent of its Williamson Act valuation or 65 percent of its Proposition 13 valuation, whichever is lower.

### **CalFire Forest Practices Rules**

The California Department of Forestry and Fire Protection (CalFire) implements laws which regulate timber harvesting on privately-owned lands. These laws are contained in the Z'berg-Nejedly Forest Practice Act of 1973 which established a set of rules known as the Forest Practice Rules (FPRs) to be applied to forest management related activities (i.e., timber harvests, timberland conversions, fire hazard removal, etc.). They are intended to ensure that timber harvesting is conducted in a manner that will preserve and protect fish, wildlife, forests, and streams. Under the Forest Practice Act, a Timber Harvesting Plan (THP) is submitted to CalFire by the landowner outlining what timber is proposed to be harvested, harvesting method, and the steps that will be taken to prevent damage to the environment. If the landowner intends to convert timberland to non-timberland uses, such as a winery or vineyard, a Timberland Conversion Permit (TCP) is required in addition to the THP. It is CalFire's intent that a THP will not be approved which fails to adopt feasible mitigation measures or alternatives from the range of measures set

out or provided for in the Forest Practice Rules, which would substantially lessen or avoid significant adverse environmental impacts resulting from timber harvest activities. THPs are required to be prepared by Registered Professional Foresters (RPFs) who are licensed to prepare these plans (CalFire, 2007). For projects involving TCPs, CalFire acts as lead agency under CEQA, and the county or city acts as a responsible agency.

### 3.2.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on agricultural and forest resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526);
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

As described in the NOP, there are no forest lands or timber lands located in the Pittsburg Planning Area. There are also no parcels that are currently zoned as forest land, timber, or timber production. Therefore, implementation of the proposed General Plan would have no impact on forest land, timber, or timber production and impacts related to forest land and timber will not be discussed further.

#### IMPACTS AND MITIGATION MEASURES

##### **Impact 3.2-1: General Plan implementation would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use (Less than Significant)**

As shown in Table 3.2-1, the Planning Area contains approximately 6,694.42 acres of grazing land and 16.02 acres of farmland of local importance. Prime farmland, unique farmland, or farmland of statewide importance is not found in the City's Planning Area.

As shown on the General Plan Land Use Map (Figure 2.0-3), all of the land within the Planning Area is planned for urban development in one form or another, with the exception of areas designated for Open Space or Park uses. Therefore, it is assumed that the agricultural viability of lands within the City will eventually be lost upon full buildout of the Pittsburg General Plan.

However, because no Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) is designated in the Planning Area, this is considered a **less than significant** impact.

**Impact 3.2-2: General Plan implementation would not result in conflicts with existing zoning for agricultural use, or a Williamson Act contract (Less than Significant)**

Animal husbandry and crop production are permitted uses within the City's Open Space District. Agricultural uses are allowed within the following Contra Costa County zoning districts: General Agriculture (A-2), General Agriculture-Railroad Combining District (A-2-X), Heavy Agriculture (A-3), and Agricultural Preserve (A-4). While lands within the city are not zoned for agricultural use, areas adjacent to the city include lands zoned for agricultural use by Contra Costa County. These City and County agricultural use zones are shown in Figure 3.2-2. There are approximately 1,736.53 acres of land under a Williamson Act contract in the Pittsburg Planning Area (with approximately 156.26 acres located in the Pittsburg SOI). Locations of the Williamson Act lands in the Planning Area are shown in Figure 3.2-2. As shown, the Williamson Act lands are primarily located outside the Pittsburg SOI, and all Williamson Act lands are located south of Leland Road. The 2040 General Plan would maintain open space and park designations on the majority of lands under Williamson Act contract, with a small portion designated for Hillside Low Density Residential in the SOI.

The 2040 General Plan includes policies and actions, listed below, that are intended to reduce conflicts between existing agricultural and Williamson Act lands with new development as a result of the 2040 General Plan. These include policies which help explicitly minimize conflicts between agricultural and urban land uses including promoting the establishment of adequate buffers between agricultural and urban land uses.

The 2040 General Plan includes policies and actions, listed below, that are intended to reduce conflict between existing agricultural zones, or a Williamson Act Contract with new development as a result of the proposed 2040 General Plan. These include policies which help explicitly minimize conflicts between agricultural and urban land uses. For example, Policy 10-P-1.9 requires the preservation of land under Williamson Act contract in agriculture, consistent with State law, until urban services are available and expansion of development would occur in an orderly and contiguous fashion Policy 10-P-1.10 encourages agricultural landowners in Pittsburg's Planning Area to participate in Williamson Act contracts and other programs that provide long-term protection of agricultural lands. Discourage the cancellation of Williamson Act contracts outside the City Limits. Policy 10-P-1-11 aims to minimize conflicts between agricultural and urban land uses. More specifically related to impacts to adjacent agricultural lands, Action 10-A-1-1 requires amendments to Title 18 (Zoning) of the Municipal Code to include specific agricultural buffer requirements for new development projects, including residential and sensitive land uses (i.e., schools, day care facilities, and medical facilities), amendments to the General Plan, and rezoning applications that are proposed near existing agricultural lands in order to protect the associated agricultural operations from encroachment by incompatible uses. Buffers shall generally be defined as a physical separation, depending on the land use, and may consist of topographic features, roadways, bike/pedestrian paths, greenbelts, water courses, or similar features. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the

## 3.2 AGRICULTURAL AND FOREST RESOURCES

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maximum amount of agricultural land. Further, Action 10-A-1-1.i requires the City to work with Contra Costa County on the following issues:

- The establishment and implementation of consistent policies for agricultural lands in the Planning Area that prioritize the preservation of agricultural lands and support ongoing agricultural activities.
- Pesticide application and types of agricultural operations adjacent to urban uses.
- Support the continuation of County agricultural zoning in areas designated for Open Space land use in the General Plan.

Lastly, General Plan Action 10-A-1.j requires that the following conditions of approval where urban development occurs next to farmland are implemented:

- Require adequate and secure fencing at the interface of urban and agricultural use.
- Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.
- Require a buffer, which may include a roadway and landscaped buffer, open space transition area, or low intensity uses, between urban uses and lands designated Agriculture on the Land Use Map.

The potential for conflicts between agricultural uses and non-agricultural uses would be minimized through the policies, actions, and requirements described above and the General Plan would maintain compatible land use designations on the majority of lands with agricultural zoning or Williamson Act contracts. Therefore, this is considered a *less than significant* impact.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-1.9: Preserve land under Williamson Act contract in agriculture, consistent with State law, until urban services are available and expansion of development would occur in an orderly and contiguous fashion

10-P-1.9: Encourage agricultural landowners in Pittsburg’s Planning Area to participate in Williamson Act contracts and other programs that provide long-term protection of agricultural lands. Discourage the cancellation of Williamson Act contracts outside the City Limits.

10-P-1-11: Minimize conflicts between agricultural and urban land uses.

#### **ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-1-1.h: Amend Title 18 (Zoning) of the Municipal Code to include specific agricultural buffer requirements for new development projects, including residential and sensitive land uses (i.e., schools, day care facilities, and medical facilities), amendments to the General Plan, and rezoning applications that are proposed near existing agricultural lands in order to protect the associated agricultural operations from encroachment by incompatible uses. Buffers shall generally be defined as a physical separation, depending on the land use, and may consist of topographic features, roadways, bike/pedestrian paths, greenbelts, water courses, or similar features. The

buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of agricultural land.

10-A-1-1.i: Work with Contra Costa County on the following issues:

- The establishment and implementation of consistent policies for agricultural lands in the Planning Area that prioritize the preservation of agricultural lands and support ongoing agricultural activities.
- Pesticide application and types of agricultural operations adjacent to urban uses.
- Support the continuation of County agricultural zoning in areas designated for Open Space land use in the General Plan.

10-A-1-1.j: Apply the following conditions of approval where urban development occurs next to farmland:

- Require adequate and secure fencing at the interface of urban and agricultural use.
- Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.
- Require a buffer, which may include a roadway and landscaped buffer, open space transition area, or low intensity uses, between urban uses and lands designated Open Space on the Land Use Map.

**Impact 3.2-3: General Plan implementation would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use (Less than Significant)**

As noted above in Impact 3.2-1, the Planning Area contains approximately 6,694.42 acres of grazing land and 16.02 acres of farmland of local importance. Farmland, comprised of prime farmland, unique farmland, or farmland of statewide importance, is not found in the City's Planning Area and is not located in the area adjacent to the Planning Area.











Future development consistent with the General Plan Land Use Map would not result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). Further, because Farmland is not located in or adjacent to the Planning Area, any future urbanization of the Planning Area, including those areas in the south of the City limits but within the Planning Area, would not lead to the direct or indirect conversion Farmland. General Plan implementation would result in a **less than significant** impact relative to this topic, and no mitigation is required.

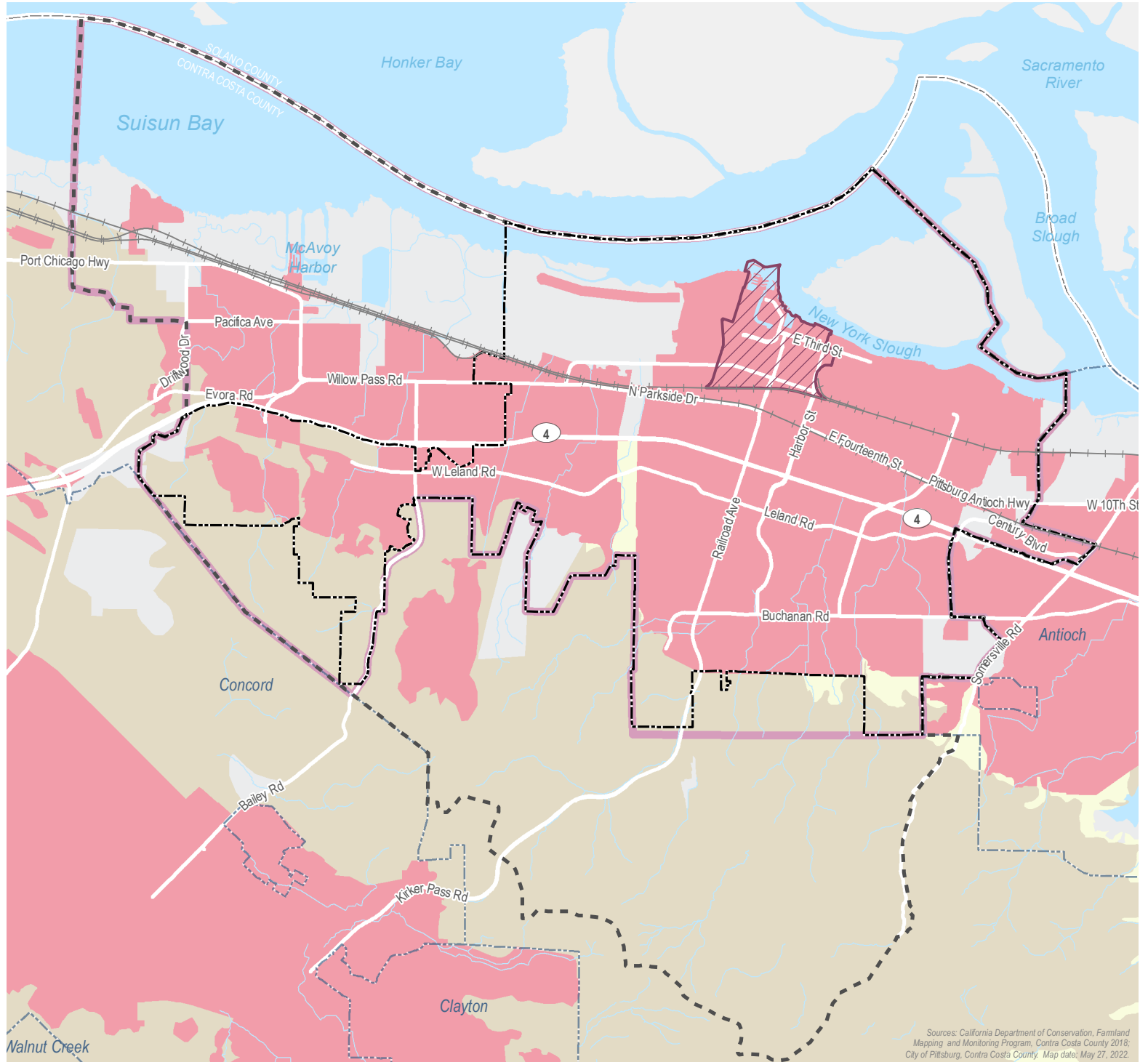
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Figure 3.2-1:

# IMPORTANT FARMLANDS

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Subarea
-  Neighboring City
-  Grazing Land
-  Farmland of Local Importance
-  Other Land
-  Urban and Built-Up Land
-  Water Area















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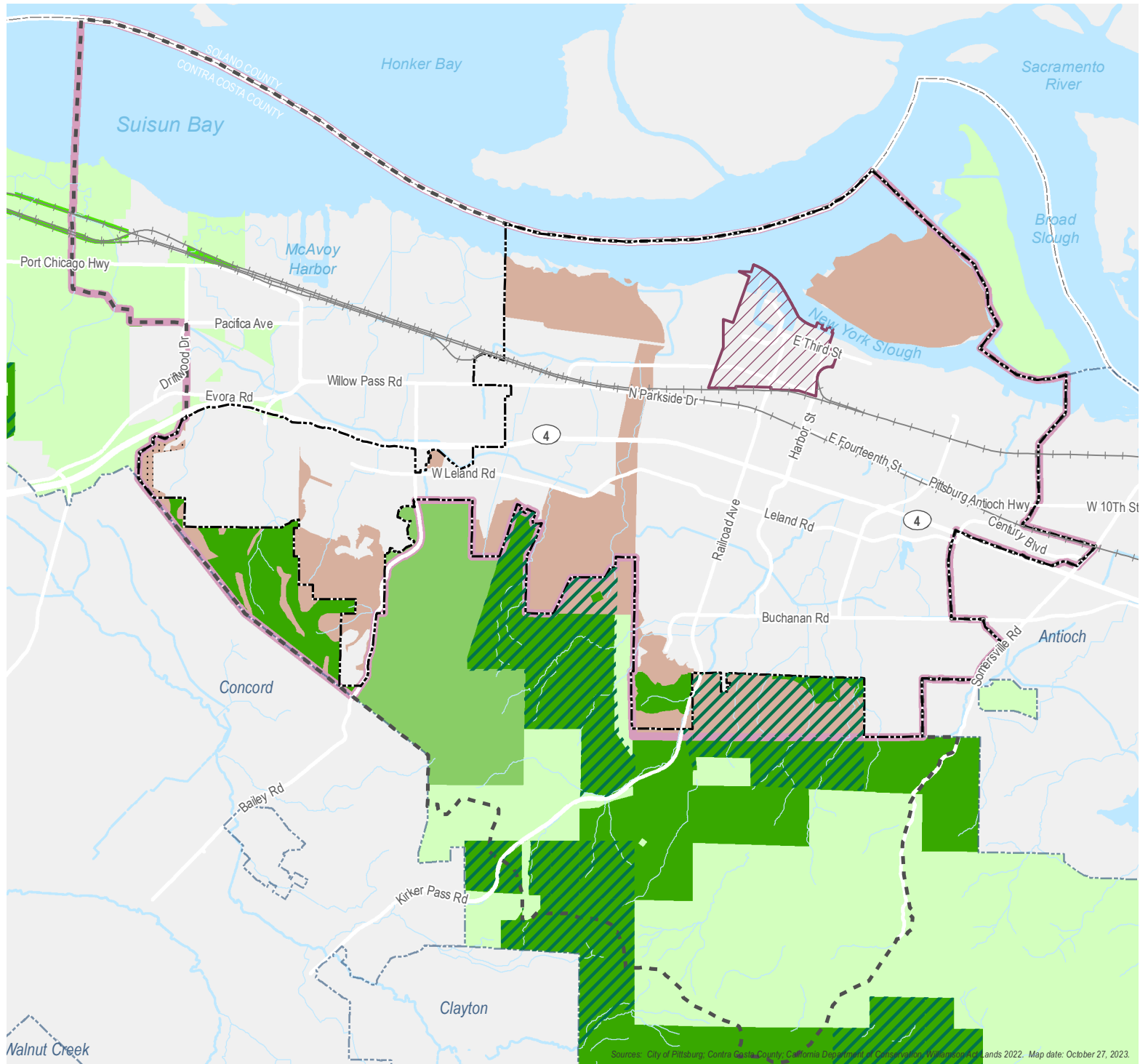


Figure 3.2-2:

# AGRICULTURAL ZONING AND WILLIAMSON ACT LANDS

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Sub-Area
-  Neighboring City
- Williamson Act Lands**
-  Nonprime
- City Zoning Agricultural Uses**
-  Open Space District
-  Open Space District-Limited Overlay
- County Zoning Agricultural Uses**
-  A-2: General Agriculture
-  A-2-X: General Agriculture-Railroad Combining District
-  A-3: Heavy Agriculture
-  A-4: Agricultural Preserve



Sources: City of Pittsburg; Contra Costa County, California Department of Conservation; Williamson Act Lands 2022. Map date: October 27, 2023.

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This section describes the regional air quality, current attainment status of the applicable air basin, local sensitive receptors, emission sources, and impacts that are likely to result from proposed project implementation.

There was one comment received during the Notice of Preparation (NOP) comment period regarding air quality. One comment was provided from the Bay Area Air Quality Management District (May 16, 2022). All comments are included in Appendix A.

The primary sources of data referenced for this section are derived from the following:

- Association of Bay Area Governments, Metropolitan Transportation Commission, 2021. Draft Plan Bay Area Environmental Impact Report. State Clearinghouse No. 2020090519. June.
- Bay Area Air Quality Management District. 2017. Bay Area 2017 Clean Air Plan. Adopted April 19, 2017.
- Bay Area Air Quality Management District, 2022. CEQA Air Quality Guidelines. April.
- Bay Area Air Quality Management District. 2022a. Community Air Risk Evaluation Program. April 15.
- Bay Area Air Quality Management District. 2022b. Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans. April.
- Bay Area Air Quality Management District. 2022c. Stationary Source Screening Map.
- Metropolitan Transportation Commission, 2006. Bay Area Regional Rail Plan Technical Memorandum 4a: Conditions, Configuration & Traffic on Existing System. November 15.

### 3.3.1 ENVIRONMENTAL SETTING

The Bay Area Air Quality Management District (BAAQMD) is the regional air quality agency for the San Francisco Bay Area Air Basin (SFBAAB), which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

#### SAN FRANCISCO BAY AREA AIR BASIN (SFBAAB)

Air quality in the SFBAAB is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

#### **Topography**

The topography of the SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays. This complex terrain, especially the higher elevations, distorts the normal wind flow patterns in the SFBAAB. The greatest distortion occurs when low-level inversions

are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summertime.

The only major break in California's Coast Range occurs in the SFBAAB. Here the Coast Range splits into western and eastern ranges. Between the two ranges lies San Francisco Bay. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the SFBAAB and the Central Valley.

### **Climate**

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. Climate in the SFBAAB is determined largely by a high pressure system, as discussed below. Within the City, temperatures range from an average low of 47 degrees to an average high of 87 degrees.

#### HIGH PRESSURE CELL

During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high-pressure cell centered over the northeastern portion of the Pacific Ocean. This high-pressure cell keeps storms from affecting the California coast. Hence, the SFBAAB experiences little precipitation in the summer months. Winds tend to blow on shore out of the north/northwest.

The steady northwesterly flow induces upwelling of cold water from below. This upwelling produces a band of cold water off the California coast. When air approaches the California coast, already cool and moisture-laden from its long journey over the Pacific, it is further cooled as it crosses this bank of cold water. This cooling often produces condensation resulting in a high incidence of fog and stratus clouds along the Northern California coast in the summer.

Generally, in the winter, the Pacific high-pressure cell weakens and shifts southward, winds tend to flow offshore, upwelling ceases, and storms occur. During the winter rainy periods, inversions (layers of warmer air over colder air; see below) are weak or nonexistent, winds are usually moderate, and air pollution potential is low. The Pacific high-pressure cell does periodically become dominant, bringing strong inversions, light winds, and high pollution potential.

#### WIND PATTERNS

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west, as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno Gap. For example, the average wind

speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited, and stagnant conditions are likely to result.

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

#### TEMPERATURE

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the Pacific Ocean and bays. The temperature gradient near the Pacific Ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10 degrees Fahrenheit.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between coastal and inland areas is small, whereas at nighttime, the variation in temperature is large.

#### PRECIPITATION

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high, and thus, pollution levels tend to be low. However, frequent dry periods do occur during the winter where mixing and ventilation are low and pollutant levels build up.

### AIR POLLUTION POTENTIAL

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The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

#### WIND CIRCULATION

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day, and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthy levels.

#### INVERSIONS

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

There are two types of inversions that occur regularly in the SFBAAB. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high-pressure zone, and from the cool marine air layer that is drawn into the SFBAAB by the heated low pressure region in the Central Valley.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas. Urban areas usually have deeper minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal, all factors which contribute to ozone formation.

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the SFBAAB also induces significant variations among subregions.

#### SOLAR RADIATION

The frequency of hot, sunny days during the summer months in the SFBAAB is another important factor that affects air pollution potential. It is at the higher temperatures that ozone (O<sub>3</sub>) is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases (ROGs) and oxides of nitrogen (NO<sub>x</sub>) react to form secondary photochemical pollutants, including ozone. Because temperatures in many of the SFBAAB inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution.

In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the SFBAAB during these seasons.

#### SHELTERED TERRAIN

The hills and mountains in the SFBAAB contribute to the high pollution potential of some areas. During the day, or at night during windy conditions, areas in the lee sides of mountains are sheltered from the prevailing winds, thereby reducing turbulence and downwind transport. At night, when wind speeds are low, the upper atmospheric layers are often decoupled from the surface layers during radiation conditions. If elevated terrain is present, it will tend to block pollutant transport in that direction. Elevated terrain also can create a recirculation pattern by inducing upvalley air flows during the day and reverse downvalley flows during the night, allowing little inflow of fresh air.

The areas having the highest air pollution potential tend to be those that experience the highest temperatures in the summer and the lowest temperatures in the winter. The coastal areas are exposed to the prevailing marine air, creating cooler temperatures in the summer, warmer temperatures in winter, and stratus clouds all year. The inland valleys are sheltered from the marine air and experience hotter summers and colder winters. Thus, the topography of the inland valleys creates conditions conducive to high air pollution potential.

#### POLLUTION POTENTIAL RELATED TO EMISSIONS

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends upon the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use, and/or industrialization. These contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals.

EXISTING AMBIENT AIR QUALITY: CRITERIA AIR POLLUTANTS

The California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (USEPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone (O<sub>3</sub>), particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), CO, sulfur dioxide (SO<sub>2</sub>), and lead. Because these are the most prevalent air pollutants known to be harmful to human health, they are commonly referred to as “criteria air pollutants.” Sources and health effects of the criteria air pollutants are summarized in Table 3.3-1.

TABLE 3.3-1: COMMON SOURCES OF HEALTH EFFECTS FOR CRITERIA AIR POLLUTANTS

POLLUTANTS	SOURCES	HEALTH EFFECTS
Ozone (O <sub>3</sub> )	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	Aggravation of respiratory and cardiovascular diseases; reduced lung function; increased cough and chest discomfort; heart attacks; premature mortality
Fine Particulate Matter (PM <sub>10</sub> and PM <sub>2.5</sub> )	Stationary combustion of solid fuels; construction activities; industrial processes; atmospheric chemical reactions	Reduced lung function; aggravation of respiratory and cardiovascular diseases; increased blood pressure; premature mortality
Nitrogen Dioxide (NO <sub>2</sub> )	Motor vehicle exhaust; high temperature stationary combustion; atmospheric reactions	Aggravation of respiratory illness
Carbon Monoxide (CO)	Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust; natural events, such as decomposition of organic matter	Aggravation of some heart diseases; reduced tolerance for exercise; impairment of mental function; birth defects; death at high levels of exposure
Sulfur Dioxide (SO <sub>2</sub> )	Combination of sulfur-containing fossil fuels; smelting of sulfur-bearing metal ore; industrial processes	Aggravation of respiratory diseases; reduced lung function
Lead	Contaminated soil	Behavioral and hearing disabilities in children; nervous system impairment

SOURCE: BAY AREA AIR QUALITY MANAGEMENT DISTRICT, 2012, 2017.

**Ozone (O<sub>3</sub>)**, or smog, is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between ROG and NO<sub>x</sub> in the presence of sunlight. Exposure to ozone can damage the lungs and aggravate respiratory conditions such as asthma, bronchitis, and emphysema. Motor vehicles and industrial sources are the largest sources of ozone precursors in the Bay Area. Emissions of ozone precursors have been greatly reduced in recent decades. As a result, Bay Area ozone levels and population exposure to harmful levels of smog have decreased substantially. Despite this progress, the Bay Area has not yet fully attained State and federal ozone standards. This is primarily due to the progressively tightened federal ozone standard, but also to the amount of population and economic growth occurring within the Bay Area.

**Particulate Matter** refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM<sub>10</sub>. PM<sub>10</sub> is primarily composed of large particles from sources such as road dust, residential wood burning, construction/demolition activities, and emissions from on- and off-road engines. PM<sub>2.5</sub> includes a subgroup of finer particles that have an aerodynamic diameter of 2.5 micrometers or less. Some particulate matter, such as



pollen, is naturally occurring. In the SFBAAB most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease.  $PM_{10}$  is of concern because it bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs.  $PM_{2.5}$  poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates.

**Nitrogen Dioxide ( $NO_2$ )** is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of  $NO_2$ . Aside from its contribution to ozone formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility.  $NO_2$  may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels. Most of the Bay Area's  $NO_2$  comes from on-road motor vehicles. Since the year 2010, the Bay Area has had three exceedances of the national  $NO_2$  standard in 2012, 2015, and 2017 (ABAG, 2021).

**Carbon Monoxide (CO)** is an odorless, colorless gas. It is formed by the incomplete combustion of fuels. The single largest source of CO in the SFBAAB is motor vehicles. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. Findings indicate that CO emissions per mile are lowest at about 45 mph for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.

**Sulfur Dioxide ( $SO_2$ )** is a colorless acid gas with a pungent odor. It has potential to damage materials, and it can have health effects at high concentrations. It is produced by the combustion of sulfur-containing fuels, such as oil, coal, and diesel.  $SO_2$  can irritate lung tissue and increase the risk of acute and chronic respiratory disease. Most of the Bay Area's  $SO_2$  comes from petroleum refineries. Despite these major sources, the overall concentration of  $SO_2$  in the region is low. Over the past 10 years, the Bay Area has not experienced any exceedances of either the national or the State  $SO_2$  standard (ABAG, 2021).

**Lead** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

In the early 1970s, the USEPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995.

### 3.3 AIR QUALITY

As a result of the USEPA’s regulatory efforts to remove lead from gasoline, emissions of lead from mobile sources decreased 89 percent between 1980 and 2010. In the Bay Area, aircraft exhaust and manufacturing are the major sources of lead emissions. Contact with lead-based paint in older buildings and demolition activities are also a health concern in the region (ABAG, 2021).

#### Ambient Air Quality Standards and Designations

Both the USEPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and California state ambient air quality standards are summarized in Table 3.3-2 for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>.

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 parts per million (ppm). Implementation of the 8-hour standard was delayed by litigation but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued, in February of 2001. In April 2005, the CARB approved a new eight-hour standard of 0.070 ppm and retained the one-hour ozone standard of 0.09 after an extensive review of the scientific literature. The USEPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015.

The current federal and state ambient air quality standards and attainment standards are presented in Table 3.3-2.

**TABLE 3.3-2: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STANDARD	STATE STANDARD
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM <sub>10</sub>	Annual	--	20 ug/m <sup>3</sup>
	24-Hour	150 ug/m <sup>3</sup>	50 ug/m <sup>3</sup>
PM <sub>2.5</sub>	Annual	12 ug/m <sup>3</sup>	12 ug/m <sup>3</sup>
	24-Hour	35 ug/m <sup>3</sup>	--
Lead	30-Day Avg.	--	1.5 ug/m <sup>3</sup>
	3-Month Avg.	0.15 ug/m <sup>3</sup>	--

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2022A.

NOTES: PPM = PARTS PER MILLION, µG/M<sup>3</sup> = MICROGRAMS PER CUBIC METER

**Monitoring Data**

BAAQMD operates a regional air quality monitoring network that regularly measures the concentrations of the five major criteria air pollutants. Air quality conditions in the SFBAAB have improved significantly since the BAAQMD was created in 1955. Ambient concentrations and the number of days on which the region exceeds standards have declined dramatically. Neither federal nor state ambient air quality standards have been violated in recent decades for NO<sub>2</sub>, SO<sub>2</sub>, sulfates, lead, hydrogen sulfide, and vinyl chloride.

The CARB maintains air quality monitoring stations throughout California. Table 3.3-3 provides the aggregated statistics obtained from the monitoring sites in Contra Costa County, between 2018 and 2020, for ozone (1-hour and 8-hour), PM<sub>10</sub>, and PM<sub>2.5</sub>.

**TABLE 3.3-3: AMBIENT AIR QUALITY MONITORING DATA (SANTA CLARA COUNTY)**

POLLUTANT	CALIFORNIA	FEDERAL	YEAR	DAYS EXCEEDED STATE/FEDERAL STANDARD
	PRIMARY STANDARD			
Ozone (O <sub>3</sub> ) (1-hour)	0.09 ppm for 1 hour	NA	2020	2 / 0
			2019	2 / 0
			2018	0 / 0
Ozone (O <sub>3</sub> ) (8-hour)	0.07 ppm for 8 hour	0.07 ppm for 8 hour	2020	5 / 5
			2019	3 / 3
			2018	2 / 2
Particulate Matter (PM <sub>10</sub> )	50 ug/m <sup>3</sup> for 24 hours	150 ug/m <sup>3</sup> for 24 hours	2020	* / 11.5
			2019	* / 0
			2018	11.5 / 0
Fine Particulate Matter (PM <sub>2.5</sub> )	No 24 hour State Standard	35 ug/33 for 24 hours	2020	16.2 / 16.2
			2019	1.1 / 1.1
			2018	14.4 / 14.4

SOURCE: CALIFORNIA AIR RESOURCES BOARD (ADAM) AIR POLLUTION SUMMARIES, 2022B. [HTTP://WWW.ARB.CA.GOV/ADAM/WELCOME.HTML](http://www.arb.ca.gov/adam/welcome.html).

NOTES: PPM = PARTS PER MILLION; UG/M<sup>3</sup> = MICRONS PER CUBIC METER; NA= NOT APPLICABLE

\* = THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE

PM<sub>10</sub> DATA WAS NOT AVAILABLE UNDER COUNTY SUMMARY; PM<sub>10</sub> DATA WAS TAKEN FROM THE CONCORD-2975 TREAT BOULEVARD MONITORING SITE

**Emissions Inventory**

The BAAQMD estimates emissions of criteria air pollutants from approximately nine hundred source categories. The estimates are based on BAAQMD permit information for stationary sources (e.g., manufacturing industries, refineries, dry-cleaning operations), plus more generalized estimates for area sources (e.g., space heating, landscaping activities, use of consumer products) and mobile sources (e.g., trains, ships and planes, as well as on-road and off-road motor vehicles).

**EXISTING AMBIENT AIR QUALITY: TOXIC AIR CONTAMINANTS**

In addition to the criteria air pollutants listed above, another group of pollutants, commonly referred to as toxic air contaminants (TACs) or hazardous air pollutants can result in health effects that can be quite severe. Many TACs are confirmed or suspected carcinogens or are known or

suspected to cause birth defects or neurological damage. Additionally, many TACs can be toxic at very low concentrations. For some chemicals, such as carcinogens, there are no thresholds below which exposure can be considered risk-free.

Industrial facilities and mobile sources are significant sources of TACs; however, there are additional sources of TACs beyond these sources. Various common urban facilities also produce TAC emissions, such as gasoline stations (benzene), hospitals (ethylene oxide), and dry cleaners (perchloroethylene). Automobile exhaust also contains TACs such as benzene and 1,3-butadiene. Diesel particulate matter (PM) has also been identified as a TAC by CARB. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. BAAQMD research indicates that mobile-source emissions of diesel PM, benzene, and 1,3-butadiene represent a substantial portion of the ambient background risk from TACs in the SFBAAB.

Sensitive receptors, which include children, the sick, and the elderly, may be especially impacted by TACs. Health risks from diesel PM are highest in areas of concentrated emissions, such as near ports, rail yards, freeways, or warehouse distribution centers. According to CARB, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Those most vulnerable are children, whose lungs are still developing, and the elderly, who may have other serious health problems. Based on numerous studies, CARB has also stated that diesel PM is a contributing factor for premature death from heart and/or lung diseases. In addition, diesel PM reduces visibility and is a strong absorber of solar radiation that contributes to global warming.

According to CARB, levels of toxic air pollutants have decreased significantly with the adoption of airborne toxic control measures, stringent vehicle standards, requirements for low-emission vehicles, and cleaner fuels. As a result of these measures, more than 30,000 facilities in California have reduced their toxic emissions. This has led to the reduction of ambient cancer risk in California by about 80 percent since 1990. Several communities also have established community emission reduction plans that outline actions that stationary facilities and mobile sources can take to further reduce harmful air pollutants.

BAAQMD's Community Air Risk Evaluation (CARE) Program, initiated in 2004, works extensively with local governments, communities, and businesses to reduce air pollution and adverse health outcomes in disproportionately affected areas within the Bay Area. Periodically, the CARE Program identifies affected areas by overlaying maps that combine emissions, estimated cancer risks, predicted PM<sub>2.5</sub> concentrations, and health outcome data.

The CARE Program has brought together government, communities, and business in an effort to understand and address localized areas of elevated air pollution and adverse health impacts. A portion of the Planning Area that is located east of Railroad Avenue and north of Buchanan Road west of Somersville Road and James Donlon Boulevard east of Somersville Road is designated as an Impacted Community under the CARE Program. While improvements in air quality continue to occur throughout the Bay Area, levels of air pollution and their impacts vary from location to location. Air pollution levels of many pollutants are highest in closer proximity to pollution sources,

such as near freeways, busy roadways, busy distribution centers, and large industrial sources. Communities where these types of sources are concentrated often have areas within them where air pollution is relatively high and corresponding health impacts are greater.

In addition to tracking regional criteria pollution levels as measured at central monitoring sites, and in addition to tracking TAC pollution levels from individual permitted facilities, BAAQMD tracks the cumulative impacts of exposures to multiple pollutants and multiple sources in the neighborhoods where people live. With the shift toward more consideration of cumulative air pollution exposures, BAAQMD's staff continues to evaluate the health status of Bay Area residents and how health status affects vulnerability to air pollution. This gradual shift will continue to require closer collaboration between BAAQMD and the region's health departments and health professionals and researchers. By exploring the links between air pollution exposures and community health status, the CARE Program will continue to help focus BAAQMD's resources to achieve the greatest health benefits (ABAG, 2021).

## ODORS

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Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

### SENSITIVE RECEPTORS

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Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residences, hospitals, and schools (etc.).

As a planning document, the General Plan Update identifies land use designations within the Planning Area which specify the type of allowed uses associated with each designation. However, site-specific development is not proposed as part of the proposed 2040 General Plan Update. Pittsburg has numerous sensitive land uses, in particular, residential communities. These sensitive land uses would continue to exist, and new sensitive land uses are anticipated to occur within implementation of the General Plan Update. As a conservative estimate of impacts, sensitive receptors are anticipated to be located directly adjacent to new development.

### 3.3.2 REGULATORY SETTING

Air quality, with respect to criteria air pollutants and TACs within the SFBAAB, is regulated by such agencies as the BAAQMD, CARB, and the USEPA. Each of these agencies develops rules, regulations, policies, and/or goals to attain the goals or directives imposed through legislation. Although the USEPA regulations may not be superseded, both state and local regulations may be more stringent.

### FEDERAL

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#### **Clean Air Act**

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The USEPA is responsible for administering the FCAA. The FCAA requires the USEPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and PM<sub>2.5</sub> ambient air quality standards indicate that certain individuals

exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the USEPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized, and conclusions are presented in the ISA. Based on the ISA, USEPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by CASAC. Members of CASAC are appointed by the USEPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The committee's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutants as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the USEPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standard consistent with the current California State standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO<sub>2</sub>: The national NO<sub>2</sub> standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO<sub>2</sub> concentrations than the existing national standard.
- SO<sub>2</sub>: On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99<sup>th</sup> percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average PM<sub>2.5</sub> standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower PM<sub>2.5</sub> concentrations than the existing standard.

- Lead: The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc., are needed to have full comprehension of the local pollution control problems. As a result, the USEPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing and implementing the California SIP.

### **Federal Hazards Air Pollutants Program**

The 1977 FCAA Amendments required the USEPA to identify National Emissions Standards for Hazardous Air Pollutants (NESHAPs) to protect the public health and welfare. Hazardous air pollutants include certain volatile organic compounds (VOCs), pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 FCAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

### **Federal Heavy-duty Engines and Vehicles Fuel Efficiency Standards**

In 2010, President Obama issued a memorandum directing federal agencies to establish additional standards regarding fuel efficiency and greenhouse gas (GHG) reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and National Highway Traffic Safety Administration (NHTSA) proposed stringent, coordinated federal GHG and fuel economy standards, for model year 2017–2025 light-duty vehicles. The proposed standards are projected to achieve 163 grams/mile of CO<sub>2</sub> in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012, for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks, for model years 2014–2018. The standards for CO<sub>2</sub> emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles.

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027, for certain trailers, and model years 2021 through 2027, for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower CO<sub>2</sub> emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program (USEPA and NHTSA, 2016).



In August 2017, the USEPA asked for additional information and data relevant to assessing whether the GHG emissions standards, for model years 2022-2025, remain appropriate. In early 2018, the USEPA Administrator announced that the midterm evaluation for the GHG emissions standards for cars and light-duty trucks, for model years 2022-2025, was completed and stated his determination that the current standards should be revised in light of recent data. Subsequently, in April 2018, the USEPA and NHTSA proposed to amend certain existing Corporate Average Fuel Economy (CAFE) standards for passenger cars and light trucks and establish new standards, covering model years 2022-2025. Compared to maintaining the post-2020 standards now in place, the pending proposal would increase U.S. fuel consumption (NHTSA, 2018). California and other states have announced their intent to challenge federal actions that would delay or eliminate GHG reductions. In April 2020, NHTSA and USEPA amended the CAFE and GHG emissions standards for passenger cars and light trucks and established new less stringent standards, covering model years 2021 through 2026.

On September 27, 2019, the USEPA and NHTSA published the SAFE Rule (Part One) (U.S. EA and NHTSA, 2019). The SAFE Rule (Part One) went into effect in November 2019, and revoked California's authority to set its own GHGs standards and set zero emission vehicle mandates in California. The SAFE Rule (Part One) freezes new zero emission vehicles (ZEV) sales at model year 2020 levels for year 2021 and beyond and will likely result in a lower number of future ZEVs and a corresponding greater number of future gasoline internal combustion engine vehicles. In response to the USEPA's adoption of the SAFE Rule (Part One), CARB has issued guidance regarding the adjustment of vehicle emissions factors to account for the rule's implications on criteria air pollutant and GHG emissions. The SAFE Rule is subject to ongoing litigation and on February 8, 2021, the D.C. Circuit Court of Appeals granted the Biden Administration's motion to stay litigation over SAFE Rule (Part 1). On April 22 and April 28, 2021, respectively, NHTSA and USEPA formally announced their intent to reconsider the Safe Rule (Part One). In August 2021, USEPA proposed to revise existing national GHG emissions standards for passenger cars and light trucks, for model years 2023- 2026, to make the standards more stringent. On August 5, 2021, USEPA announced plans to reduce GHG emissions and other harmful air pollutants from heavy-duty trucks through a series of rulemakings over the next three years. The first rulemaking will apply to heavy-duty vehicles, starting in model year 2027, and will set new standards for criteria pollutants for the entire sector as well as targeted updates to the current GHG emissions standards.

### **Transportation Conformity**

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the USEPA adopted implementing regulations in 1997. See Section 176 of the FCAA (42 U.S.C. Section 7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration, conform to the SIP as approved or promulgated by USEPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas (maintenance areas are those areas that were in nonattainment that have been redesignated to

attainment, under the FCCA). Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

### **Transportation Control Measures**

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

## STATE

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### **California Clean Air Act**

The California Legislature enacted the California Clean Air Act (CCAA) in 1988, to address air quality issues of concern not adequately addressed by the FCAA at the time. California's air quality problems were and continue to be some of the most severe in the nation and required additional actions beyond the federal mandates. CARB administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six pollutants subject to federal standards listed above, as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The USEPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar regulations implementing the FCAA. Generally, the planning requirements of the FCAA are less stringent than the CCAA; therefore, consistency with the CCAA will also demonstrate consistency with the FCAA.

### **CARB Mobile-Source Regulation**

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations that require auto manufacturers to phase in less-polluting vehicles.

## **CARB Air Quality and Land Use Handbook**

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities. The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate [I] 405 and I-710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the state for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day."

## **California Air Quality Standards**

Although NAAQS are determined by the US. EPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-2.

Air quality standard setting in California commences with a critical review of all relevant peer-reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. AQAC provides written comments on the draft ISOR. CARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the CARB at a regularly scheduled CARB hearing.

In June of 2002, CARB adopted revisions to the PM<sub>10</sub> standard and established a new PM<sub>2.5</sub> annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and NO<sub>2</sub>, and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and NO<sub>2</sub> went into effect on

May 17, 2006, and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

### **Tanner Air Toxics Act (TACs)**

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted USEPA's list of Hazardous Air Pollutants (HAPs) as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

### **Toxic Air Contaminants Health Effects**

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data. The 10 TACs are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM, because no routine measurement method currently exists. CARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the CARB emissions inventory's PM<sub>10</sub> database,

ambient PM<sub>10</sub> monitoring data, and the results from several studies to estimate concentrations of DPM.

### **Transportation Control Measures**

The SIP describes the infrastructure (i.e., authorities, resources, and programs) California has in place to implement, maintain, and enforce the NAAQS. One particular aspect of the development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as TCMs, which are strategies designed to reduce vehicle miles traveled and trips or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

### **Omnibus Low-NO<sub>x</sub> Rule**

CARB approved the Omnibus Low-NO<sub>x</sub> Rule on August 28, 2020, which requires engine NO<sub>x</sub> emissions to be cut to approximately 75 percent below current standards beginning in 2024, and 90 percent below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty trucks and engines. Those additional requirements include a 50 percent reduction in PM emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NO<sub>x</sub> Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved, requiring manufacturers to convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

### **Low Emission Vehicle Program**

CARB first adopted Low Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the state's passenger vehicle fleet continues to grow, and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 SIP. In 2012, CARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards, for model years 2017 through 2025, for both criteria pollutants and GHG emissions for new passenger vehicles.

On September 23, 2020, Governor Gavin Newsom issued Executive Order N-79-20, establishing a goal that 100 percent of new passenger cars and trucks sold in California shall be zero-emission by 2035. Executive Order N-79-20 also sets a goal that, where feasible, all operations include zero-

emission medium- and heavy-duty trucks by 2045, and drayage trucks by 2035. Off-road vehicles have a goal to transition to 100 percent zero-emission vehicles by 2035, where feasible.

### **On-Road Heavy-Duty Vehicle Program**

CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

### **California Air Resources Board Regulation for In-Use Off-Road Diesel Vehicles**

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO<sub>x</sub> emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling of the applicable diesel vehicles, and requires disclosure of the regulation upon vehicle sale. CARB is enforcing that part of the rule with fines up to \$10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO<sub>x</sub> emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014, for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

The latest amendments became effective on November 17, 2022. The amended regulation requires the phase-out of the oldest and highest-emitting off-road engines from operation, restricts the addition of vehicles with Tier 3 and 4 engines, requires contracting entities to obtain and retain a fleet's valid Certificate of Reported Compliance prior to awarding a contract or hiring a fleet, mandates the use of R99 or R100 Renewable Diesel for all fleets, provides voluntary compliance flexibility options for fleets that adopt zero-emission technology, and includes additional requirements to increase enforceability, provide clarity, and provide additional flexibility for permanent low-use vehicles.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.

### **Diesel Risk Reduction Plan**

CARB's Diesel Risk Reduction Plan has led to the adoption of new state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions

by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of CARB's Diesel Risk Reduction Plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010 and 85 percent by 2020.

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## REGIONAL AND LOCAL

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### **Bay Area Air Quality Management District**

The BAAQMD is responsible for attaining and maintaining air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BAAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA and the CCAA.

The BAAQMD has regulated TACs since the 1980s. At the local level, air pollution control or management districts may adopt and enforce CARB's control measures. Under Regulation 2-1 (General Permit Requirements), Regulation 2-2 (New Source Review), and Regulation 2-5 (New Source Review), all nonexempt sources that possess the potential to emit TACs are required to obtain permits from BAAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air TCMs. The BAAQMD limits emissions and public exposure to TACs through several programs. The BAAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. In addition, Regulation 11 Rules 2 and 14 address asbestos demolition renovation, manufacturing, and standards for asbestos containing serpentine.

#### ***BAAQMD Air Quality Plans***

As stated above, the BAAQMD prepares plans to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans (OAP) for the national ozone standard and clean air plans (CAP) for the California standard both in coordination with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

With respect to applicable air quality plans, the BAAQMD prepared the 2017 CAP to address nonattainment of the national 1-hour ozone standard in the SFBAAB. The 2017 Clean Air Plan is a roadmap for regional efforts to reduce air pollution and protect public health and the global climate. The 2017 Plan identifies potential rules, programs, and strategies to reduce GHG emissions and other harmful air pollutants in the Bay Area. The 2017 CAP complements and supports other important regional and state planning efforts, including Plan Bay Area and the State of California's 2030 Scoping Plan.

## 3.3 AIR QUALITY

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The 2017 CAP lays out 85 distinct control measures to decrease fossil fuel combustion, improve energy efficiency, and decrease emissions of potent GHGs and other pollutants. Numerous measures reduce multiple pollutants simultaneously, while others focus on a single type of pollutant – for example, “super-GHGs”, like methane and black carbon.

The goals of the 2017 CAP are to:

1. Protect local air quality and health at the regional and local scale
  - a. Attain all state and national air quality standards
  - b. Eliminate the disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
2. Protect the climate:
  - a. Reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

### ***BAAQMD CEQA Guidelines***

The BAAQMD most recently published CEQA Air Quality Guidelines (CEQA Guidelines) in 2022, to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the SFBAAB. BAAQMD’s CEQA Air Quality Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated for project-level and plan-level activities. The CEQA Air Quality Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects. The CEQA Air Quality Guidelines are intended to help lead agencies navigate through the CEQA process. The CEQA Air Quality Guidelines offer step-by-step procedures for a thorough environmental impact analysis of adverse air emissions in the Bay Area.

### ***BAAQMD CARE Program***

The BAAQMD CARE Program aims to identify locations with high toxic emissions and sensitive populations, and to use the information to help BAAQMD establish policies for the use of its incentive funding, regulatory authority, and other programs to reduce toxic emissions in areas with high TAC exposures and sensitive populations.

The goals of the CARE Program are to:

- Identify areas where air pollution contributes most to health impacts and where populations are most vulnerable to air pollution.
- Apply sound scientific methods and strategies to reduce health impacts in these areas.
- Engage community groups and other agencies to develop additional actions to reduce local health impacts.

Figure 3.3-1 shows the areas within the Planning Area that are designated by the CARE Program. As shown, portions of the eastern portion of the Planning Area, north of Buchanan Road, are designated by the CARE Program. These areas have air pollution conditions which contribute most to health impacts and where populations are most vulnerable to air pollution.

### **CALGreen and Building Energy Efficiency Standards**

The California Green Building Standards Code (CALGreen) is a set of mandatory green building



standards for new construction. CALGreen was first developed by the California Building Standards Commission in an effort to meet the goals of Assembly Bill (AB) 32, which established a comprehensive program of cost-effective reductions of GHGs to 1990 levels by 2020. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly-constructed building or structure on a statewide basis unless otherwise indicated. Additions and alterations to existing buildings which increase the building's conditioned area, interior volume, or size are also covered by the scope of CALGreen.

The California Building Standards Commission has the authority to propose CALGreen standards for nonresidential structures that include, but are not limited to, new buildings or portions of new buildings, additions and alterations, and all occupancies where no other state agency has the authority to adopt green building standards applicable to those occupancies.

Additionally, effective January 1, 2023, the latest (2022) version of the Title 24, Part 6 Energy Code updates took effect. The 2022 Building Energy Efficiency Standards focus on regulations for energy efficiency, water efficiency and conservation, material conservation and resource efficiency, environmental quality, as well as mandatory provisions for commercial, residential, and public school buildings, and appendices with voluntary provisions for all of these occupancies plus hospitals.

### 3.3.3 IMPACTS AND MITIGATION MEASURES

Long range plans (e.g., general plan, etc.) present unique challenges for assessing impacts, because they contain development strategies for 20-year, or even longer, time horizons. Due to the SFBAAB's nonattainment status for ozone and PM, and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable adverse air quality impacts. CEQA requires the lead agency to evaluate individual and cumulative impacts of general plans, and all feasible mitigation measures must be incorporated within the proposed plan to reduce significant air quality impacts.

The BAAQMD CEQA Air Quality Guidelines provide guidance on how to evaluate air quality impacts associated with implementation of long-range plans prepared within the SFBAAB pursuant to CEQA. Air quality impacts from future development pursuant to general plans can be divided into construction-related impacts and operational-related impacts. Construction-related impacts are associated with construction activities likely to occur in conjunction with future development allocated by the plan. Operational-related impacts are associated with continued and future operation of developed land uses, including increased vehicle trips and energy use.

### THRESHOLDS OF SIGNIFICANCE

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Per Appendix G of the CEQA Guidelines and BAAQMD recommendations, air quality impacts are considered significant if implementation of the General Plan Update would:

- Conflict with or obstruct implementation of an applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

### IMPACTS AND MITIGATION MEASURES

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#### **Impact 3.3-1: General Plan implementation would not conflict with or obstruct implementation of the applicable air quality plan (Less than Significant)**

The BAAQMD is the regional agency responsible for overseeing compliance with State and federal laws, regulations, and programs within the SFBAAB. The BAAQMD, with assistance from ABAG and MTC, has prepared and implemented specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the Bay Area 2017 CAP. The BAAQMD has also developed CEQA Air Quality Guidelines (most recently in 2022) to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

CEQA requires lead agencies to determine whether a project is consistent with all applicable air quality plans. The BAAQMD's most current plan is the 2017 CAP. The 2022 BAAQMD CEQA Air Quality Guidelines recommend that lead agencies consider the following questions relative to this consistency determination:

1. Does the project support the primary goals of the of the 2017 CAP?
2. Does the project include applicable control measures from the 2017 CAP?
3. Does the project disrupt or hinder implementation of the 2017 CAP control measures?

The primary goals of the 2017 CAP are to protect public health and the climate. The 2017 CAP contains 85 individual control measures that describe specific actions to reduce emissions of air and climate pollutants from the full range of emission sources. The control measures are categorized based upon the economic sector framework used by the Air Resources Board for the AB 32 Scoping Plan Update. These sectors include:

- Stationary (Industrial) Sources
- Transportation
- Energy

- Buildings
- Agriculture
- Natural and Working Lands
- Waste Management
- Water
- Super-GHG Pollutants

The 2040 General Plan does not in and of itself propose development but proposes a land use plan and policy framework that are specifically aimed at improving air quality. The 2040 General Plan Circulation and Transportation Element and Resource Conservation and Open Space Element contain policies and actions that would reduce criteria pollutant emissions, odors, health risks, and other emissions, consistent with the issues recommended in the 2017 CAP, as described further below. Subsequent development projects proposed within the Planning Area in accordance with the 2040 General Plan Update would be subject to all relevant General Plan Update policies and actions that provide protections for air quality.

Proposed policies and actions are consistent with the intent of the control measures by promoting a compact urban development form, emphasizing infill development, and ensuring that land use patterns do not expose sensitive receptors to pollutant concentrations. For example, proposed General Plan Resource Conservation and Open Space Element Policy 10-P-5.1 supports the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations. Policy 10-P-5.4 encourages and supports infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel. Furthermore, Policy 10-P-5.2 requires the City to encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use. Additionally, Policy 10-P-5.6 requires the City to reduce the generation of TACs such as ozone, carbon monoxide, lead, and particulate matter to work toward improving air quality and meeting all Federal and State ambient air quality standards.

Additionally, the Circulation and Transportation Element includes a wide range of policies and actions that would effectively reduce vehicle miles traveled per service population throughout the Planning Area, through the use of complete streets and multi-modal transportation systems. These applicable policies and actions are described in greater detail in Section 3.14 (Transportation and Circulation). Examples of policies and actions include Policy 7-P-1.6, which emphasizes efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit; Policy 7-P-3.7, which requires the City to encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes; and Action 7-A-2.j requires the City to adopt a citywide TDM plan to require and encourage vehicle trip reduction at employment sites, businesses, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and hire dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

### 3.3 AIR QUALITY

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A primary goal of the 2017 CAP is to address public health by identifying control measures to maximize the reduction in population exposure to air pollutants and by including a category titled *Land Use and Local Impacts Measures* that is intended to address localized impacts of air pollution and to help local jurisdictions to pursue transit-oriented infill development in priority areas. As discussed above, the General Plan includes goals, policies, and actions to support transit-oriented infill development.

The 2017 CAP's primary goal of protecting the climate is to reduce GHGs. GHGs and applicable 2040 General Plan policies and actions are discussed in greater detail in Section 3.7 (Greenhouse Gas Emissions, Climate Change & Energy). Thus, the 2040 General Plan would be consistent with the 2017 CAP's primary goal of protecting the climate to reduce GHGs.

If the 2040 General Plan would cause disruption, delay, or otherwise hinder the implementation of any air quality plan control measure, it may be considered inconsistent with the 2017 CAP. The 2040 General Plan does not cause the disruption, delay, or otherwise hinder the implementation of any quality plan control measure; therefore, it is consistent with the 2017 CAP. The Planning Area is surrounded by existing urbanized uses and is bisected by one of the most heavily-traveled highway corridors in the San Francisco Bay Area. The 2040 General Plan emphasizes pedestrian-oriented neighborhoods, appropriately-scaled commercial areas with strong pedestrian and bicycle connections, and infill development within the Downtown with a commitment to develop more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. The Land Use Plan and policies and actions emphasize alternative transportation access and multi-modal connectivity throughout the Planning Area and into the surrounding areas. The General Plan Update's proposed land use plan and policy framework would support the 2017 CAP and provide for future development that would support placement of land uses in proximity to each other and to transit; reduce vehicle trips; and address potential health-related impacts associated with new development, amongst others. All future development and infrastructure projects within the Planning Area would be subject to the 2040 General Plan goals, policies, and actions, which would contribute to the reduction of emissions and air quality impacts. Therefore, implementation of the 2040 General Plan, which is consistent with all federal and state guidelines, would be consistent with the 2017 CAP.

The BAAQMD's 2022 CEQA Air Quality Guidelines also identify thresholds of significance for criteria air pollutants and precursors for planning-level documents. As described in Section 3.4 of the 2022 CEQA Air Quality Guidelines, proposed plans (except regional plans) must show the following over the planning period of the plan to result in a less than significant impact:

- Consistency with current air quality plan control measures.
- A proposed plan's projected vehicle miles traveled (VMT) or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.

The analysis provided above demonstrates that the 2040 General Plan would be consistent with the current air quality plan control measures.

Annual VMT for the existing condition (baseline) and buildout year 2040 was provided by TJKM; refer to Section 3.14 (Transportation and Circulation). Table 3.3-4 identifies the VMT per capita for the 2040 General Plan. As shown in Table 3.3-4, despite the increase in overall VMT associated with implementation of the 2040 General Plan, the General Plan would slightly decrease both VMT per capita and VMT per employee. Both decreases can be explained by densification of developments within the General Plan. Since the 2040 General Plan’s projected VMT per capita would decrease, this impact would be less than significant.

**TABLE 3.3-4: VMT DATA COMPARISON BETWEEN EXISTING CONDITION AND 2040 GENERAL PLAN**

LAND USE	UNITS	EXISTING CONDITION (BASELINE)	2040 GENERAL PLAN	2040 GENERAL PLAN VS. EXISTING CONDITION
All residential	VMT per Capita	17.38	17.21	-1.0%
All employment	VMT per Employee	12.31	12.21	-1.0%
Total VMT	VMT	2,102,345	2,824,716	+34.4%

SOURCE: TJKM, 2023

The 2040 General Plan would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled by providing opportunities for pedestrian-oriented neighborhoods, appropriately-scaled commercial areas with strong pedestrian and bicycle connections, and infill development within the Downtown with a commitment to develop more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. The Land Use Plan and policies and actions emphasize alternative transportation access and multi-modal connectivity throughout the Planning Area and into the surrounding areas. Implementation of the 2040 General Plan goals, policies, and actions would minimize criteria pollutant emissions. For the reasons described above, the proposed 2040 General Plan Update would not conflict with or obstruct implementation of the applicable air quality plan and this impact is considered **less than significant**.

**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

**POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-1.5: Implement and continue to increase efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit.

7-P-3.6: Encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes.

**ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT**

7-A-1.b: Require proposed development projects with VMT levels above the City’s threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a

### 3.3 AIR QUALITY

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manner consistent with the City's sustainability goals, the City's Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

7-A-2.j: Adopt a citywide TDM plan to encourage vehicle trip reduction at employment sites, businesses, schools, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

7-A-2.k: Encourage developers to provide enhanced TDM programs and alternative transportation infrastructure that exceeds minimum requirements, as per 7-A-2.j, in exchange for reduced parking requirements, with a focus on priority development areas and locations in proximity to high capacity transit.

#### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-6.1: Support the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations.

10-P-6.2: Ensure that new development is consistent with the energy objectives and targets identified by the City's Sustainability Plan.

10-P-6.3: Encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use.

10-P-6.4: Encourage and support for infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel.

10-P-6.5: Coordinate with the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with BAAQMD, ABAG, and State Air Resources Board in:

- a) Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
- b) Identifying baseline air pollutant and greenhouse gas emissions, including within the City and Sphere of Influence and in the vicinity of intensive industrial and energy-producing uses, to the extent data is available.
- c) Requiring energy-efficiency measures in City operations and facilities and use of low carbon or clean fuels for City vehicle fleets, when feasible.

10-P-6.6: Reduce the generation of TACs such as ozone, carbon monoxide, lead, and particulate matter to work toward improving air quality and meeting all Federal and State ambient air quality standards.

10-P-6.7: Reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust.

10-P-6.8: Reduce the number of motor vehicle trips and emissions accounted to Pittsburg residents and encourage land use and transportation strategies that promote use of alternatives to the automobile for transportation, including bicycling, bus transit, and carpooling.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-6.a: Periodically review and report on the effectiveness of the measures outlined in the Sustainability Plan and the strategies in this Element in meeting local and State GHG reduction and climate goals. Institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions.

10-A-6.b: Implement the Strategic Energy Plan to reduce GHG emissions, including identifying ways to reduce energy use for existing City facilities, improving energy performance for new construction and major renovations, developing fiscal and economic criteria for implementation of energy reduction plans, reducing greenhouse gas emissions through adopting a Climate Action Plan, and engaging the community to increase awareness and reduce energy use.

10-A-6.c: Cooperate with BAAQMD to achieve emissions reductions for ozone and its precursor, PM-10, and ensure compliance with dust abatement measures during construction.

10-A-6.d: Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

10-A-6.e: Use alternative-fuel vehicles, as feasible, to minimize emissions and air pollution from City operations.

10-A-6.f: Encourage new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

### **Impact 3.3-2: General Plan implementation could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (Significant and Unavoidable)**

#### ***Short-Term Construction Impacts***

Implementation of the 2040 General Plan would result in short-term emissions from construction activities associated with subsequent development, including site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction

activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM<sub>10</sub> and PM<sub>2.5</sub> emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby.

Demolition and renovation of buildings can also generate PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Off-road construction equipment is often diesel-powered and can be a substantial source of NO<sub>x</sub> emissions, in addition to PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Worker commute trips and architectural coatings are dominant sources of ROG emissions. In addition, NO<sub>x</sub> emissions during grading and soil import/export for large projects may exceed the BAAQMD NO<sub>x</sub> emission thresholds. The BAAQMD CEQA Air Quality Guidelines do not identify plan-level thresholds that apply to construction. Without application of appropriate control measures to reduce construction dust and exhaust, construction-related impacts would be considered a **potentially significant** impact.

Individual projects anticipated by the 2040 General Plan would be required to implement their own environmental review and demonstrate consistency with the General Plan, and all applicable BAAQMD construction-related programs and policies, including the incorporation of best management practices. The 2040 General Plan goals, policies, and actions would reduce construction emissions. For example, Action 10-A-6.c requires the City to cooperate with BAAQMD to achieve emissions reductions for ozone and its precursor, PM<sub>10</sub>, and ensure compliance with dust abatement measures during construction. Although implementation of the relevant 2040 General Plan measures, as well as compliance with all applicable BAAQMD construction emissions requirements, would typically ensure that short-term construction related emissions associated with future development allowed under the 2040 General Plan would be less than significant, it is impossible to determine if individual project-level impacts would be reduced to below regulatory thresholds for every future project. There are no feasible criteria air pollutant reduction measures beyond those identified within the goals, policies, and actions identified in under Impact 3.3-1 and the regulatory framework, that would reduce impacts to less than significant at this programmatic level of review. While implementation of the goals, policies, and actions would reduce criteria pollutant emissions, the extent to which the impacts would need to be determined on a project-by-project basis, as necessary. Ultimately, the potential for cumulatively considerable net increases in criteria pollutants would remain. Therefore, this impact is considered **significant and unavoidable**.

#### ***Long-Term Operational Impacts***

Implementation of the 2040 General Plan would result in long-term area and mobile source emissions from operation and use of subsequent development. Implementation of the 2040 General Plan could include stationary sources of pollutants that would be required to obtain permits to operate in compliance with BAAQMD rules. These sources include, but are not limited to, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. The BAAQMD stationary source permit process ensures that these sources would be equipped with the required emission controls and that, individually, these sources would result in a less than significant impact.



As discussed above, the BAAQMD Air Quality Guidelines do not have thresholds related to direct and indirect regional criteria pollutant emissions as a result of future development projects accommodated by the 2040 General Plan. The BAAQMD CEQA Air Quality Guidelines only require emissions computations for project-level analysis. Implementation of the 2040 General Plan would result in increased short-term emissions associated with construction projects, increased emissions associated with stationary sources, and increased emissions associated with transportation and operation of future development. The specifics of future development are not known at this time. There is the potential for cumulative future development to result in a cumulatively considerable net increase in criteria pollutants for which the region is in nonattainment. Future development under the 2040 General Plan would be required to comply with the AQMP, SIP, CARB and BAAQMD regulations, Title 24 energy efficiency standards, and the 2040 General Plan's goals, policies, and implementation measures, as described under Impact 3.3-1.

Implementation of the 2040 General Plan goals, policies, and actions described under Impact 3.3-1 and compliance with the required air quality regulatory framework would reduce potential air quality impacts associated with future operational emissions. However, it is impossible to determine if individual project-level impacts would be reduced to below regulatory thresholds. There are no feasible criteria air pollutant reduction measures beyond those identified within the goals, policies, and actions identified in under Impact 3.3-1 and the regulatory framework, that would reduce impacts to less than significant at this programmatic level of review. While implementation of the goals, policies, and actions would reduce criteria pollutant emissions, the extent to which the impacts would need to be determined on a project-by-project basis, as necessary. The potential for cumulatively considerable net increases in criteria pollutants would remain. Therefore, this impact is considered **significant and unavoidable**.

### **GENERAL PLAN GOALS, POLICIES, AND ACTIONS THAT MINIMIZE POTENTIAL IMPACTS**

#### **POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-1.5: Implement and continue to increase efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit.

7-P-3.6: Encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes.

#### **ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT**

7-A-1.b: Require proposed development projects with VMT levels above the City's threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a manner consistent with the City's sustainability goals, the City's Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

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7-A-2.j: Adopt a citywide TDM plan to encourage vehicle trip reduction at employment sites, businesses, schools, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

7-A-2.k: Encourage developers to provide enhanced TDM programs and alternative transportation infrastructure that exceeds minimum requirements, as per 7-A-2.j, in exchange for reduced parking requirements, with a focus on priority development areas and locations in proximity to high capacity transit.

### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-6.1: Support the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations.

10-P-6.2: Ensure that new development is consistent with the energy objectives and targets identified by the City’s Sustainability Plan.

10-P-6.3: Encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use.

10-P-6.4: Encourage and support for infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel.

10-P-6.5: Coordinate with the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with BAAQMD, ABAG, and State Air Resources Board in:

- a) Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
- b) Identifying baseline air pollutant and greenhouse gas emissions, including within the City and Sphere of Influence and in the vicinity of intensive industrial and energy-producing uses, to the extent data is available.
- c) Requiring energy-efficiency measures in City operations and facilities and use of low carbon or clean fuels for City vehicle fleets, when feasible.

10-P-6.6: Reduce the generation of TACs such as ozone, carbon monoxide, lead, and particulate matter to work toward improving air quality and meeting all Federal and State ambient air quality standards.

10-P-6.7: Reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust.

10-P-6.8: Reduce the number of motor vehicle trips and emissions accounted to Pittsburg residents and encourage land use and transportation strategies that promote use of alternatives to the automobile for transportation, including bicycling, bus transit, and carpooling.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-6.a: Periodically review and report on the effectiveness of the measures outlined in the Sustainability Plan and the strategies in this Element in meeting local and State GHG reduction and climate goals. Institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions.

10-A-6.b: Implement the Strategic Energy Plan to reduce GHG emissions, including identifying ways to reduce energy use for existing City facilities, improving energy performance for new construction and major renovations, developing fiscal and economic criteria for implementation of energy reduction plans, reducing greenhouse gas emissions through adopting a Climate Action Plan, and engaging the community to increase awareness and reduce energy use.

10-A-6.c: Cooperate with BAAQMD to achieve emissions reductions for ozone and its precursor, PM-10, and ensure compliance with dust abatement measures during construction.

10-A-6.d: Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

10-A-6.e: Use alternative-fuel vehicles, as feasible, to minimize emissions and air pollution from City operations.

10-A-6.f: Encourage new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

### **Impact 3.3-3: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations (Significant and Unavoidable)**

Subsequent land use activities associated with implementation of the 2040 General Plan could potentially include short-term construction sources of TACs and long-term operational sources of TACs, including stationary and mobile sources.

Health risks associated with TACs are most pronounced in the areas adjacent to freeway segments. Under the CARE program, the BAAQMD has designated certain areas as “Impacted Communities” if the following occur: the areas (1) are close to or within areas of high TAC emissions; (2) have sensitive populations, defined as youth and seniors, with significant TAC exposures; and (3) have

significant poverty. The eastern portion of Pittsburg (the area east of Railroad Avenue) is mapped by the BAAQMD as an Impacted Community under the CARE Program.

Regardless of the existing health risks associated with TACs, the BAAQMD CEQA Air Quality Guidelines provide recommendations for all communities to ensure reduced health risks associated with TACs. The 2040 General Plan includes goals, policies, and actions that are intended to minimize exposure of TACs to sensitive receptors, as described below.

#### ***Temporary Construction Sources***

Implementation of the 2040 General Plan would result in the potential construction of a variety of projects. This construction would result in short-term emissions of DPM, a TAC. Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The calculation of cancer risk associated with exposure to TACs is typically based on a 70-year period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Cancer risk and PM<sub>2.5</sub> exposure would have to be analyzed through project-level analysis to identify the potential for significant impacts and measures to reduce those impacts to less than significant. Implementation of the applicable 2040 General Plan policies and actions would require, in part, that future development of sensitive receptors within specific setback distances from sources of TACs and PM<sub>2.5</sub> to prepare a site-specific analysis of exposure pursuant to BAAQMD procedures. Additionally future non-residential developments would be evaluated through the CEQA process or BAAQMD permit process to ensure they do not cause a significant health risk. Sites would be required to be designed to be located away from pollution sources and trees and/or vegetation would be required as a buffer between sensitive receptors and pollution sources. Compliance with the required regulatory framework and 2040 General Plan goals, policies, and actions would reduce temporary construction-related TAC impacts to **less than significant**.

#### ***Long-Term Operational Sources***

According to the BAAQMD CEQA Air Quality Guidelines, for a plan to have a less-than-significant impact with respect to TACs, overlay zones must be established around existing and proposed land uses that would emit these air pollutants. Overlay zones to avoid TAC impacts must be reflected in local plan policies, land use maps, or implementing ordinances.

The BAAQMD CEQA Air Quality Guidelines consider exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard, to be significant. For cancer risk, which is a concern with DPM and other mobile-source TACs, the BAAQMD Risk Management Policy considers an increased risk of contracting cancer that is 10 in one million chances or greater, to be significant risk for a single source. The BAAQMD CEQA Air Quality Guidelines also consider exposure to annual PM<sub>2.5</sub> concentrations that exceed 0.3 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) to be significant. Non-cancer risk would be considered significant if the computed Hazard Index is

greater than 1.0.<sup>1</sup> For cumulative sources, the BAAQMD CEQA Guidelines consider 100 in one million excess cancer risk, PM<sub>2.5</sub> concentrations that exceed 0.8 µg/m<sup>3</sup>, and non-cancer Hazard Index greater than 10.0 to be significant.

The General Plan Update would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near arterial and collector roadways, highways, rail lines, and stationary sources of TAC emissions. Screening levels indicate that sensitive receptors within the Planning Area could be exposed to levels of TACs and or PM<sub>2.5</sub> that could cause an unacceptable cancer risk or hazard near highways and stationary sources.

### ***Stationary Sources***

The Planning Area has numerous permitted stationary sources. These sources are located throughout the City, but mostly in industrial and commercial areas. The impact of these sources can only be addressed on a project-by-project basis, since impacts are generally localized. To assist lead agencies, BAAQMD has provided a database of permitted sources for each county in its jurisdiction. The database is contained in a Google Earth tool that allows a user to identify stationary sources within 1,000 feet of a receptor. The database can then be accessed through Google Earth to determine conservative screening levels of cancer risk, hazards, and PM<sub>2.5</sub> concentrations. This allows many of the sources to be screened out for additional analysis. Stationary sources that show the potential for significant community risk impacts after this first level of review are further analyzed by contacting BAAQMD for additional information and applying distance adjustment factors. A refined modeling analysis would be required if there are sources that still have potentially significant impacts after this level of review. A refined analysis would include dispersion modeling of the source using emissions and source information provided by BAAQMD. If the source still has significant community risk impacts following this level of effort, then risk reduction strategies would have to be implemented by the project on a case-by-case basis.

When siting new sensitive receptors, the BAAQMD CEQA Air Quality Guidelines advise that lead agencies examine existing or future proposed sources of TAC and/or PM<sub>2.5</sub> emissions that would adversely affect individuals within the planned project. New residences and sensitive receptors could be located near stationary sources of TACs located throughout the City, such as refineries, gasoline dispensing stations, emergency back-up diesel generators, and dry cleaners. Without proper setbacks or mitigation measures, these sources could result in TAC levels that would be significant for new sensitive receptors.

*Gasoline Stations.* The BAAQMD recommends a setback of 300 feet for large gasoline dispensing facilities (3.6 million gallons of throughput a year) and 50 feet for small facilities. This is consistent with CARB recommendations, which found that, except for the largest gasoline stations, health risks near gasoline stations should be less than 10 in one million at distances beyond 50 feet.

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<sup>1</sup> The Hazard Index is the ratio of the computed receptor exposure level to the level known to cause acute or chronic adverse health impacts, as identified by BAAQMD.

Dry Cleaning Facilities. Perchloroethylene (Perc) is the solvent used commonly in past dry-cleaning operations. Perc is a TAC because it has the potential to cause cancer. In 2005, CARB recommended setbacks of 300 feet between dry cleaning facilities that emit Perc and sensitive land uses. Since then, CARB has enacted new rules to substantially reduce Perc emissions and phase out the use of TACs in dry cleaning by 2023. However, CARB's recommended buffers are based on cancer risk based on a 70-year exposure computation. Therefore, the 300-foot setback may be overly conservative. Most dry-cleaning facilities would need to be analyzed on a project-by-project basis, starting by determining if the facility in question uses Perc in their cleaning process.

Oil Refineries. The BAAQMD recommends a setback of 0.5 mile from oil refineries.

Emergency Back-Up Generators. Electricity generators that are powered by diesel engines are common. They are typically located at facilities where uninterrupted electricity is necessary. Common facilities include fire and police stations, hospital or medical treatment facilities, pump stations, schools, offices, and data centers. Diesel engines powering these generators are regulated by BAAQMD and CARB. CARB has established strict emissions limits and operating restrictions for engines larger than 50 horsepower. BAAQMD has developed criteria (Regulation 2 Rule 5) for approval of projects with new or modified emission sources of TACs. As a result, all new engines have very localized impacts and would not be permitted if they would cause significant cancer risks or hazards. Existing engines are only permitted to operate for 50 hours per year for maintenance or routine testing.

Specific stationary sources in the Planning Area were identified using BAAQMD's *Stationary Source Screening Map*, as described above. The BAAQMD data provide the screening risk, hazard and PM<sub>2.5</sub> concentration levels associated with each source. Table 3.3-5 identifies the approximate setback distances from stationary sources that have potentially significant impacts using the screening data provided by BAAQMD and the *Cancer Risk and Hazard Distance Adjustment Multiplier* tool. However, refined analysis of the effects from these sources through emissions and dispersion modeling would likely show lower TAC exposure.

The BAAQMD *Cancer Risk and Hazard Distance Adjustment Multiplier* does not provide adjustments for PM<sub>2.5</sub> concentration. Therefore, instances where PM<sub>2.5</sub> screening concentrations exceed the threshold have been identified in Table 3.3-5 as "project-specific analysis required." In these cases, project-specific analysis would be required by contacting BAAQMD and possibly conducting refined modeling if emissions are found to exceed thresholds.

**TABLE 3.3-5: APPROXIMATE SCREENING SETBACK DISTANCES FOR STATIONARY TAC SOURCES**

<i>SOURCE</i>	<i>ADDRESS</i>	<i>DISTANCE IN FEET TO CANCER RISK THRESHOLD</i>	<i>DISTANCE IN FEET TO PM<sub>2.5</sub> THRESHOLD</i>
Antioch Building Materials Company	1375 California Ave	<50	Project-specific analysis required
Shell Catalysts & Technologies	2840 Willow Pass Road	Project-specific analysis required	Project-specific analysis required
Keller Canyon Landfill Company	901 Bailey Road	360	Project-specific analysis required
Redwood Painting Co	Loveridge Road	0	0
G&C Auto Body LLC	107 Bliss Ave	0	0
Marble Shop Inc	180 Bliss Avenue	0	0
Roll Technology West	900 Loveridge Road	<50	0
Vee Jay Marine Services	6 Bayside Drive	0	0
Concord Iron Works Inc	1501 Loveridge Road	<50	<50
Recycling Center And Transfer Station, 1300 Loveridge Road	1300 Loveridge Road	0	Project-specific analysis required
Koch Carbon LLC	700 E 3rd Street	<50	<50
HASA Inc	1251 Loveridge Road	0	<50
Cameron	Loveridge Road	0	0
Los Medanos Energy Center	750 E 3rd Street	Project-specific analysis required	Project-specific analysis required
R&R Auto Body	1436 Bobo Court	0	0
Russo Auto Body	369 E 12th St	0	0
Delta Energy Center	Arcy Lane	476	Project-specific analysis required
Delta Diablo Sanitation	7th St & Montezuma St	<50	<50
Universal Auto Repair	499 E 10th St	0	0
Pacific Bell	3555 Willow Pass Road	<50	<50
Delta Diablo Sanitation District	E of Driftwood Ave AT & SF	<50	<50
Delta Diablo Sanitation District	End of North Broadway	<50	<50
City of Pittsburg City Hall	65 Civic Avenue	<50	<50
City of Pittsburg Shadybrook Pump Station	113 Sunpeak Drive	<50	<50
City of Pittsburg Water Treatment Plant	300 Olympia Drive	<50	<50
City of Pittsburg Buchanan Pump Station	Buchanan Rd & Quercus Lane	<50	<50
City of Pittsburg Highlands Pump Station	End of Ventura Drive	<50	0
S F Bay Area Rapid Transit District	1700 W Leland Avenue	<50	<50
Pacific Bell Corporation	355 Central Avenue	<50	<50
Contra Costa County	Kregor Park	<50	<50
Contra Costa County	255 Harbor Road	<50	<50

### 3.3 AIR QUALITY

<i>SOURCE</i>	<i>ADDRESS</i>	<i>DISTANCE IN FEET TO CANCER RISK THRESHOLD</i>	<i>DISTANCE IN FEET TO PM<sub>2.5</sub> THRESHOLD</i>
Contra Costa County	2311 Loveridge Road	<50	<50
Contra Costa County Fire Protection District	800 W Leland Road	<50	<50
Generon IGS Inc	End of Arcy Lane	0	<50
Praxair Distribution Inc	1930 Loveridge Road	0	0
American Tower LCC (9628 Hwy 4 - Willow Pass Road)	4709 Evora Road	<50	<50
Empire Business Park LLC	701 Willow Pass Road	<50	<50
Comcast of Colorado/Texas/Washington Inc	550 Garcia Avenue	<50	<50
Verizon Wireless	555 Clark Avenue	<50	<50
Verizon Wireless (Willow Pass)	101 Avila Road	<50	<50
AT&T Mobility /AT&T Services	4690 Evora Road	<50	0
Gradetech Inc	1375 California Ave	0	Project-specific analysis required
Global Power Group Inc (Toys "R" Us) - 5825	4505 Century Boulevard	<50	0
Ameresco Keller Canyon LLC	901 Bailey Road	Project-specific analysis required	Project-specific analysis required
The Home Depot Store #0644	2300 N Park Boulevard	<50	<50
Collision Repair	598 E 3rd Street	0	0
Shaw Environmental Inc	1353 Buchanan Road	<50	0
Trans Bay Cable LLC	570 W 10th Street	<50	0
Level 3 Communications LLC	487 Canal Street	<50	<50
WinCo Foods LLC	2400 N Park Boulevard	<50	0
Crash Champions LLC	3001 N Park Blvd	0	0
Stoneman Village II Housing Corp	375 Presidio Lane	<50	<50
Stoneman Village L P	390 E Leland Road	<50	<50
CCIP Inc	1501 Loveridge Road	<50	0
City of Pittsburg	2500 Tomales Bay Dr	<50	<50
Contra Costa County Fire District	2331 Loveridge Road	<50	<50
K2 Pure Solutions Nocal LP	950 Loveridge Road	<50	Project-specific analysis required
Contra Costa Fire Prot Dist- St No 84	1903 Railroad Avenue	<50	<50
Judicial Council of California JCC 07-E3	1000 Center Drive	<50	<50
Trans Bay Cable LLC	570 W 10th Street	<50	<50
Dream Creations	2133 MARTIN WAY	0	0
Advanced Auto Body & Collision Repair Inc	620 Garcia Ave Ste B	0	0
Los Medanos College	2700 E Leland Road	<50	<50
California Resources Production Corp	Nichols Road	<50	<50
Chemtrade West US LLC	501 Nichols Road	<50	Project-specific analysis



<i>SOURCE</i>	<i>ADDRESS</i>	<i>DISTANCE IN FEET TO CANCER RISK THRESHOLD</i>	<i>DISTANCE IN FEET TO PM<sub>2.5</sub> THRESHOLD</i>
			required
Douglas Products	901 Loveridge Road	<50	<50
Hitachi Rail USA Inc	1461 Loveridge Road	0	0
Angel's Collision Center	2160 Piedmont Way	0	0
9W Halo Western OpCo LP DBA Angelica	701 Willow Pass Rd Ste 10	<50	<50
M Fernandes Auto Wrecking & Towing	650 W 10th Street	<50	<50
Reagent Chemical & Research Inc	1273 Loveridge Road	0	<50
Cintas Corporation	1229 California Ave	<50	<50
Corteva Agriscience - Pittsburg Operations	901 Loveridge Road	Project-specific analysis required	Project-specific analysis required
The Pittsburg Owner LPV LLC	696 W 10th Street	0	<50
USS-UPI LLC	900 Loveridge Road	<50	Project-specific analysis required
ARB Inc	1875 Loveridge Rd	<50	0
City of Pittsburg Environmental Center	2581 HARBOR ST	<50	0
City of Pittsburg Municipal Marina	51E Marina Blvd	<50	0
Pittsburg Unified School District	3200 Loveridge Rd	<50	0
CC Comm College District - LOS MEDANOS COLLEGE	2700 E Leland Rd	<50	0
H&S Energy Products LLC #3047 - Chevron	1805 Willow Pass Rd	<50	0
Bonfare Market #29	4102 Railroad Ave	<50	0
Pittsburg Shell	3737 Railroad Ave	<50	0
Pittsburg Valero	1005 RAILROAD AVE	<50	0
Pittsburg Chevron	3702 Railroad Ave	<50	0
Golden Star Gas	901 E 14th St	<50	0
7-Eleven Store #33374	4600 Century Blvd	<50	0
Mobil SS#68187	2971 Railroad Ave	<50	0
Chevron Products	1235 California Ave at Hwy 4	<50	0
Unocal #2705704	2150 Railroad Ave	<50	0
ARCO Facility #6526	1190 E Leland Rd	<50	0
Loveridge Shell	2253 Loveridge Rd	<50	0
ARCO Facility #07144	2102 W LELAND RD	<50	0
King's Auto Collision	2225 FREED WAY	0	0
JC's Auto Body	999 HARBOR ST	0	0
Poncho's Auto Body Shop	487 W 10TH ST	0	0
Gold Coast Pipelines Inc	2025 EAST LELAND ROAD	<50	0
Chemtrade West US LLC	501 Nichols Road	<50	0
Corteva Agriscience - Pittsburg Operations	901 Loveridge Road	Project-specific analysis required	0
The Pittsburg Owner LPV LLC	696 W 10th Street	<50	0

### 3.3 AIR QUALITY

<i>SOURCE</i>	<i>ADDRESS</i>	<i>DISTANCE IN FEET TO CANCER RISK THRESHOLD</i>	<i>DISTANCE IN FEET TO PM<sub>2.5</sub> THRESHOLD</i>
USS-UPI LLC	900 Loveridge Road	<50	0
Recycling Center And Transfer Station	1300 Loveridge Road	<50	0

*SOURCE: BAAQMD, 2019; BAAQMD, 2022c.*

#### **Highway and Roadway Traffic**

The BAAQMD indicates significant TAC exposures along the following highways and high-volume roadways<sup>2</sup> within Pittsburg in terms of cancer risk and PM<sub>2.5</sub> exposure: Route 4 (SR 4). Implementation of the 2040 General Plan goals, policies, and actions would reduce the exposure to sensitive receptors to pollutant concentrations from highways and roadway traffic, including SR 4. Specifically, as described by General Plan Action 2-A-2f, and consistent with the BAAQMD’s long-range planning thresholds of significance, future development would need to occur at least 500 feet from all freeways and high-volume roadways, unless a site-specific analysis is conducted to determine the level of TAC and PM<sub>2.5</sub> exposure would be below the applicable thresholds of significance for individual projects.

#### **Railroad Operations**

Potential health effects from railroad traffic along the Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railway (BNSF) rail lines in Pittsburg were evaluated. Both rail lines travel east to west and travel through the central portion of Pittsburg. The UPRR rail line is used by trains for passenger and freight service, while the BNSF rail line is used only for freight service.

Passenger rail service on the UPRR rail line includes diesel fueled trains for the California Zephyr, Coast Starlight, Capitol Corridor, and San Joaquin trains, all operated by Amtrak. There are approximately 44 passenger trains that run along this line during the weekdays and 22 trains during the weekend, according to the Amtrak posted schedule. In addition, there are about eight freight trains that also use this rail line on a daily basis. On the BNSF rail line, there are up to six daily freight trains (Metropolitan Transportation Commission, 2006).

Trains on the UPRR rail line would have a significant cancer risk (above 10 in one million excess risk) within approximately 350 feet in both directions (north and south) from the rail line. For the BNSF rail line, trains would have a less-than-significant cancer risk at all distances beyond 50 feet from the rail line in both directions (north and south). PM<sub>2.5</sub> concentration would not be significant (above 0.3 µg/m<sup>3</sup>) for either the UPRR or BNSF rail lines at distances beyond 50 feet.

#### **Hazard Index**

Potential non-cancer health effects due to chronic exposure to DPM were not estimated since the concentration threshold for non-cancer effects is considerably higher than concentrations that

<sup>2</sup> The definition of a high-volume roadway can vary depending on road type, location, and use purpose. As an example, for traffic data collection or monitoring purposes, the Federal Highway Administration typically used 50,000 AADT (annual average daily traffic) while for road dust emissions estimation the U.S. EPA uses 10,000 AADT (AP-42 method).

would result in significant cancer risks that were described above. The chronic inhalation reference exposure level (REL) for DPM is 5  $\mu\text{g}/\text{m}^3$ . The DPM modeling assessment predicted maximum annual DPM concentrations more than 10 times lower than the REL. Thus, the Hazard Index (HI), which is the ratio of the annual DPM concentration to the REL, would be much lower than significance criterion of a HI greater than 1.0.

### ***Summary***

The 2040 General Plan would allow growth of new residential land uses that would be sensitive receptors and new non-residential land uses that are a potential for new emissions sources. Typically, these sources would be evaluated through the BAAQMD permit process or the CEQA process to identify and mitigate any significant exposures. However, some sources that would not undergo such a review, such as truck loading docks or truck parking areas, may have the potential to cause significant increases in TAC exposure. This impact would be **potentially significant**. As previously described, there are recommended setback distances for long-term operational sources and stationary sources, including gasoline stations, dry cleaning facilities, oil refineries, emergency back-up generators, highways and roadways, and railroads.

Additionally, implementation of the 2040 General Plan goals, policies, and actions would reduce the exposure to sensitive receptors to pollutant concentrations. For example, General Plan Land Use Element Policy 2-P-2.4 requires the City to locate residences and sensitive receptors away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, separate the proposed residential uses from more intensive uses; General Plan Land Use Element Policy 2-P-4.10 requires the City to ensure that employment-generating development does not result in adverse impacts (including health risks and nuisances), particularly to residential uses and other sensitive receptors, and that when development is incompatible, adequate buffers and/or architectural considerations are required to protect residential areas from intrusion of nonresidential activities that may degrade the quality of life in such residential areas; and General Plan Land Use Element Action 2-A-4, which requires industrial projects and other higher intensity use projects, including warehouse projects, fulfillment centers, and other projects that may generate high volumes of truck trips and/or air quality emissions are proposed within 1,000 feet of existing or planned residential uses or other sensitive receptors, to prepare a Health Risk Assessment (HRA) and implement applicable best management practices (BMPs); and General Plan Land Use Element Action 2-A-4.b, which requires the City, as part of the City's development review process, to continue to ensure that employment-generating projects are designed to minimize conflicts with residential uses, sensitive receptors, and disadvantaged communities. Overall, future non-residential developments would be evaluated through the CEQA process or BAAQMD permit process to ensure they do not cause a significant health risk. Sites would be required to be designed to be located away from pollution sources and trees and/or vegetation would be required as a buffer between sensitive receptors and pollution sources. While implementation of 2040 General Plan goals, policies, and actions would reduce potential exposure, the 2040 General Plan would allow development in the immediate vicinity of TAC sources, such as allowing high density residential and mixed use development in the vicinity of Bay Area Rapid Transit stations, and it is possible that applying feasible methods to reduce TAC exposure would not be adequate to fully reduce exposure to a less

than significant level for future projects. Action 10-A-6.g requires that future development which includes sensitive receptors such as schools, hospitals, day care centers, residential developments, and retirement homes located within specific setback distances from highways, railroads, local roadways, and stationary sources as described in the 2040 Pittsburg General Plan Environmental Impact Report will require a site-specific analysis to determine the level of TAC and PM2.5 exposure. The analysis shall be conducted following procedures outlined by BAAQMD. If the site-specific analysis reveals significant exposures, such as cancer risk greater than 10 in one million or cumulative cancer risk greater than 100 in one million, additional measures shall be employed to reduce the risk to below the threshold. If this is not possible, the sensitive receptor shall be relocated. Action 10-A-6.h requires the City to avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day, consistent with the CARB's Air Quality and Land Use Handbook recommendations, unless a site-specific analysis is conducted to determine the level of TAC and PM2.5 exposure would be below the applicable thresholds of significance for individual projects. Action 10-A-6.i requires the City to improve indoor air quality by reviewing development plans to ensure that operable windows, balconies, and building air intakes are located as far away as possible from pollution sources. If near a distribution center, residential units shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.

Overall, this impact is **significant and unavoidable**.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-1.5: Implement and continue to increase efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit.

7-P-3.6: Encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes.

##### **ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT**

7-A-1.b: Require proposed development projects with VMT levels above the City's threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a manner consistent with the City's sustainability goals, the City's Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

7-A-2.j: Adopt a citywide TDM plan to encourage vehicle trip reduction at employment sites, businesses, schools, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

7-A-2.k: Encourage developers to provide enhanced TDM programs and alternative transportation infrastructure that exceeds minimum requirements, as per 7-A-2.j, in exchange for reduced parking requirements, with a focus on priority development areas and locations in proximity to high capacity transit.

#### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-6.1: Support the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations.

10-P-6.2: Ensure that new development is consistent with the energy objectives and targets identified by the City's Sustainability Plan.

10-P-6.3: Encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use.

10-P-6.4: Encourage and support for infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel.

10-P-6.5: Coordinate with the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with BAAQMD, ABAG, and State Air Resources Board in:

- a) Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
- b) Identifying baseline air pollutant and greenhouse gas emissions, including within the City and Sphere of Influence and in the vicinity of intensive industrial and energy-producing uses, to the extent data is available.
- c) Requiring energy-efficiency measures in City operations and facilities and use of low carbon or clean fuels for City vehicle fleets, when feasible.

10-P-6.6: Reduce the generation of TACs such as ozone, carbon monoxide, lead, and particulate matter to work toward improving air quality and meeting all Federal and State ambient air quality standards.

10-P-6.7: Reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust.

10-P-6.8: Reduce the number of motor vehicle trips and emissions accounted to Pittsburg residents and encourage land use and transportation strategies that promote use of alternatives to

the automobile for transportation, including bicycling, bus transit, and carpooling.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-6.a: Periodically review and report on the effectiveness of the measures outlined in the Sustainability Plan and the strategies in this Element in meeting local and State GHG reduction and climate goals. Institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions.

10-A-6.b: Implement the Strategic Energy Plan to reduce GHG emissions, including identifying ways to reduce energy use for existing City facilities, improving energy performance for new construction and major renovations, developing fiscal and economic criteria for implementation of energy reduction plans, reducing greenhouse gas emissions through adopting a Climate Action Plan, and engaging the community to increase awareness and reduce energy use.

10-A-6.c: Cooperate with BAAQMD to achieve emissions reductions for ozone and its precursor, PM-10, and ensure compliance with dust abatement measures during construction.

10-A-6.d: Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

10-A-6.e: Use alternative-fuel vehicles, as feasible, to minimize emissions and air pollution from City operations.

10-A-5.f: Encourage new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

10-A-6.g: Future development that includes sensitive receptors such as schools, hospitals, day care centers, residential developments, and retirement homes located within specific setback distances from highways, railroads, local roadways, and stationary sources as described in the 2040 Pittsburg General Plan Environmental Impact Report will require a site-specific analysis to determine the level of Toxic Air Contaminants (TAC) and PM2.5 exposure. The analysis shall be conducted following procedures outlined by BAAQMD. If the site-specific analysis reveals significant exposures, such as cancer risk greater than 10 in one million or cumulative cancer risk greater than 100 in one million, additional measures shall be employed to reduce the risk to below the threshold. If this is not feasible, the sensitive receptor shall be relocated.

10-A-6.h: Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day, consistent with the CARB's Air Quality and Land Use Handbook recommendations, unless a site-specific analysis is conducted to determine the level of TAC and PM2.5 exposure would be below the applicable thresholds of significance for individual projects.

10-A-6.i: Improve indoor air quality by reviewing development plans to ensure that operable windows, balconies, and building air intakes are located as far away as possible from pollution

sources. If near a distribution center, residential units shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.

#### POLICIES – LAND USE ELEMENT

2-P-2.4: Locate residences and sensitive receptors away from areas of excessive noise, smoke, dust, odor, and lighting, and ensure that adequate provisions, including buffers or transitional uses, such as less intensive renewable energy production, light industrial, office, or commercial uses, separate the proposed residential uses from more intensive uses, including industrial, agricultural, or agricultural industrial uses and designated truck routes, to ensure the health and well-being of existing and future residents.

2-P-4.6: Encourage the development of “clean” industries, such as research and development, technology and specialized manufacturing, and similar uses, that limit environmental impacts and health risks commonly associated with industrial uses.

2-P-4.10: Ensure that employment-generating development, such as industrial, warehouse, distribution, logistics, and fulfillment projects, does not result in adverse impacts (including health risks and nuisances), particularly to residential uses and other sensitive receptors, including impacts related to the location and scale of buildings, lighting, noise, smell, and other environmental and environmental justice considerations. When development is incompatible, require adequate buffers and/or architectural consideration to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas.

#### ACTIONS – LAND USE ELEMENT

2-A-4.b: As part of the City’s development review process, continue to ensure that employment-generating projects are designed to minimize conflicts with residential uses, sensitive receptors, and disadvantaged communities. Review of employment-generating projects should ensure that the following design concepts are addressed in projects that abut residential areas, sensitive receptors, or disadvantaged communities:

- Appropriate building scale and/or siting;
- Site design and features to protect residential uses and other sensitive receptors, developed or undeveloped, from impacts of non-residential development activities that may cause unwanted nuisances and health risks and to ensure that disadvantaged communities are not exposed to disproportionate environmental or health risks. The site design and features shall be based on best management practices as recommended by CARB, Bay Area Air Quality Management District (BAAQMD), and the California Attorney General;
- Site design and noise-attenuating features to avoid exposure to excessive noise due to long hours of operation or inappropriate location of accessory structures;

### 3.3 AIR QUALITY

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- Site and structure design to avoid excessive glare or excessive impacts from light sources onto adjacent properties; and
- Site design to avoid unnecessary loss of community and environmental resources (archaeological, historical, ecological, recreational, etc.).

2-A-4.c: When industrial projects and other higher intensity use projects, including warehouse projects, fulfillment centers, and other projects that may generate high volumes of truck trips and/or air quality emissions are proposed within 1,000 feet of existing or planned residential uses or other sensitive receptors, the City shall require:

- 1) The preparation of a Health Risk Assessment (HRA) that meets the standards established by the Office of Environmental Health Hazard Assessment (OEHHA, and BAAQMD. Projects shall not be approved until it can be demonstrated that the project would not result in an exceedance of the established thresholds of significance for public health risks at nearby sensitive receptors; and
- 2) The implementation of best management practices (BMPs) to reduce pollution exposure to sensitive receptors, particularly diesel particulate matter (DPM). The appropriate BMPs shall be established on a case-by-case basis, will be based on BMPs recommended by CARB, BAAQMD, and the California Attorney General, including the Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act and Good Neighbor Guidelines for Warehouse Distribution Facilities, and shall consider the following tools, methods, and approaches:
  - Creating physical, structural, and/or vegetative buffers that adequately prevent or substantially reduce pollutant dispersal between warehouses and any areas where sensitive receptors are likely to be present, such as homes, schools, daycare centers, hospitals, community centers, and parks.
  - Providing adequate areas for on-site parking, on-site queuing, and truck check-in that prevent trucks and other vehicles from parking or idling on public streets.
  - Placing facility entry and exit points from the public street away from sensitive receptors, e.g., placing these points on the north side of the facility if sensitive receptors are adjacent to the south side of the facility. Exceptions can be made for emergency vehicle access (EVA) points.
  - Locating warehouse dock doors and other onsite areas with significant truck traffic and noise away from sensitive receptors, e.g., placing these dock doors on the north side of the facility if sensitive receptors are adjacent to the south side of the facility.
  - Screening dock doors and onsite areas with significant truck traffic with physical, structural, and/or vegetative barriers that adequately prevent or substantially reduce pollutant dispersal from the facility towards sensitive receptors.



- Posting signs clearly showing the designated entry and exit points from the public street for trucks and service vehicles.
- Posting signs indicating that all parking and maintenance of trucks must be conducted within designated on-site areas and not within the surrounding community or public streets.

**Impact 3.3-4: General Plan implementation would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people) (Less than Significant)**

Future construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited.

Subsequent land use activities associated with implementation of the 2040 General Plan could allow for the development of uses that have the potential to produce odorous emissions either during the construction or operation of future development. Additionally, subsequent land use activities may allow for the construction of sensitive land uses (i.e., residential development, schools, parks, offices, etc.) near existing or future sources of odorous emissions.

Significant sources of offending odors are typically identified based on complaint histories received and compiled by BAAQMD. According to the BAAQMD CEQA Guidelines, an odor source with five or more confirmed complaints per year, averaged over three years, is considered to have a significant impact. Typically, larger sources of odors that result in complaints are wastewater treatment facilities, landfills including composting operations, food processing facilities, and chemical plants. Other sources, such as restaurants, paint or body shops, and coffee roasters typically result in localized sources of odors. Table 3.3-6 identifies screening buffers included in the BAAQMD CEQA Air Quality Guidelines for those uses more typically associated with having the potential to be sources of odors. To avoid significant impacts, the BAAMQD CEQA Guidelines recommend that buffer zones to avoid adverse impacts from odors should be reflected in local plan policies, land use maps, or implementing ordinances.

**TABLE 3.3-6: ODOR SCREENING DISTANCES FOR THE 2040 GENERAL PLAN**

<i>LAND USE/TYPE OF OPERATION</i>	<i>PROJECT SCREENING DISTANCE</i>
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile

### 3.3 AIR QUALITY

<i>LAND USE/TYPE OF OPERATION</i>	<i>PROJECT SCREENING DISTANCE</i>
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Green Waste and Recycling Operations	1 mile

The Planning Area includes potential odor sources that could affect new sensitive receptors. Most of these major existing sources are already buffered. However, it is possible that odors may be present. Responses to odors are subjective and vary by individual and type of use. Sensitive land uses that include outdoor uses, such as residences and possibly daycare facilities, are likely to be most affected by existing odors. The 2040 General Plan includes policies and actions that address potential conflicts in land uses that could result in odor complaints. For example, General Plan Resource Conservation and Open Space Element Policy 10-P-6.7 requires the City to reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust. Additionally, the policies and actions included as part of the 2040 General Plan (described above) would reduce mobile and stationary source emissions and odors associated with diesel fuel by focusing on land use patterns that improve air quality, reduce air pollution from stationary sources, and encourage/enable increased transit behavior. Policy 10-P-6.9 requires the City to coordinate land use planning to prevent odors and odor complaints. Action 10-A-6.j requires the City to consult with BAAQMD to identify the potential for odor sources from proposed development projects where the development could have the potential to adversely affect existing or planned sensitive receptors. Action 10-A-6.k requires the City to review proposed development and prohibit uses that may produce odors that have the potential to result in frequent odor complaints unless the development proposal can exhibit methods to mitigate such odors. Action 10-A-6.l requires the City to prohibit sensitive receptors from locating near odor sources where frequent odor complaints are likely to occur, unless it can be shown that potential odor complaints can be mitigated. Action 10-A-6.m requires the City to ensure buffer zones are provided for land uses that have the potential to be sources of odors, consistent with the latest BAAQMD guidance. Thus, 2040 General Plan implementation would not result in other emissions (such as those leading to odors adversely affecting a substantial number of people) and impacts would be **less than significant**.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-6.7: Reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust.

10-P-6.8: Reduce the number of motor vehicle trips and emissions accounted to Pittsburg residents and encourage land use and transportation strategies that promote use of alternatives to the automobile for transportation, including bicycling, bus transit, and carpooling.

10-P-6.9: Coordinate and review at the time of submittal of land use planning applications and development project BMPs and standards to prevent odors and odor complaints.

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ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-6.e: Use alternative-fuel vehicles, as feasible, to minimize emissions and air pollution from City operations.

10-A-6.f: Encourage new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

10-A-6.j: Consult with BAAQMD to identify the potential for odor sources from proposed development projects where the development could have the potential to adversely affect existing or planned sensitive receptors.

10-A-6.k: Review proposed development and prohibit uses that may produce odors that have the potential to result in frequent odor complaints unless the development proposal can exhibit methods to mitigate such odors.

10-A-6.l: To the extent allowed by State law, prohibit sensitive receptors from locating near odor sources where frequent odor complaints are likely to occur, unless it can be shown that potential odor complaints can be mitigated.

10-A-6.m: Ensure buffer zones for land uses that have the potential to be sources of odors, consistent with the latest BAAQMD guidance.

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This section describes biological resources in the Planning Area. This section provides a background discussion of the bioregions, regionally important habitat and wildlife, and special status species found in the vicinity of Pittsburg. This section is organized with an environmental setting, regulatory setting, and impact analysis.

Comments on this environmental topic received during the NOP comment period include the following: Contra Costa County Flood Control and Water Conservation District (May 12, 2022), Delta Stewardship Council (May 23, 2022), and East Bay Regional Park District (May 20, 2022). Full comments are included in Appendix A.

## KEY TERMS

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

**Hydric Soils.** One of the three wetland identification parameters, according to the federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

**Hydrophytic Vegetation.** Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

**Sensitive Natural Community.** A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. CEQA identifies the elimination or substantial degradation of such communities as a significant impact. The California Department of Fish and Wildlife (CDFW) tracks sensitive natural communities in the California Natural Diversity Database (CNDDDB).

**Special-Status Species.** Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term "special status" includes those species that are:

## 3.4 BIOLOGICAL RESOURCES

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- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

**Waters of the U.S.** The federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. (WOTUS) exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

**Wetlands.** Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The federal government defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to WOTUS.

### 3.4.1 ENVIRONMENTAL SETTING

#### BIOREGIONS

Pittsburg is located within the Bay Area/Delta Bioregion. The Bay Area/Delta Bioregion extends from the Pacific Ocean to the Sacramento Valley and San Joaquin Valley bioregions to the northeast and southeast, and a short stretch of the eastern boundary joins the Sierra Bioregion at Amador and Calaveras Counties. The bioregion is bounded by the Klamath/North Coast on the north and the Central Coast Bioregion to the south. The Bay Area/Delta Bioregion is one of the most populous areas of the state, encompassing the San Francisco Bay Area and the Sacramento-San Joaquin River Delta. The water that flows through the Delta supplies two-thirds of California's drinking water, irrigating farmland, and sustaining fish and wildlife and their habitat. The bioregion fans out from San Francisco Bay in a jagged semi-circle that takes in all or part of 12 counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano,

Sonoma, and parts of Sacramento and Yolo. The habitats and vegetation of the Bay Area/Delta Bioregion are as varied as the geography.

## VEGETATION

Historic vegetation in the Planning Area included native grassland, oak woodlands, riparian communities, and coastal salt and brackish marshes. The southern portion of the City is largely undeveloped open space with large areas of rolling grassy hills, while the northern portion consists of salt and brackish marshlands at New York Slough. The aforementioned natural areas have potential for inhabitation by several threatened and endangered plant and animal species.

## WILDLIFE

Agricultural and ruderal vegetation in the Planning Area provides habitat for both common and special-status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

## PLANT COMMUNITIES

Agricultural and natural plant communities provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under a Habitat Conservation Plan, Natural Community Conservation Plan, CEQA, the Fish and Game Code, or the Clean Water Act (CWA). Additionally, sensitive habitats are usually protected under specific policies from local agencies.

## CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, six herbaceous, four aquatic, eight agricultural, one developed, and one non-vegetated.

The CWHR System identified nineteen cover types (wildlife habitat classifications) in the Planning Area out of the 59 types in the State. These include Annual Grassland, Barren, Bleu Oak Woodland,

## 3.4 BIOLOGICAL RESOURCES

Chamise-Redshank Chaparral, Coastal Scrub, Dryland Grain Crops, Estuarine, Evergreen Orchard, Fresh Emergent Wetland, Irrigated Hayfield, Lacustrine, Marsh, Montane Hardwood, Riverine, Saline Emergent Wetland, Urban, Valley Foothill Riparian, Vineyard, and Water.

Table 3.4-1 identifies the total area by acreage for each cover type (classification) found in the Planning Area. Figure 3.4-1 illustrates the location of each cover type (classification). A brief description of each cover type follows.

**TABLE 3.4-1: COVER TYPES - CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM**

<i>COVER TYPE</i>	<i>CITY (ACRES)</i>	<i>SOI (ACRES)</i>	<i>PLANNING AREA (TOTAL ACRES)</i>	<i>TOTAL</i>
Annual Grassland	2,012.25	1,849.11	6,575.87	10,437.23
Barren	0.00	0.00	108.96	108.96
Blue Oak Woodland	0.00	3.10	532.60	535.70
Chamise-Redshank Chaparral	0.00	0.00	75.22	75.22
Coastal Scrub	0.22	0.00	15.95	16.17
Dryland Grain Crops	7.07	13.73	10.23	31.03
Estuarine	547.40	875.82	0.00	1,423.21
Evergreen Orchard	2.22	0.00	0.00	2.22
Fresh Emergent Wetland	580.73	30.29	0.00	611.03
Irrigated Hayfield	49.14	13.12	0.67	62.93
Lacustrine	112.31	138.00	0.00	250.32
Marsh	25.57	0.00	0.00	25.57
Montane Hardwood	0.00	0.00	6.00	6.00
Riverine	713.10	0.00	0.00	713.10
Saline Emergent Wetland	645.48	1,143.87	0.00	1,789.35
Urban	7,882.48	1,987.17	114.48	9,984.14
Valley Foothill Riparian	46.25	0.00	0.00	46.25
Vineyard	0.67	0.00	0.00	0.67
Water	19.07	1,112.66	0.00	1,131.73

SOURCE: CALFIRE FRAP VEGETATION (FVEG15-1) "BEST AVAILABLE" LAND COVER DATA, SPANNING 1990 TO 2014.

### Developed Cover Types

**Evergreen Orchards** are typically open single species tree dominated habitats. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet in height or 10 feet in height or less, depending on the species. Crowns often do not touch and are usually in a linear pattern. Spacing between trees is uniform, depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Evergreen orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Some flat soils are flood irrigated, but most evergreen orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or



trickle irrigation systems. Most evergreen orchards are in valley or foothill areas. Except for olive, most evergreen orchard trees are not very frost tolerant. Within the City limits, there are approximately 2.22 acres of Evergreen Orchard habitat.

**Vineyards** are composed of single species planted in rows, usually supported on wood and wire trellises. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems. Most vineyards are in valley or foothill areas. Within the City limits, there are approximately 0.67 acre of Vineyard habitat.

**Dryland Grain Crops** are composed of vegetation in the dryland (non-irrigated) grain and seed crops habitat includes seed producing grasses, primarily barley, cereal rye, oats, and wheat. These seed and grain crops are annuals. They are usually planted by drilling in rows which produce solid stands, forming 100 percent canopy at maturity in good stands. They are normally planted in fall and harvested in spring. However, they may be planted in rotation with other irrigated crops and winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in late spring. Within the Planning Area, there are approximately 10.23 acres of Dryland Grain Crop habitat.

**Irrigated Hayfield** normally has a two- to six-month initial growing period, depending on climate, and soil, this habitat is dense, with nearly 100 percent cover and average height is about 1.5 feet. Planted fields generally are monocultures (the same species or mixtures or a few species with similar structural properties). Structure changes to a lower stature following each harvest, grows up again and reverts to bare ground following plowing or discing. Plowing may occur annually but usually occurs less often. Layering generally does not occur in this habitat. Unplanted "native" hay fields may contain short and tall patches. If not harvested for a year, they may develop a dense thatch of dead leaves between the canopy and the ground. Within the City limits, SOI and Planning Area, there are approximately 62.93 acres of Irrigated Hayfield habitat.

**Urban** habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the City limits, SOI, and Planning Area, there are approximately 9,984.14 acres of Urban habitat.

### Herbaceous Cover Types

**Annual Grassland** habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Annual precipitation is highest in northern California. Within the City limits, SOI, and Planning Area, there are approximately 10,437.23 acres of Annual Grassland habitat.

**Fresh Emergent Wetland** habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing. Within the City limits, SOI, and Planning Area, there are approximately 611.03 acres of Fresh Emergent Wetland habitat.

**Saline Emergent Wetland** habitat occur along the margins of bays, lagoons, and estuaries sheltered from excessive wave action. At their lower margin they are exposed once every 24 hours; whereas, at their upper margin, submergence is short and infrequent, followed by weeks or months of continuous exposure. Characteristic or distinctive vascular plant species ranging from lower saline sites to higher or brackish sites are cordgrass, pickleweed, Humboldt cordgrass, glasswort, saltwort, jaumea, California seablite, seaside arrowgrass, alkali heath, seashore saltgrass, spearleaf saltweed, shoregrass, the endangered birdsbeak, common glasswort, sea-lavender, brass-buttons, saltmarsh dodder, gumweed, salt rush, tufted hairgrass, Pacific alkali bulrush, Olney bulrush, tule bulrush, California bulrush, common cattail, tropical cattail, cinquefoil, and coast carex. Frost-free days range from 330 to 365. Within the City limits and SOI, there are approximately 1,789.35 acres of Saline Emergent Wetland habitat.

### Tree-Dominated Cover Types

**Valley Foothill Riparian** habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly, or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers and mild and wet winters. Temperatures range from 75 degrees to 102 degrees Fahrenheit in the summer to 29 degrees to 44 degrees Fahrenheit in the winter. Average precipitation ranges from six to 30 inches, with little or no snow. The growing season is seven to 11 months. Within the City limits, there are approximately 46.25 acres of Valley Foothill Riparian habitat.

**Blue Oak Woodland** habitats occur along the western foothills of the Sierra Nevada-Cascade Ranges, the Tehachapi Mountains, and in the eastern foothills of the Coast Range, forming a nearly continuous ring around the Central Valley. The habitat is discontinuous in the valleys and on lower slopes of the interior and western foothills of the Coast Range from Mendocino County to Ventura

County. Blue oak is the dominant species, comprising 85 to 100 percent of the trees present. Common associates in the canopy are coast live oak in the Coast Range, interior live oak in the Sierra Nevada, valley oak where deep soil has formed, and western juniper in the Cascade Range. Average annual precipitation varies from 20 to 40 inches over most of the blue oak's range. Within the SOI and Planning Area, there are approximately 535.70 acres of Blue Oak Woodland habitat.

**Montane Hardwood** habitats range throughout California mostly west of the Cascade-Sierra Nevada crest. East of the crest, it is found in localized areas of Placer, El Dorado, Alpine and San Bernardino Counties. A typical montane hardwood habitat is composed of a pronounced hardwood tree layer, with an infrequent and poorly developed shrub stratum, and a sparse herbaceous layer. On better sites, individual trees or clumps of trees may be only 10 to 13 feet apart. On poorer sites, spacing increases 26 to 33 feet. Where trees are closely spaced, crowns may close but seldom overlap. Elevations range from 100 meters near the Pacific Ocean. Annual precipitation varies from 36 to 110 inches in in the northern Coast Range. Within the Planning Area, there are approximately 6.00 acres of Montane Hardwood habitat.

### Shrub-Dominated Cover Types

**Chamise-Redshank Chaparral** habitats are most common on south- and west-facing slopes; redshank is found on all aspects. Chamise-Redshank Chaparral may consist of nearly pure stands of chamise or redshank, a mixture of both, or with other shrubs. Fire occurs regularly in Chamise-Redshank Chaparral and influences habitat structure. Mature Chamise-Redshank Chaparral is single layered, generally lacking well-developed herbaceous ground cover and overstory trees. Shrub canopies frequently overlap, producing a nearly impenetrable canopy of interwoven branches. Chamise-Redshank Chaparral is found in a Mediterranean climate; rainfall is 15 to 25 inches, less than 20 percent of total precipitation falls in summer, and winters are mild. Within the Planning Area, there are approximately 75.22 acres of Chamise-Redshank Chaparral habitat.

**Coastal Scrub** habitats occur discontinuously in a narrow strip throughout the length of California. Two types of northern Coastal Scrub are usually recognized. The first type (limited in range) occurs as low-growing patches of bush lupine and many-colored lupine at exposed, oceanside sites. The second and more common type of northern Coastal Scrub usually occurs at less exposed sites. Here, coyotebush dominates the overstory. Within the City limits and Planning Area, there are approximately 16.17 acres of Coastal Scrub habitat.

### Aquatic Habitats

**Riverine** habitats can occur in association with many terrestrial habitats. Riverine habitats are found adjacent to many rivers and streams. Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats. This habitat requires intermittent or continually running water generally originating at some elevated source, such as a spring or lake, and flows downward at a rate relative to slope or gradient and the volume of surface runoff or discharge. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved

oxygen will decrease, and the bottom will change from rocky to muddy. Within the City limits, there are approximately 713.10 acres of Riverine habitat.

**Lacustrine** habitats are inland depressions or dammed riverine channels containing standing water. These habitats may occur in association with any terrestrial habitats, Riverine, or Fresh Emergent Wetlands. They may vary from small ponds of less than one acre to large areas covering several square miles. Depth can vary from a few inches to hundreds of feet. Typical lacustrine habitats include permanently flooded lakes and reservoirs and intermittent lakes and ponds (including vernal pools) so shallow that rooted plants can grow over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not. Within the City limits and SOI, there are approximately 250.32 acres of Lacustrine habitat.

**Estuarine** habitats occur on periodically and permanently flooded substrates and open water portions of semi-enclosed coastal waters where tidal seawater is diluted by flowing fresh water (Ellison 1983). This mix of fresh and ocean waters usually forms a horizontal salinity gradient that varies by area and location with seasonal variations in fresh water inflow and tidal action. In California, estuarine habitats include coastal lagoons containing waters of more uniform salinity than true estuaries, or waters with vertical rather than horizontal salinity gradients. Within the City limits and SOI, there are approximately 713.10 acres of Estuarine habitat.

**Marsh** habitats within the City are located along the Suisun Marsh waterfront area. The Suisun Marsh is the largest contiguous brackish (a mixture of fresh and sea water) wetland in the western United States. The lands and waters of this ecosystem also are home to a wide variety of plants, fish and wildlife that depend upon a balance of fresh and saline waters for their survival. The Suisun Marsh is also an important stop on the Pacific Flyway, providing food and habitat for migratory birds across the world. Within the City limits, there are 25.57 acres of Marsh habitat.

**Water** habitats within the City occur beyond the Suisun Marsh area in the northwestern corner of the Planning Area. Similar to the marsh habitat, water habitats are home to a variety of plants, fish and wildlife. Within the City limits and SOI, there are approximately 1,131.73 acres of Water habitat.

### Other Cover Types

**Barren** habitat is defined by the absence of vegetation. Any habitat with less than two percent total vegetation cover by herbaceous, desert, or non-wildland species and less than 10 percent cover by tree or shrub species is defined as barren habitat. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the Planning Area, there are approximately 108.96 acres of Barren habitat.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the CNDDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. The background search was regional in scope and focused on the documented occurrences within the 16 U.S. Geological Survey [USGS] Quadrangle Radius of Pittsburg (16-quadrangle).

**Special-Status Plants**

The search revealed documented occurrences of 23 special-status plant species within one mile of the Planning Area. The search revealed documented occurrences of 70 special-status plant species within the 16-quadrangle search area of the Planning Area, which includes the following USGS quadrangles: Fairfield South, Denverton, Birds Landing, Rio Vista, Vine Hill, Honkey Bay, Antioch North, Jersey Island, Walnut Creek, Clayton, Antioch South, Brentwood, Las Trampas Ridge, Diablo, Tassajara, and Byron Hot Springs.

Tables 3.4-2 and 3.4-3 provide a list of special-status plant species that are documented within the 16-quadrangle search area for the Planning Area, and their current status. Figure 3.4-2 illustrates the special status species located within the 16-quadrangle search area for the Planning Area. Figure 3.4-2 illustrates the special status species located within one mile of the Planning Area.

**TABLE 3.4-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT (ONE MILE)**

PLANTS SPECIES LATIN NAME	PLANTS SPECIES COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Oenothera deltooides ssp. howellii</i>	Antioch Dunes evening-primrose	Endangered	Endangered
<i>Blepharizonia plumosa</i>	big tarplant	None	None
<i>Cicuta maculata var. bolanderi</i>	Bolander's water-hemlock	None	None
<i>Hesperolinon breweri</i>	Brewer's western flax	None	None
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	None	None
<i>Senecio aphanactis</i>	chaparral ragwort	None	None
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Endangered	None
<i>Arctostaphylos manzanita ssp. laevigata</i>	Contra Costa manzanita	None	None
<i>Erysimum capitatum var. angustatum</i>	Contra Costa wallflower	Endangered	Endangered
<i>Limosella australis</i>	Delta mudwort	None	None
<i>Lathyrus jepsonii var. jepsonii</i>	Delta tulle pea	None	None
<i>Helianthella castanea</i>	Diablo helianthella	None	None
<i>Malacothamnus hallii</i>	Hall's bush-mallow	None	None
<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None
<i>Amsinckia grandiflora</i>	large-flowered fiddleneck	Endangered	Endangered
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	Rare
<i>Eriogonum truncatum</i>	Mt. Diablo buckwheat	None	None
<i>Calochortus pulchellus</i>	Mt. Diablo fairy-lantern	None	None
<i>Arctostaphylos auriculata</i>	Mt. Diablo manzanita	None	None
<i>Madia radiata</i>	showy golden madia	None	None
<i>Anomobryum julaceum</i>	slender silver moss	None	None

### 3.4 BIOLOGICAL RESOURCES

PLANTS SPECIES LATIN NAME	PLANTS SPECIES COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Chloropyron molle ssp. molle</i>	soft salty bird's-beak	Endangered	Rare
<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None

SOURCE: CDFW CNDDDB 2022.

**TABLE 3.4-3: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT (16-QUADS)**

PLANTS SPECIES LATIN NAME	PLANTS SPECIES COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Astragalus tener var. tener</i>	alkali milk-vetch	None	None
<i>Eriogonum nudum var. psychicola</i>	Antioch Dunes buckwheat	None	None
<i>Oenothera deltooides ssp. howellii</i>	Antioch Dunes evening-primrose	Endangered	Endangered
<i>Navarretia leucocephala ssp. bakeri</i>	Baker's navarretia	None	None
<i>Plagiobothrys hystriculus</i>	bearded popcornflower	None	None
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None
<i>Blepharizonia plumosa</i>	big tarplant	None	None
<i>Cicuta maculata var. bolanderi</i>	Bolander's water-hemlock	None	None
<i>Hesperolinon breweri</i>	Brewer's western flax	None	None
<i>Atriplex depressa</i>	brittlescale	None	None
<i>Puccinellia simplex</i>	California alkali grass	None	None
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	None	None
<i>Isocoma arguta</i>	Carquinez goldenbush	None	None
<i>Campanula exigua</i>	chaparral harebell	None	None
<i>Senecio aphanactis</i>	chaparral ragwort	None	None
<i>Triquetrella californica</i>	coastal triquetrella	None	None
<i>Centromadia parryi ssp. congdonii</i>	Congdon's tarplant	None	None
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Endangered	None
<i>Arctostaphylos manzanita ssp. laevigata</i>	Contra Costa manzanita	None	None
<i>Erysimum capitatum var. angustatum</i>	Contra Costa wallflower	Endangered	Endangered
<i>Limosella australis</i>	Delta mudwort	None	None
<i>Lathyrus jepsonii var. jepsonii</i>	Delta tule pea	None	None
<i>Helianthella castanea</i>	Diablo helianthella	None	None
<i>Eschscholzia rhombipetala</i>	diamond-petaled California poppy	None	None
<i>Downingia pusilla</i>	dwarf downingia	None	None
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	None	None
<i>Fritillaria liliacea</i>	fragrant fritillary	None	None
<i>Malacothamnus hallii</i>	Hall's bush-mallow	None	None
<i>Atriplex cordulata var. cordulata</i>	heartscale	None	None
<i>Chloropyron molle ssp. hispidum</i>	hispid salty bird's-beak	None	None
<i>Cryptantha hooveri</i>	Hoover's cryptantha	None	None
<i>Delphinium californicum ssp. interius</i>	Hospital Canyon larkspur	None	None
<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None
<i>Sidalcea keckii</i>	Keck's checkerbloom	Endangered	None
<i>Amsinckia grandiflora</i>	large-flowered fiddleneck	Endangered	Endangered

<i>PLANTS SPECIES LATIN NAME</i>	<i>PLANTS SPECIES COMMON NAME</i>	<i>FEDERAL STATUS</i>	<i>STATE STATUS</i>
<i>Legenere limosa</i>	legenere	None	None
<i>Atriplex minuscula</i>	lesser saltscale	None	None
<i>Eriastrum ertterae</i>	Lime Ridge eriastrum	None	None
<i>Navarretia gowenii</i>	Lime Ridge navarretia	None	None
<i>Hoita strobilina</i>	Loma Prieta hoita	None	None
<i>Spergularia macrotheca var. longistyla</i>	long-styled sand-spurrey	None	None
<i>Microseris paludosa</i>	marsh microseris	None	None
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	Rare
<i>Streptanthus albidus ssp. peramoenus</i>	most beautiful jewelflower	None	None
<i>Cordylanthus nidularius</i>	Mt. Diablo bird's-beak	None	Rare
<i>Eriogonum truncatum</i>	Mt. Diablo buckwheat	None	None
<i>Calochortus pulchellus</i>	Mt. Diablo fairy-lantern	None	None
<i>Streptanthus hispidus</i>	Mt. Diablo jewelflower	None	None
<i>Arctostaphylos auriculata</i>	Mt. Diablo manzanita	None	None
<i>Phacelia phacelioides</i>	Mt. Diablo phacelia	None	None
<i>Juglans hindsii</i>	Northern California black walnut	None	None
<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None
<i>Centromadia parryi ssp. parryi</i>	pappose tarplant	None	None
<i>Delphinium recurvatum</i>	recurved larkspur	None	None
<i>Sanicula saxatilis</i>	rock sanicle	None	Rare
<i>Trifolium hydrophilum</i>	saline clover	None	None
<i>Extriplex joaquinana</i>	San Joaquin spearscale	None	None
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	None	None
<i>Navarretia nigelliformis ssp. radians</i>	shining navarretia	None	None
<i>Madia radiata</i>	showy golden madia	None	None
<i>Anomobryum julaceum</i>	slender silver moss	None	None
<i>Stuckenia filiformis ssp. alpina</i>	slender-leaved pondweed	None	None
<i>Chloropyron molle ssp. molle</i>	soft salty bird's-beak	Endangered	Rare
<i>Fritillaria agrestis</i>	stinkbells	None	None
<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None
<i>Cirsium hydrophilum var. hydrophilum</i>	Suisun thistle	Endangered	None
<i>Grimmia torenii</i>	Toren's grimmia	None	None
<i>Atriplex persistens</i>	vernal pool smallscale	None	None
<i>Monolopia gracilens</i>	woodland woollythreads	None	None
<i>Hibiscus lasiocarpus var. occidentalis</i>	woolly rose-mallow	None	None

SOURCE: CDFW CNDDDB 2022.

### Special-Status Animals

The search revealed documented occurrences of 28 special-status animal species within one mile of the Planning Area. The search revealed documented occurrences of 82 special status animal

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species within the 16-quadrangle search area of the Planning Area (which includes the following USGS quadrangles: (Fairfield South, Denverton, Birds Landing, Rio Vista, Vine Hill, Honkey Bay, Antioch North, Jersey Island, Walnut Creek, Clayton, Antioch South, Brentwood, Las Trampas Ridge, Diablo, Tassajara, and Byron Hot Springs).

Tables 3.4-4 and 3.4-5 provide a list of the special-status animal species that are documented within one mile and 15 miles of the Planning Area, and current status. Figure 3.4-2 illustrates the location of documented occurrences within the 16-quadrangle search area.

**TABLE 3.4-4: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT (ONE MILE)**

<i>ANIMAL SPECIES LATIN NAME</i>	<i>ANIMAL SPECIES COMMON NAME</i>	<i>FEDERAL STATUS</i>	<i>STATE STATUS</i>
<i>AMPHIBIANS</i>			
<i>Rana draytonii</i>	California red-legged frog	Threatened	Species of Special Concern
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Threatened
<i>REPTILES</i>			
<i>Masticophis lateralis euryxanthus</i>	Alameda whipsnake	Threatened	Threatened
<i>Anniella pulchra</i>	northern California legless lizard	None	Species of Special Concern
<i>Emys marmorata</i>	western pond turtle	None	Species of Special Concern
<i>FISH</i>			
<i>Spirinchus thaleichthys</i>	longfin smelt	Candidate	Threatened
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	Species of Special Concern
<i>Oncorhynchus mykiss irideus pop. 11</i>	steelhead - Central Valley DPS	Threatened	None
<i>CRUSTACEANS</i>			
<i>Lindieriella occidentalis</i>	California linderiella	None	None
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None
<i>INSECTS</i>			
<i>Andrena blennospermatis</i>	Blennosperma vernal pool andrenid bee	None	None
<i>Bombus crotchii</i>	Crotch bumble bee	None	None
<i>Apodemia mormo langei</i>	Lange's metalmark butterfly	Endangered	None
<i>Bombus occidentalis</i>	western bumble bee	None	None
<i>BIRDS</i>			
<i>Athene cucularia</i>	burrowing owl	None	Species of Special Concern
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threatened
<i>Sternula antillarum browni</i>	California least tern	Endangered	Endangered
<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	Endangered	Endangered
<i>Buteo regalis</i>	ferruginous hawk	None	Watch List
<i>Aquila chrysaetos</i>	golden eagle	None	Fully Protected
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	Species of Special Concern
<i>Melospiza melodia</i>	song sparrow ("Modesto" population)	None	Species of Special Concern
<i>Melospiza melodia maxillaris</i>	Suisun song sparrow	None	Species of Special Concern
<i>Elanus leucurus</i>	white-tailed kite	None	Fully Protected



<i>ANIMAL SPECIES LATIN NAME</i>	<i>ANIMAL SPECIES COMMON NAME</i>	<i>FEDERAL STATUS</i>	<i>STATE STATUS</i>
<b>MAMMALS</b>			
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	Endangered	Endangered
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered	Threatened
<i>Perognathus inornatus</i>	San Joaquin Pocket Mouse	None	None
<i>Lasiurus blossevillei</i>	western red bat	None	Species of Special Concern

SOURCE: CDFW CNDDDB 2019.

**TABLE 3.4-5: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT (16-QUADS)**

<i>ANIMAL SPECIES</i>	<i>COMMON NAME</i>	<i>FEDERAL STATUS</i>	<i>STATE STATUS</i>
<b>AMPHIBIANS</b>			
<i>Rana draytonii</i>	California red-legged frog	Threatened	Species of Special Concern
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Threatened
<i>Rana boylei</i>	foothill yellow-legged frog	None	Species of Special Concern
<b>REPTILES</b>			
<i>Masticophis lateralis euryxanthus</i>	Alameda whipsnake	Threatened	Threatened
<i>Arizona elegans occidentalis</i>	California glossy snake	None	Species of Special Concern
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	Species of Special Concern
<i>Thamnophis gigas</i>	giant gartersnake	Threatened	Threatened
<i>Anniella pulchra</i>	northern California legless lizard	None	Species of Special Concern
<i>Masticophis flagellum ruddocki</i>	San Joaquin coachwhip	None	Species of Special Concern
<i>Emys marmorata</i>	western pond turtle	None	Species of Special Concern
<b>FISH</b>			
<i>Hypomesus transpacificus</i>	Delta smelt	Threatened	Endangered
<i>Spirinchus thaleichthys</i>	longfin smelt	Candidate	Threatened
<i>Archoplites interruptus</i>	Sacramento perch	None	Species of Special Concern
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	Species of Special Concern
<b>CRUSTACEANS AND MOLLUSKS</b>			
<i>Linderiella occidentalis</i>	California linderiella	None	None
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	Endangered	None
<i>Dumontia oregonensis</i>	hairy water flea	None	None
<i>Branchinecta longiantenna</i>	longhorn fairy shrimp	Endangered	None
<i>Branchinecta mesovallensis</i>	midvalley fairy shrimp	None	None
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None
<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	Endangered	None
<i>Helminthoglypta nickliniana bridgesi</i>	Bridges' coast range shoulderband	None	None
<b>INSECTS</b>			
<i>Perdita scitula antiochensis</i>	Antioch andrenid bee	Threatened	Endangered
<i>Anthicus antiochensis</i>	Antioch Dunes anthicid beetle	Candidate	Threatened
<i>Sphecodogastra antiochensis</i>	Antioch Dunes halcetid bee	None	None
<i>Efferia antiochi</i>	Antioch efferian robberfly	None	None

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<i>ANIMAL SPECIES</i>	<i>COMMON NAME</i>	<i>FEDERAL STATUS</i>	<i>STATE STATUS</i>
<i>Myrmosula pacifica</i>	Antioch multilid wasp	Threatened	None
<i>Philanthus nasalis</i>	Antioch specid wasp	None	None
<i>Andrena blennospermatis</i>	Blennosperma vernal pool andrenid bee	None	None
<i>Speyeria callippe callippe</i>	callippe silverspot butterfly	None	None
<i>Bombus crotchii</i>	Crotch bumble bee	None	None
<i>Hygrotus curvipes</i>	curved-foot hygrotus diving beetle	None	None
<i>Elaphrus viridis</i>	Delta green ground beetle	None	None
<i>Metapogon hurdi</i>	Hurd's metapogon robberfly	None	None
<i>Apodemia mormo langei</i>	Lange's metalmark butterfly	Endangered	None
<i>Idiostatus middlekauffi</i>	Middlekauff's shieldback katydid	None	None
<i>Lytta molesta</i>	molestan blister beetle	None	None
<i>Danaus plexippus pop. 1</i>	monarch (CA overwintering population)	Threatened	None
<i>Bombus caliginosus</i>	obscure bumble bee	None	None
<i>Eucerceris ruficeps</i>	redheaded sphecid wasp	Endangered	None
<i>Anthicus sacramento</i>	Sacramento anthicid beetle	None	None
<i>Coelus gracilis</i>	San Joaquin dune beetle	None	None
<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	None	None
<i>Bombus occidentalis</i>	western bumble bee	None	None
<b>BIRDS</b>			
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Fully Protected
<i>Riparia riparia</i>	bank swallow	None	Threatened
<i>Athene cunicularia</i>	burrowing owl	None	Species of Special Concern
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threatened
<i>Eremophila alpestris actia</i>	California horned lark	None	Watch List
<i>Sternula antillarum browni</i>	California least tern	Endangered	Endangered
<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	Endangered	Endangered
<i>Phalacrocorax auritus</i>	double-crested cormorant	None	Watch List
<i>Buteo regalis</i>	ferruginous hawk	None	Watch List
<i>Aquila chrysaetos</i>	golden eagle	None	Fully Protected
<i>Ammodramus savannarum</i>	grasshopper sparrow	None	Species of Special Concern
<i>Ardea herodias</i>	great blue heron	None	None
<i>Lanius ludovicianus</i>	loggerhead shrike	None	Species of Special Concern
<i>Charadrius montanus</i>	mountain plover	None	Species of Special Concern
<i>Circus hudsonius</i>	northern harrier	None	Species of Special Concern
<i>Falco mexicanus</i>	prairie falcon	None	Watch List
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	Species of Special Concern
<i>Asio flammeus</i>	short-eared owl	None	Species of Special Concern

<i>ANIMAL SPECIES</i>	<i>COMMON NAME</i>	<i>FEDERAL STATUS</i>	<i>STATE STATUS</i>
<i>Melospiza melodia</i>	song sparrow ("Modesto" population)	None	Species of Special Concern
<i>Melospiza melodia maxillaris</i>	Suisun song sparrow	None	Species of Special Concern
<i>Buteo swainsoni</i>	Swainson's hawk	None	Threatened
<i>Agelaius tricolor</i>	tricolored blackbird	None	Candidate Endangered
<i>Elanus leucurus</i>	white-tailed kite	None	Fully Protected
<i>Coturnicops noveboracensis</i>	yellow rail	None	Species of Special Concern
<b>MAMMALS</b>			
<i>Taxidea taxus</i>	American badger	None	Species of Special Concern
<i>Dipodomys heermanni berkeleyensis</i>	Berkeley kangaroo rat	None	None
<i>Nyctinomops macrotis</i>	big free-tailed bat	None	Species of Special Concern
<i>Lasiurus cinereus</i>	hoary bat	None	None
<i>Antrozous pallidus</i>	pallid bat	None	Species of Special Concern
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	Endangered	Endangered
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat	None	Species of Special Concern
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered	Threatened
<i>Perognathus inornatus</i>	San Joaquin Pocket Mouse	None	None
<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	Species of Special Concern
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	Species of Special Concern
<i>Lasiurus blossevillii</i>	western red bat	None	Species of Special Concern

SOURCE: CDFW CNDDDB 2022.

### Sensitive Natural Communities

CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDDB search revealed nine sensitive natural communities within the 16-quadrangle search area for Pittsburg. This includes Alkali Meadow, Alkali Seep, Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Northern Claypan Vernal Pool, Serpentine Bunchgrass, Valley Needlegrass Grassland, and Valley Sink Scrub.

All of these community types were once more widely distributed throughout California but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them “highest inventory priorities” for future conservation. Of these sensitive natural communities documented within 10 miles of Pittsburg, one community, Coastal Brackish Marsh, is located within the City limits. Coastal Brackish Marsh is located along the waterfront area in the western portion of the City, as well as on Chipps Island, Browns Island, and Winter Island.

### 3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the State and nation including the CDFW, the USFWS, the USACE, and the National Marine Fisheries Service (NMFS). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state, and local regulations that are applicable to implementing the General Plan.

#### FEDERAL

##### **Federal Endangered Species Act**

The Federal Endangered Species Act (FESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed, it is fully protected from a “take” unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

##### **Migratory Bird Treaty Act**

To kill, possess, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

##### **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the Bald and Golden Eagle Protection Act, and reviews federal agency actions that may affect these species.

##### **Clean Water Act – Section 404**

CWA Section 404 regulates all discharges of dredged or fill material into WOTUS. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §323.2(f)]. The USACE is the agency responsible for administering the permit process for activities that affect WOTUS.

Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

### **Clean Water Act – Section 401**

CWA Section 401 (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To obtain the water quality certification, the RWQCB must indicate that the proposed fill would be consistent with the standards set forth by the State.

### **Department of Transportation Act - Section 4(f)**

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites.

### **Rivers and Harbors Act of 1899**

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Rivers and Harbors Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

## STATE

### **Fish and Game Code §2050-2097 - California Endangered Species Act**

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into CESA as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under state law, plant and animal species may be formally designated through official listing by the California Fish and Game Commission.

### **Fish and Game Code §1900-1913 California Native Plant Protection Act**

In 1977, the state legislature passed the California Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants

designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

### **Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds**

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The California Fish and Game Code indicates that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

### **Fish and Game Code §1601-1603 – Streambed Alteration**

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lakebed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

### **Public Resources Code § 21000 - California Environmental Quality Act**

Public Resources Code Section 21000 enacts CEQA and identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA, public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

### **Public Resources Code § 21083.4 - Oak Woodlands Conservation**

In 2004, the California legislature enacted Senate Bill (SB) 1334, which added oak woodland conservation regulations to the Public Resources Code. SB 1334 law requires a county to determine whether a project, within its jurisdiction, may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a

significant effect to oak woodlands, the county must require oak woodland mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Such mitigation alternatives include conservation through the use of conservation easements; planting and maintaining an appropriate number of replacement trees; contribution of funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures developed by the county.

### **California Oak Woodland Conservation Act**

The California legislature passed Assembly Bill (AB) 1334, known as the California Oak Woodland Conservation Act, in 2001 as a result of widespread changes in land use patterns across the landscape that were fragmenting oak woodlands' character over extensive areas. AB 1334 created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. AB 1334 provides funding and incentives to ensure the future viability of California's oak woodlands resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. AB 1334 acknowledged that the conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the state.

### **California Wetlands Conservation Policy**

In August 1993, Governor Pete Wilson announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of state and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

Governor Wilson also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

**Natural Community Conservation Planning Act** The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

**Porter-Cologne Water Quality Control Act** The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

### LOCAL

#### **San Francisco Bay Basin (Region 2) Water Quality Control Plan**

The San Francisco Bay Region (Region) is approximately 4,603 square miles in area, which is roughly the size of the State of Connecticut. It is characterized by its dominant feature, consisting of 1,100 square miles of the 1,600-square-mile San Francisco Bay Estuary (Estuary), the largest estuary on the west coast of the United States, where fresh waters from California’s Central Valley mix with the saline waters of the Pacific Ocean. The Region also includes coastal portions of Marin and San Mateo counties, from Tomales Bay in the north to Pescadero and Butano Creeks in the south.

The San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and actions. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under several programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of several national and statewide water quality plans and policies, including the California Water Code and the CWA.

#### **San Francisco Bay Plan**

The San Francisco Bay Plan, originally adopted by the California Legislature in 1969, contains the policies that the San Francisco Bay Conservation and Development Commission (BCDC) uses to determine whether permit applications can be approved for projects within the Commission’s jurisdiction—consisting of the San Francisco Bay, salt ponds, managed wetlands, certain waterways, and land within 100 feet of the Bay. On October 6, 2011, the BCDC unanimously approved an amendment to the Plan to update the 22-year-old sea level rise findings and policies and more broadly address climate change adaptation.

Plan Map 3 of the San Francisco Bay Plan shows the Suisun Bay and Marsh area. Browns Island and portions of the City’s western waterfront, both within the City’s Planning Area, are within the jurisdictional boundary for the Plan.



## **Delta Reform Act**

The Delta Reform Act of 2009 established two coequal goals: securing a reliable water supply for California and protecting, restoring, and enhancing the Sacramento-San Joaquin Delta ecosystem and the fish, wildlife, and recreation it supports. The Delta Reform Act recognized the Delta as an “evolving” environment and outlined a state policy of reduced reliance on Delta water exports, opting for a strategy of improved conservation, the development and enhancement of regional supplies, and water use efficiency.

The Delta Reform Act established an independent state agency – the Delta Stewardship Council – to develop and implement a plan that facilitates the declared coequal goals. The act also established the Delta Independent Science Board and authorized it to research, monitor, and assess programs pursued under the Delta Plan, advising the Council of its findings.

Under the authority of the act, a Delta Plan was originally adopted in May 2013. It incorporated 14 regulatory policies and 73 non-regulatory recommendations that contributed to the realization of the coequal objectives, including reduced reliance on Delta exports; final approval and adoption of the Bay Delta Conservation Plan; enhanced water quality standards; protection of the Delta’s unique ecosystem; mitigation of the multiple stressors affecting the Delta; improvement of emergency preparedness throughout the Delta region; reduction of flood risk; and prioritized state investment in levee maintenance and upgrading.

Since the original adoption date (2013), to ensure that the Delta Plan evolves appropriately with time, the Delta Reform Act requires that the Council review the comprehensive management plan at least once every five years and revise it as the Council deems appropriate.

In 2018, the Council began our initial review of the Delta Plan with three objectives in mind: (1) to reflect on the successes and challenges of implementation efforts across agencies; (2) to focus and prioritize the Council’s near-term implementation efforts; and (3) to identify planning topics and emerging issues that may inform future updates. To summarize findings, in 2019, the Council published a detailed report summarizing these objectives alongside a highlights companion piece. Portions of the Delta Plan were amended in 2023.

## **Suisun Marsh Habitat Management, Preservation, and Restoration Plan**

The Suisun Marsh Habitat Management, Preservation, and Restoration Plan (2013) is a 30-year comprehensive plan designed to address the various conflicts regarding use of Marsh resources, with the focus on achieving an acceptable multi-stakeholder approach to the restoration of tidal wetlands and the management of managed wetlands and their functions. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan addresses habitats and ecological process, public and private land use, levee system integrity, and water quality through restoration and managed wetland activities. As such, the Suisun Marsh Habitat Management, Preservation, and Restoration Plan is intended to be a flexible, science-based, management plan for Suisun Marsh (Marsh), consistent with the revised Suisun Marsh Preservation Agreement and CALFED Bay-Delta Program (CALFED).

### **East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan**

The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is intended to provide regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for endangered species and wetland regulations. The HCP/NCCP was developed by a team of scientists and planners with input from independent panels of science reviewers and stakeholders. Within the 174,018-acre inventory area, the HCP/NCCP will provide permits for between 8,670 and 11,853 acres of development and will permit impacts on an additional 1,126 acres from rural infrastructure projects.

The heart of the conservation strategy is a system of new preserves linked to existing protected lands to form a network of protected land outside the area where new urban growth will be covered under the HCP/NCCP. The conservation strategy is designed to create a preserve system that will:

- Preserve approximately 23,800 acres of land under the initial urban development area or approximately 30,300 acres of land under the maximum urban development area for the benefit of covered species, natural communities, biological diversity, and ecosystem function.
- Preserve major habitat connections linking existing protected lands. East Contra Costa County Habitat Conservation Plan Association
- Enable management of habitats to enhance populations of covered species and maintain ecosystem processes.

The Plan describes a detailed but flexible process to assemble the Preserve System using acquisition of fee title or conservation easements, and partnerships with other conservation organizations already active in the region. Assembly of the Preserve System will be based on the availability of willing sellers. However, preserve assembly will be required to stay ahead of the impacts of covered activities.

The Preserve System to be acquired under the HCP/NCCP will encompass 23,800 to 30,300 acres of land that will be managed for the benefit of 28 species as well as the natural communities that they, and hundreds of other species, depend upon. By proactively addressing the long-term conservation needs, the HCP/NCCP strengthens local control over land use and provides greater flexibility in meeting other needs such as housing, transportation, and economic growth in the area.

### **East Bay Regional Park District**

The East Bay Regional Park District (EBRPD) designated two regional preserves within the Planning Area: Browns Island and Black Diamond Mines Regional Preserve. Browns Island Preserve is located at the junction of the Sacramento and San Joaquin Rivers in the northern portion of the Planning Area. This 595-acre island is within the Sacramento Delta and, according to the EBRPD, is

the home of six rare and endangered plant species, and a variety of aquatic birds. There are no public facilities on Browns Island.

Black Diamond Mines Regional Preserve contains 6,096 acres, a portion of which is located in the southeastern portion of the Planning Area. The Preserve includes a visitor center, trails, and camp areas. The Black Diamond Mines Regional Preserve's 65 miles of trails traverse areas of grassland, foothill woodland, mixed evergreen forest, chaparral, stream vegetation and exotic plantings. Several species that are restricted to the Mt. Diablo area occur at the Preserve, including the Mt. Diablo globe lily, Mt. Diablo helianthella and Mt. Diablo manzanita. Black Diamond Mines Regional Preserve supports a healthy wildlife population. Coyotes and snakes are commonly seen. Mountain lions, bobcats, foxes and deer are occasionally spotted, while birds of prey soar overhead. Over 100 species of birds have been seen, from the rare golden eagle to the common meadowlark. The side-blotched lizard has its northern limit in the Preserve, and one rare animal species has been found here, the Alameda whipsnake.

### **City of Pittsburg Street Tree Ordinance**

Chapter 12.32, Street Trees, of the City's Municipal Code outlines the Street Tree Ordinance. As outlined in Section 12.32.070, no person may plant, cut, trim, remove, prune, shape, injure, interfere with or do maintenance work on a street tree without first obtaining a street tree permit from the city public services department. The permit shall be issued only for work to be done in compliance with the chapter, and shall be issued without a fee. The public services department shall supervise work done under a permit. Additionally, if a person obtains a building permit or other permit from the community development department under Code Section 12.32.110 or 12.32.120, and street tree work is required or authorized under that permit, the person need not obtain a separate street tree permit. The community development department shall notify the public services department of any permit requiring street tree work. The public service department shall supervise street tree work under the permit.

Further, as a condition of approval of a parcel map, tentative map, conditional use permit, architectural review permit or building permit, the applicant shall plant trees on the property in accordance with this chapter. Before the final inspection for occupancy, the applicant shall either have the trees planted or deposit security (cash or bond) with the city in an amount to cover the cost of planting the required trees. The city may use the security deposit to defray the cost of planting trees if the applicant fails to do so.

Chapter 15.108, Habitat Conservation Plan/Natural Community Conservation Plan Implementation, establishes the procedures to implement the East Contra Costa County HCP/NCCP. Chapter 15.108 applies to all development projects in the city that are within the urban development area except for the following:

1. Any development project that will permanently disturb less than one acre. The "acreage of land permanently disturbed" by a project, as that term is defined in Chapter 9.3.1 of the HCP/NCCP, shall be determined by the city planner.

## 3.4 BIOLOGICAL RESOURCES

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2. Any development project that the city planner determines is contained entirely within an area mapped as urban, turf, landfill and/or aqueduct land cover types in the HCP/NCCP, as generally depicted on Exhibit A and in the map data used to create Exhibit A, attached to the ordinance codified in this chapter, both of which are incorporated here by reference.
3. Any development project of a type not covered by the HCP/NCCP within the urban development area, as set forth in Chapter 2.3.1 of the HCP/NCCP.
4. Development projects with vested rights as established by California law including Government Code Sections 65864 through 65869 (development agreements) and Sections 66498.1 through 66498.9 (vesting tentative maps) where such rights vested prior to adoption of the ordinance codified in this chapter.
5. Development projects exempt under any provision of law.
6. Development projects where the city council determines based on written evidence submitted by the project applicant that application of the chapter would deprive the project applicant of all reasonable economic use of the property in violation of federal or state constitutional prohibitions against the taking of property without just compensation.
7. Any development project with all city entitlements approved prior to the adoption of the ordinance codified in this chapter.

Further, Article XIX of Title 18 (Sections 18.84.825-18.84.870) regulates tree preservation and protection in the City. The purpose of Article XIX is to promote the health, safety, welfare, and quality of life of the residents of the city through the protection of specified trees located on private property within the city, and the establishment of standards for removal, maintenance, and planting of trees. In establishing these procedures and standards, it is the city's intent to encourage the preservation of trees.

Section 18.84.835(F) defined a "protected tree" as any of the following:

1. A California native tree, as identified in the Calflora online database of wild California plants, that measures at least 50 inches in circumference (15.6 inches diameter) at four and one-half feet above grade, regardless of location or health; or
2. A tree of a species other than a California native that measures at least 50 inches in circumference at four and one-half feet above grade and is either on an undeveloped property, located on public property or within the right-of-way, or located on private property and is found to provide benefits to the subject property as well as neighboring properties, subject to determination by the city planner; or
3. A tree required to be planted, relocated, or preserved as a condition of approval of a tree removal permit or other discretionary permit, and/or as environmental mitigation for a discretionary permit.

Pursuant to Section 18.84.845, a protected tree may only be removed, including a cut-down, destruction, removal or relocation of any protected tree growing on property other than city-owned property or other public right-of-way within the city limits, upon approval of a tree removal permit issued by the zoning administrator, planning commission or city council, as applicable. Additionally, the removal or relocation of a protected tree is exempt from the provisions of Article XIX in the following circumstances:

1. In cases of emergency when a tree is hazardous or dangerous to life or property, it may be removed by order of the chief of police, by the chief of the Contra Costa County fire protection district, by the zoning administrator, director of community and economic development or his or her designee, or by the director of public works or his or her designee;
2. Any tree whose removal was specifically approved as a part of an approved development plan, subdivision, other discretionary project or a building permit, approved prior to the effective date of the ordinance codified in the chapter.

The tree removal permit procedures and requirements are outlined in Section 18.84.850. The replacement tree requirements are outlined in Section 18.84.855. Standards for development on sites with protected trees not approved for removal are outlined in Section 18.84.860.

### 3.4.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

CEQA Guidelines Section 15065(a), Mandatory Findings of Significance, states that a project may have a significant effect on the environment if it would have “... *the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species ...*”

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional and/or local context. Substantial impacts would be those that would substantially diminish or result in the loss of, an important biological resource or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

CEQA Guidelines Section 15380, *Endangered, Rare or Threatened Species*, states that a lead agency can consider a non-listed species to be Rare, Threatened, or Endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of Rare, Threatened, or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special-status species was considered according to the definitions for Rare, Threatened, and Endangered listed in CEQA Guidelines Section 15380.

### IMPACTS AND MITIGATION

#### **Impact 3.4-1: General Plan implementation could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)**

Approval of the 2040 General Plan would not directly approve or entitle any development or infrastructure projects. However, implementation of the 2040 General Plan and Land Use Map would allow and facilitate future development in Pittsburg, which could result in adverse impacts to special-status plant and wildlife species, as well as sensitive natural habitat or wildlife movement corridors.

#### SPECIAL STATUS PLANT SPECIES

The search revealed documented occurrences of 70 special status plant species within the 16-quadrangle search area. Table 3.4-2 provides a list of special-status plant species that are documented within a 16-quadrangle search area for Pittsburg, and current protective status. Figure 3.4-2 illustrates the special status species located within the 16-quadrangle search area.

Subsequent development under the proposed General Plan could result in the direct loss of habitat areas associated with these special-status plant species, since suitable habitat for these species does occur in the region. Additionally, indirect impacts to special-status plant species could occur with implementation of the 2040 General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality.

Special-status plant species receive protection from various federal and state laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of the plant species without a special permit. Additionally, the proposed 2040 General Plan includes numerous policies and actions intended to reduce or avoid impacts to special status plant species. These policies and actions are listed below.

#### SPECIAL STATUS ANIMAL SPECIES

The search revealed documented occurrences of 82 special status animal species within the 16-quad search area. This includes three amphibians, 24 birds, four fish, 12 mammals, seven reptiles, eight crustaceans and mollusks, and 22 insects. Of the 82 special-status animal species within the 16-quadrangle search areas, 28 species are located within one mile of Pittsburg. Table 3.4-5 provides a list of the special-status animal species that are documented within the 16-quadrangle search area, and current protective status. Figure 3.4-2 illustrates the special-status species located within the 16-quadrangle search area.

While most new development in Pittsburg that would occur as a result of 2040 General Plan implementation would occur in areas that have been previously developed, subsequent development under the proposed 2040 General Plan could result in the direct loss of habitat areas associated with these special-status animal species, since suitable habitat for these species does occur in the region, and may occur on future development project sites within Pittsburg. Additionally, indirect impacts to special-status animal species could occur with implementation of the 2040 General Plan. Indirect impacts could include habitat degradation as a result of impacts to water quality, increased human presence, and the loss of foraging habitat.

Special-status animal species receive protection from various regulations, including FESA and CESA, which generally prohibit the taking of a species or direct impact to foraging and breeding habitat without a special permit. Additionally, the proposed 2040 General Plan includes numerous policies and actions intended to reduce or avoid impacts to special status animal species. These policies and actions are listed below.

#### CONCLUSION

Construction and maintenance activities associated with future development projects under the proposed 2040 General Plan could result in the direct and indirect loss or indirect disturbance of special-status plant or animal species or their habitats that are known to occur, or have potential to occur, in the region. Impacts to special-status species or their habitats could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special-status species associated with individual subsequent projects could include:

- increased mortality caused by higher numbers of automobiles in new areas of development;
- direct mortality from the collapse of underground burrows, resulting from soil compaction;

## 3.4 BIOLOGICAL RESOURCES

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- direct mortality resulting from the movement of equipment and vehicles through construction areas;
- direct mortality resulting from removal of trees with active nests;
- direct mortality or loss of suitable habitat resulting from the trimming or removal of obligate host plants;
- direct mortality resulting from fill of wetlands features;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- loss of suitable habitat for vernal pool invertebrates resulting from the destruction or degradation of vernal pools or seasonal wetlands;
- abandoned eggs or young and subsequent nest failure for special status nesting birds, including raptors, and other non-special status migratory birds resulting from construction-related noises;
- loss or disturbance of rookeries and other colonial nests;
- loss of suitable foraging habitat for special status raptor species;
- loss of migration corridors resulting from the construction of permanent structures or features; and
- impacts to fisheries/species associated with waterways.

Implementation of the 2040 General Plan policies and actions listed below would reduce the potential for impacts related to this topic. Subsequent development projects will be required to comply with the General Plan and applicable federal site-specific biological resources assessment as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, contact the appropriate resource agencies and establish appropriate management strategies to reduce impacts on sensitive habitat and special status species.

The City has prepared the 2040 General Plan to include numerous policies and actions intended to protect special-status plants and animals, including habitat, from adverse effects associated with future development and improvement projects. For example, Policy 10-P-2.8 requires new development projects and expansion of existing uses to conserve sensitive habitat, including special status species. Action 10-A-2.a requires site-specific biological resources assessment to be conducted as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, the appropriate resource agencies should be contacted and appropriate management strategies would be established to reduce impacts on sensitive habitat and special status species.

While future development has the potential to result in significant impacts to protected special status plants and animals, including habitat, the implementation of the policies and action listed below, as well as federal and state regulations, would reduce impacts to these resources to a **less than significant** level, and no mitigation is required.



**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-2.1: Ensure that open space and natural landscapes remain a major component of lands near the Bay and the Delta (see Figure 10-2).

10-P-2.2: Support the long-term viability and success of the natural Bay and Delta ecosystems and the continuation of Delta heritage, including encouraging preservation and restoration of contiguous portions of important wildlife habitats remnants of riparian and aquatic habitat.

10-P-2.3: Require new development projects to cooperate with the East Bay Regional Park District (EBRPD) to protect the Browns Island Regional Shoreline and the Black Diamond Mines Regional Preserve.

10-P-2.4: Preserve the natural Bay and Delta shoreline habitat on Browns Island and grasslands habitat at Black Diamond Mines.

10-P-2.5: Conserve natural terrain, native vegetation, and sensitive habitats and recognize the role of native vegetation, natural terrain and green infrastructure in natural resource and watershed management.

10-P-2.6: Support efforts to protect and enhance the Bay and Delta ecosystem and Pittsburg's creeks in perpetuity for their value in providing visual amenity, drainage capacity, and habitat value, through a variety of measures including local conservation efforts that improve adequate water supply and quality.

10-P-2.7: Preserve large areas of naturally vegetated habitat to allow for water infiltration and reduce flood hazards in the Kirker Creek watershed by requiring that new development minimizes paved areas.

10-P-2.8: Require new development projects and expansion of existing uses to conserve sensitive habitat, including special status species.

10-P-2.9: Work with Contra Costa County, the EBRPD, and the City of Antioch, to expand the regional open-space system in the southern hills to preserve California annual grasslands habitat.

10-P-2.10: Advocate clustering of houses to preserve large, unbroken blocks of open space, particularly within sensitive habitat areas during the design of hillside residential projects.

10-P-2.11: Encourage the preservation of wildlife corridors to ensure the integrity of habitat linkages.

10-P-2.12: Continue to support and implement the East Contra Costa County Habitat Conservation Plan (Eastern County HCP).

10-P-2.13: Support the reclamation of wetlands and marshlands along local industrial waterfronts.

10-P-2.14: Collaborate with developers to establish and/or retain creeks, marshes, wetlands, and riparian corridors in the design of new development.

## 3.4 BIOLOGICAL RESOURCES

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10-P-2.15: Protect and restore threatened natural resources, such as wildlife, estuaries, tidal zones, marine life, wetlands, and waterfowl habitat.

10-P-2.16: Limit dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve.

10-P-2.17: Work with industrial property-owners along the waterfront to improve urban runoff and water quality levels within the Bay wetlands.

10-P-2.18: Recognize that climate change impacts may influence future guidance, and best available data, and continue to ensure that up-to-date information is consulted when reviewing projects for potential impacts to biological resources, including the Bay, Delta, and sensitive habitats.

### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-2.a: Conduct site-specific biological resources assessment as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, contact the appropriate resource agencies and establish appropriate management strategies to reduce impacts on sensitive habitat and special status species.

10-A-2.b: Continue to require projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes.

10-A-2.c: Develop and adopt an Urban Forest Management Plan that identifies the City's potential capacity for new tree planting, identifies a timeframe for implementation, provides a management plan for existing trees, and establishes a tracking system to assess progress towards annual benchmarks.

10-A-2.d: Review all projects located within or adjacent to the Delta Primary Zone and other priority habitat restoration areas to ensure consistency with the criteria and policies of the Delta Stewardship Council's Delta Plan.

10-A-2.e: As applicable, provide opportunities for review of and comment by the California Department of Fish and Wildlife, Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, SWRCB, and San Francisco Bay Conservation and Development Commission (BCDC) during project review, and consult with the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on primary habitat restoration areas as described in the Bay Plan and the Delta Plan.

10-A-2.f: Establish an on-going program to remove and prevent the re-establishment of invasive species and restore native species as part of development approval on sites that include ecologically sensitive habitat and require that revegetation of cut-and-fill slopes for new development includes native plant species.

10-A-2.g: Intermix areas of pavement with naturally vegetated infiltration sites to minimize the concentration of stormwater runoff from pavement and structures.

10-A-2.h: Require an encroachment permit from Contra Costa Water District (CCWD) for any storm drain facility crossing or encroaching onto Contra Costa Canal rights-of-way.

10-A-2.i: Require all crossings to be constructed in accordance with CCWD standards and requirements.

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.k: Establish regulations as part of the Zoning Code to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.

10-A-2.l: Create interpretive facilities with educational displays along the marshlands to heighten public awareness of the importance of local marshlands for roosting and nesting sites for migrating waterfowl.

**Impact 3.4-2: General Plan implementation could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (Less than Significant)**

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDDB search revealed nine sensitive natural communities within the 16-quadrangle search area for Pittsburg. This includes Alkali Meadow, Alkali Seep, Cismontane Alkali Marsh, Coastal and Valley Freshwater Marsh, Coastal Brackish Marsh, Northern Claypan Vernal Pool, Serpentine Bunchgrass, Valley Needlegrass Grassland, and Valley Sink Scrub. All nine of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them “highest inventory priorities” for future conservation. Of these nine sensitive natural communities documented within the 16-quadrangle search area for Pittsburg, one is located within one mile of City limits.

## 3.4 BIOLOGICAL RESOURCES

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While not always documented as a sensitive natural community in the CNDDDB, streams, rivers, wet meadows, and vernal pools are of high concern, because they provide unique aquatic habitat for many endemic species, including special-status plants, birds, invertebrates, and amphibians. The City contains numerous aquatic habitats that qualify as sensitive habitats.

The following aquatic resources are found in the Planning Area: Suisun Bay, Sacramento River, and Kirker Creek and associated hydrological features. Suisun Bay is a shallow tidal estuary (a northeastern extension of the San Francisco Bay) in Northern California. It lies at the confluence of the Sacramento River and San Joaquin River, forming the entrance to the Sacramento–San Joaquin River Delta, an inverted river delta. To the west, Suisun Bay is drained by the Carquinez Strait, which connects to San Pablo Bay, a northern extension of San Francisco Bay. Suisun Marsh, the tidal marsh land to the north, is the largest contiguous brackish (a mixture of fresh and sea water) wetland in the western United States.<sup>1</sup> Grizzly Bay forms a northern extension of Suisun Bay. Suisun Bay is directly north of Contra Costa County. Channels of West Kirker Creek and East Kirker Creek have been altered with many of the channels open, except where culverts divert the creeks underground at road crossings and along a few reaches, such as the segment of West Kirker Creek near the Pittsburg-Antioch Highway. West Kirker Creek flows northward through Buchanan Park to the New York Slough via the Dowest Slough.

Subsequent development projects will be required to comply with the 2040 General Plan and adopted federal, state, and local regulations for the protection of sensitive natural communities, including riparian habitat. The City has prepared the 2040 General Plan to include numerous policies and actions intended to protect sensitive natural communities, including riparian habitat, from adverse effects associated with future development and improvement projects. For example, Policy 10-P-2.2 supports the long-term viability and success of the natural Bay and Delta ecosystems and the continuation of Delta heritage, including encouraging preservation and restoration of contiguous portions of important wildlife habitats remnants of riparian and aquatic habitat. Policy 10-P-2.14 requires collaboration with developers to establish and/or retain creeks, marshes, wetlands, and riparian corridors in the design of new development. Policy 10-P-2.1 supports the reclamation of wetlands and marshlands along local industrial waterfronts. Policy 10-P-2.15 aims to protect and restore threatened natural resources, such as wildlife, estuaries, tidal zones, marine life, wetlands, and waterfowl habitat. Policy 10-P-2.16 limits dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve. While future development has the potential to result in significant impacts to protected habitats, the implementation of the policies and action listed below, as well as federal and state regulations, would ensure impacts to these resources are **less than significant**, and no mitigation is required.

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<sup>1</sup> U.S. Department of the Interior – Bureau of Reclamation, U.S. Fish and Wildlife Service, and California Department of Fish and Game. Suisun Marsh Habitat Management, Preservation, and Restoration Plan. May 2013. Page A-3

**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-2.1: Ensure that open space and natural landscapes remain a major component of lands near the Bay and the Delta (see Figure 10-2).

10-P-2.2: Support the long-term viability and success of the natural Bay and Delta ecosystems and the continuation of Delta heritage, including encouraging preservation and restoration of contiguous portions of important wildlife habitats remnants of riparian and aquatic habitat.

10-P-2.3: Require new development projects to cooperate with the East Bay Regional Park District (EBRPD) to protect the Browns Island Regional Shoreline and the Black Diamond Mines Regional Preserve.

10-P-2.4: Preserve the natural Bay and Delta shoreline habitat on Browns Island and grasslands habitat at Black Diamond Mines.

10-P-2.5: Conserve natural terrain, native vegetation, and sensitive habitats and recognize the role of native vegetation, natural terrain and green infrastructure in natural resource and watershed management.

10-P-2.6: Support efforts to protect and enhance the Bay and Delta ecosystem and Pittsburg's creeks in perpetuity for their value in providing visual amenity, drainage capacity, and habitat value, through a variety of measures including local conservation efforts that improve adequate water supply and quality.

10-P-2.7: Preserve large areas of naturally vegetated habitat to allow for water infiltration and reduce flood hazards in the Kirker Creek watershed by requiring that new development minimizes paved areas.

10-P-2.8: Require new development projects and expansion of existing uses to conserve sensitive habitat, including special status species.

10-P-2.9: Work with Contra Costa County, the EBRPD, and the City of Antioch, to expand the regional open-space system in the southern hills to preserve California annual grasslands habitat.

10-P-2.10: Advocate clustering of houses to preserve large, unbroken blocks of open space, particularly within sensitive habitat areas during the design of hillside residential projects.

10-P-2.11: Encourage the preservation of wildlife corridors to ensure the integrity of habitat linkages.

10-P-2.12: Continue to support and implement the East Contra Costa County Habitat Conservation Plan (Eastern County HCP).

10-P-2.13: Support the reclamation of wetlands and marshlands along local industrial waterfronts.

10-P-2.14: Collaborate with developers to establish and/or retain creeks, marshes, wetlands, and riparian corridors in the design of new development.

## 3.4 BIOLOGICAL RESOURCES

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10-P-2.15: Protect and restore threatened natural resources, such as wildlife, estuaries, tidal zones, marine life, wetlands, and waterfowl habitat.

10-P-2.16: Limit dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve.

10-P-2.17: Work with industrial property-owners along the waterfront to improve urban runoff and water quality levels within the Bay wetlands.

10-P-2.18: Recognize that climate change impacts may influence future guidance, and best available data, and continue to ensure that up-to-date information is consulted when reviewing projects for potential impacts to biological resources, including the Bay, Delta, and sensitive habitats.

### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-2.a: Conduct site-specific biological resources assessment as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, contact the appropriate resource agencies and establish appropriate management strategies to reduce impacts on sensitive habitat and special status species.

10-A-2.b: Continue to require projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes.

10-A-2.c: Develop and adopt an Urban Forest Management Plan that identifies the City's potential capacity for new tree planting, identifies a timeframe for implementation, provides a management plan for existing trees, and establishes a tracking system to assess progress towards annual benchmarks.

10-A-2.d: Review all projects located within or adjacent to the Delta Primary Zone and other priority habitat restoration areas to ensure consistency with the criteria and policies of the Delta Stewardship Council's Delta Plan.

10-A-2.e: As applicable, provide opportunities for review of and comment by the California Department of Fish and Wildlife, Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, SWRCB, and San Francisco Bay Conservation and Development Commission (BCDC) during project review, and consult with the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on primary habitat restoration areas as described in the Bay Plan and the Delta Plan.

10-A-2.f: Establish an on-going program to remove and prevent the re-establishment of invasive species and restore native species as part of development approval on sites that include ecologically sensitive habitat and require that revegetation of cut-and-fill slopes for new development includes native plant species.

10-A-2.g: Intermix areas of pavement with naturally vegetated infiltration sites to minimize the concentration of stormwater runoff from pavement and structures.

10-A-2.h: Require an encroachment permit from Contra Costa Water District (CCWD) for any storm drain facility crossing or encroaching onto Contra Costa Canal rights-of-way.

10-A-2.i: Require all crossings to be constructed in accordance with CCWD standards and requirements.

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.k: Establish regulations as part of the Zoning Code to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.

10-A-2.l: Create interpretive facilities with educational displays along the marshlands to heighten public awareness of the importance of local marshlands for roosting and nesting sites for migrating waterfowl.

**Impact 3.4-3: General Plan implementation could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant)**

Streams, rivers, wet meadows, and vernal pools (wetlands and jurisdictional waters) are of high concern because they provide unique aquatic habitat (perennial and ephemeral) for many endemic species, including special-status plants, birds, invertebrates, and amphibians. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the CWA.

Pittsburg contains numerous aquatic and riparian habitats that qualify as state or federally protected wetlands and jurisdictional waters. The Fresh Emergent Wetland, Saline Emergent Wetland, Riverine, Lacustrine, Estuarine, Marsh, and Water habitat types include wetlands. As described in Impact 3.4-2, Suisun Bay, Sacramento River, Kirker Creek, and associated features are located in the Planning Area.

## 3.4 BIOLOGICAL RESOURCES

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CWA Section 404 requires any project that involves disturbance to a wetland or WOTUS to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the USACE to authorize a disturbance to the wetland. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through CWA Section 404 ensures that there is “no net loss” of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project accommodated by the 2040 General Plan cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

Construction activities associated with individual future projects could result in the disturbance or loss of WOTUS. This includes perennial and intermittent drainages; unnamed drainages; vernal pools; freshwater marshes; and other types of seasonal and perennial wetland communities. Wetlands and other WOTUS could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities.

The proposed project is a planning document that does not itself approve any specific physical changes to the to the environment; therefore, adoption of the proposed project would not directly impact the environment. However, project implementation could have an indirect change on the physical environment through subsequently approved projects that are consistent with the buildout that is contemplated in the 2040 General Plan. The implementation of an individual project would require a detailed and site-specific review to determine the presence or absence of water features. If water features are present and disturbance is required, federal and state laws, as implemented through the permit process, require measures to reduce, avoid, or compensate for impacts to these resources.

Subsequent development projects will be required to comply with the 2040 General Plan and adopted federal, state, and local regulations for the protection of sensitive natural communities, including protected wetlands. The City has prepared the 2040 General Plan to include numerous policies and actions intended to protect wetlands and WOTUS from adverse effects associated with future development and improvement projects. For example, Policy 10-P-2.14 requires collaboration with developers to establish and/or retain creeks, marshes, wetlands, and riparian corridors in the design of new development. Policy 10-P-2.1 supports the reclamation of wetlands and marshlands along local industrial waterfronts. Policy 10-P-2.15 aims to protect and restore threatened natural resources, such as wildlife, estuaries, tidal zones, marine life, wetlands, and waterfowl habitat. Policy 10-P-2.16 limits dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve. While future development has the potential to result in significant impacts to protected water features, the implementation of the 2040 General Plan policies and actions listed below, as well as federal and state regulations, would ensure impacts to these resources are **less than significant**, and no mitigation is required.



**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-2.1: Ensure that open space and natural landscapes remain a major component of lands near the Bay and the Delta (see Figure 10-2).

10-P-2.2: Support the long-term viability and success of the natural Bay and Delta ecosystems and the continuation of Delta heritage, including encouraging preservation and restoration of contiguous portions of important wildlife habitats remnants of riparian and aquatic habitat.

10-P-2.5: Conserve natural terrain, native vegetation, and sensitive habitats and recognize the role of native vegetation, natural terrain and green infrastructure in natural resource and watershed management.

10-P-2.6: Support efforts to protect and enhance the Bay and Delta ecosystem and Pittsburg's creeks in perpetuity for their value in providing visual amenity, drainage capacity, and habitat value, through a variety of measures including local conservation efforts that improve adequate water supply and quality.

10-P-2.7: Preserve large areas of naturally vegetated habitat to allow for water infiltration and reduce flood hazards in the Kirker Creek watershed by requiring that new development minimizes paved areas.

10-P-2.11: Encourage the preservation of wildlife corridors to ensure the integrity of habitat linkages.

10-P-2.13: Support the reclamation of wetlands and marshlands along local industrial waterfronts.

10-P-2.14: Collaborate with developers to establish and/or retain creeks, marshes, wetlands, and riparian corridors in the design of new development.

10-P-2.15: Protect and restore threatened natural resources, such as wildlife, estuaries, tidal zones, marine life, wetlands, and waterfowl habitat.

10-P-2.16: Limit dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve.

10-P-2.17: Work with industrial property-owners along the waterfront to improve urban runoff and water quality levels within the Bay wetlands.

**ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-2.a: Conduct site-specific biological resources assessment as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, contact the appropriate resource agencies and establish appropriate management strategies to reduce impacts on sensitive habitat and special status species.

## 3.4 BIOLOGICAL RESOURCES

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10-A-2.d: Review all projects located within or adjacent to the Delta Primary Zone and other priority habitat restoration areas to ensure consistency with the criteria and policies of the Delta Stewardship Council's Delta Plan.

10-A-2.f: Establish an on-going program to remove and prevent the re-establishment of invasive species and restore native species as part of development approval on sites that include ecologically sensitive habitat and require that revegetation of cut-and-fill slopes for new development includes native plant species.

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.k: Establish regulations as part of the Zoning Code to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.

10-A-2.l: Create interpretive facilities with educational displays along the marshlands to heighten public awareness of the importance of local marshlands for roosting and nesting sites for migrating waterfowl.

### **Impact 3.4-4: General Plan implementation would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)**

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). Wildlife habitat corridors maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation or removal. The suitability of a habitat as a wildlife movement corridor is related

to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species everyday survival. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and use corridors for a greater length of time.

Pittsburg contains numerous aquatic habitats that may be used for wildlife movement. As noted in Impact 3.4-2, the following aquatic resources are found in the Planning Area: Suisun Bay and Kirker Creek. Both are considered wildlife migration corridors. Channels of West Kirker Creek and East Kirker Creek have been altered with many of the channels open, except where culverts divert the creeks underground at road crossings and along a few reaches such as the segment of West Kirker Creek near the Pittsburg-Antioch Highway. West Kirker Creek flows northward through Buchanan Park to the New York Slough via the Dowest Slough. Although Kirker Creek in the Planning Area is in a degraded condition, it still supports the necessary attributes needed to support animal movement, namely vegetation for cover and topography to guide animals up and downstream.

As shown in the proposed 2040 General Plan Land Use Map, Park and Open Space land uses are generally found adjacent to and along Kirker Creek. The areas designated for urban uses by the proposed Land Use Map near Kirker Creek is generally developed with urban uses currently. Additionally, the Black Diamonds Regional Preserve and the undeveloped areas in the southern portion of the Planning Area are designated Park and Open Space. With implementation of the proposed project, these areas would continue to be used by wildlife as movement corridors.

Because the proposed project is a planning document, and thus, no physical changes will occur to the environment, adoption of the proposed project would not directly impact the environment. There is a reasonable chance that movement corridors could be impacted throughout the buildout of subsequent individual projects accommodated by the 2040 General Plan. The development of an individual project would require a detailed and site-specific review to determine the presence or absence of movement corridors on a given project site. If movement corridors are present and disturbance is required, federal and state laws, implemented through the permit process, require measures to reduce, avoid, or compensate for impacts to these resources.

Subsequent development projects will be required to comply with the 2040 General Plan and adopted federal, state, and local regulations for the protection of movement corridors. The City has prepared the 2040 General Plan to include policies and actions intended to protect movement corridors and contiguous natural habitat areas from adverse effects associated with future development and improvement projects. For example, Policy 10-P-2.10 aims to advocate clustering of houses to preserve large, unbroken blocks of open space, particularly within sensitive habitat areas during the design of hillside residential projects. Policy 10-P-2.9 requires the City to

## 3.4 BIOLOGICAL RESOURCES

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work with Contra Costa County, the EBRPD, and the City of Antioch, to expand the regional open-space system in the southern hills to preserve California annual grasslands habitat. Action 10-A-2.a requires site-specific biological resources assessment to be conducted as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, contact the appropriate resource agencies and establish appropriate management strategies to reduce impacts on sensitive habitat and special status species.

While future development has the potential to result in significant impacts to protected movement corridors, the implementation of the 2040 General Plan policies and action listed below, as well as federal and state regulations, would ensure impacts to these resources are **less than significant**, and no mitigation is necessary.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-2.1: Ensure that open space and natural landscapes remain a major component of lands near the Bay and the Delta (see Figure 10-2).

10-P-2.2: Support the long-term viability and success of the natural Bay and Delta ecosystems and the continuation of Delta heritage, including encouraging preservation and restoration of contiguous portions of important wildlife habitats remnants of riparian and aquatic habitat.

10-P-2.3: Require new development projects to cooperate with the East Bay Regional Park District (EBRPD) to protect the Browns Island Regional Shoreline and the Black Diamond Mines Regional Preserve.

10-P-2.4: Preserve the natural Bay and Delta shoreline habitat on Browns Island and grasslands habitat at Black Diamond Mines.

10-P-2.5: Conserve natural terrain, native vegetation, and sensitive habitats and recognize the role of native vegetation, natural terrain and green infrastructure in natural resource and watershed management.

10-P-2.6: Support efforts to protect and enhance the Bay and Delta ecosystem and Pittsburg's creeks in perpetuity for their value in providing visual amenity, drainage capacity, and habitat value, through a variety of measures including local conservation efforts that improve adequate water supply and quality.

10-P-2.7: Preserve large areas of naturally vegetated habitat to allow for water infiltration and reduce flood hazards in the Kirker Creek watershed by requiring that new development minimizes paved areas.

10-P-2.8: Require new development projects and expansion of existing uses to conserve sensitive habitat, including special status species.

10-P-2.9: Work with Contra Costa County, the EBRPD, and the City of Antioch, to expand the regional open-space system in the southern hills to preserve California annual grasslands habitat.

10-P-2.10: Advocate clustering of houses to preserve large, unbroken blocks of open space, particularly within sensitive habitat areas during the design of hillside residential projects.

10-P-2.11: Encourage the preservation of wildlife corridors to ensure the integrity of habitat linkages.

10-P-2.12: Continue to support and implement the East Contra Costa County Habitat Conservation Plan (Eastern County HCP).

10-P-2.13: Support the reclamation of wetlands and marshlands along local industrial waterfronts.

10-P-2.14: Collaborate with developers to establish and/or retain creeks, marshes, wetlands, and riparian corridors in the design of new development.

10-P-2.15: Protect and restore threatened natural resources, such as wildlife, estuaries, tidal zones, marine life, wetlands, and waterfowl habitat.

10-P-2.16: Limit dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve.

10-P-2.17: Work with industrial property-owners along the waterfront to improve urban runoff and water quality levels within the Bay wetlands.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-2.a: Conduct site-specific biological resources assessment as required by CEQA for development located in or adjacent to potential habitat or ecologically sensitive areas. If any special-status species or sensitive habitats are identified, contact the appropriate resource agencies and establish appropriate management strategies to reduce impacts on sensitive habitat and special status species.

10-A-2.b: Continue to require projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes.

10-A-2.d: Review all projects located within or adjacent to the Delta Primary Zone and other priority habitat restoration areas to ensure consistency with the criteria and policies of the Delta Stewardship Council's Delta Plan.

10-A-2.e: As applicable, provide opportunities for review of and comment by the California Department of Fish and Wildlife, Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, SWRCB, and San Francisco Bay Conservation and Development Commission (BCDC) during project review, and consult with the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on primary habitat restoration areas as described in the Bay Plan and the Delta Plan.

10-A-2.f: Establish an on-going program to remove and prevent the re-establishment of invasive species and restore native species as part of development approval on sites that include ecologically sensitive habitat and require that revegetation of cut-and-fill slopes for new development includes native plant species.

## 3.4 BIOLOGICAL RESOURCES

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10-A-2.g: Intermix areas of pavement with naturally vegetated infiltration sites to minimize the concentration of stormwater runoff from pavement and structures.

10-A-2.h: Require an encroachment permit from Contra Costa Water District (CCWD) for any storm drain facility crossing or encroaching onto Contra Costa Canal rights-of-way.

10-A-2.i: Require all crossings to be constructed in accordance with CCWD standards and requirements.

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.k: Establish regulations as part of the Zoning Code to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.

10-A-2.l: Create interpretive facilities with educational displays along the marshlands to heighten public awareness of the importance of local marshlands for roosting and nesting sites for migrating waterfowl.

### **Impact 3.4-5: The General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)**

The proposed project is a policy document, in which local policies are established. This EIR presents the numerous policies of the 2040 General Plan. The 2040 General Plan itself does not conflict with its policies. The 2040 General Plan carries forward or strengthens existing General Plan policies that protect biological resources. For example, the existing General Plan includes Policy 9-P-2, which states: “Establish an on-going program to remove and prevent the re-establishment of invasive species and restore native species as part of development approvals on sites that include ecologically sensitive habitat.” The 2040 General Plan includes a similar action which has additional language to strengthen Policy 9-P-2 of the existing General Plan. Action 10-A-2.f of the 2040 General Plan states: “Establish an on-going program to remove and prevent the re-

establishment of invasive species and restore native species as part of development approval on sites that include ecologically sensitive habitat and require that revegetation of cut-and-fill slopes for new development includes native plant species.” Additionally, Policy 9-P-5 of the existing General Plan is included in the 2040 General Plan as Policy 10-P-2.9. The policy states the following: “Work with Contra Costa County, the East Bay Regional Park District, and the City of Antioch, to expand the regional open-space system in the southern hills to preserve California annual grasslands habitat.” Further, the existing General Plan includes Policy 9-P-9, which states: “Establish creek setbacks along riparian corridors, extending a minimum of 50 to 150 feet laterally on each side of the creek bed. Setback buffers for habitat areas of identified special status species and wetlands may be expanded as needed to preserve ecological resources.” The 2040 General Plan includes a similar action which has additional language to strengthen Policy 9-P-9 of the existing General Plan. Action 10-A-2I of the 2040 General Plan states: “Establish regulations as part of the Zoning Code to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.”

Policy 9-P-12 of the existing General Plan states: “Protect and restore threatened natural resources, such as estuaries, tidal zones, marine life, wetlands, and waterfowl habitat.” Policy 10-P-2.15 of the 2040 General Plan contains the same language, but also lists wildlife as a protected resource.

Additionally, the City’s Street Tree Ordinance, outlined in Chapter 12.32 of the City’s Municipal Code, outlines the requirements for removal of street trees and planting of street trees as part of new development. As a condition of approval of a parcel map, tentative map, conditional use permit, architectural review permit or building permit, future project applicants in accordance with the General Plan are required to plant trees on the property. Before the final inspection for occupancy, the future project applicants shall either have the trees planted or deposit security (cash or bond) with the city in an amount to cover the cost of planting the required trees. The city may use the security deposit to defray the cost of planting trees if the applicant fails to do so. Future development in accordance with the proposed 2040 General Plan would be required to comply with the Street Tree Ordinance as a condition of approval.

Further, Article XIX of Title 18 (Sections 18.84.825-18.84.870) regulates tree preservation and protection in the City. A protected tree may only be removed, including a cut-down, destruction, removal or relocation of any protected tree growing on property other than city-owned property

or other public right-of-way within the city limits, upon approval of a tree removal permit issued by the zoning administrator, planning commission or city council, as applicable. Future development in accordance with the proposed 2040 General Plan would be required to comply with the Tree Preservation and Protection Ordinance.

Subsequent development projects will be required to comply with the 2040 General Plan policies, as well as the Municipal Code. This impact would be **less than significant**, and no mitigation is required.

### **Impact 3.4-6: General Plan implementation would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (Less than Significant)**

As noted previously, the East Contra Costa County HCP/NCCP is intended to provide regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for endangered species and wetland regulations. The HCP/NCCP was developed by a team of scientists and planners with input from independent panels of science reviewers and stakeholders.

The proposed 2040 General Plan Land Use Map does not re-designate any land currently designated for open space or habitat protection. As such, the proposed General Plan and the Land Use Map are consistent with the adopted HCP/NCCP in terms of land uses and habitat protection. Implementation of the General Plan would not conflict with the provisions of an adopted HCP/NCCP, or other approved local, regional, or State habitat conservation plan.

Policy 10-P-1.12 requires the continued support and implementation of the East Contra Costa HCP. Action 10-A-2.b from the Resources Conservation & Open Space Element of the General Plan requires projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes, and to comply with the requirements of the HCP/NCCP to ensure that potentially significant impacts to special-status species and sensitive resources are adequately addressed.

Additionally, the Suisun Marsh Habitat Management, Preservation, and Restoration Plan is designed to address the various conflicts regarding use of Marsh resources, with the focus on achieving an acceptable multi-stakeholder approach to the restoration of tidal wetlands and the management of managed wetlands and their functions. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan addresses habitats and ecological process, public and private land use, levee system integrity, and water quality through restoration and managed wetland activities. The only portion of the Pittsburg Planning Area which is regulated by the Restoration Plan is Browns Island. The proposed 2040 General Plan Land Use Map does not re-designate any land currently designated for open space or habitat protection near Browns Island.

In order to address wetland restoration near Browns Island, the 2040 General Plan includes two policies: Policy 10-P-2.3: Require new development projects to cooperate with the East Bay Regional Park District (EBRPD) to protect the Browns Island Regional Shoreline and the Black



Diamond Mines Regional Preserve; and, Policy 10-P-2.16: Limit dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve.

Through compliance with 2040 General Plan Policies 10-P-2., 10-P-2.12, and 10-P-2.16 and implementation of Action 10-A-2.b, future development accommodated by the 2040 General Plan would have a **less than significant** impact, and no mitigation is necessary.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-2.3: Require new development projects to cooperate with the East Bay Regional Park District (EBRPD) to protect the Browns Island Regional Shoreline and the Black Diamond Mines Regional Preserve.

10-P-2.12: Continue to support and implement the East Contra Costa County Habitat Conservation Plan (Eastern County HCP).

10-P-2.16: Limit dredging and filling of wetlands and marshlands, particularly adjacent to Browns Islands Preserve.

##### **ACTION – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-2.b: Continue to require projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes.

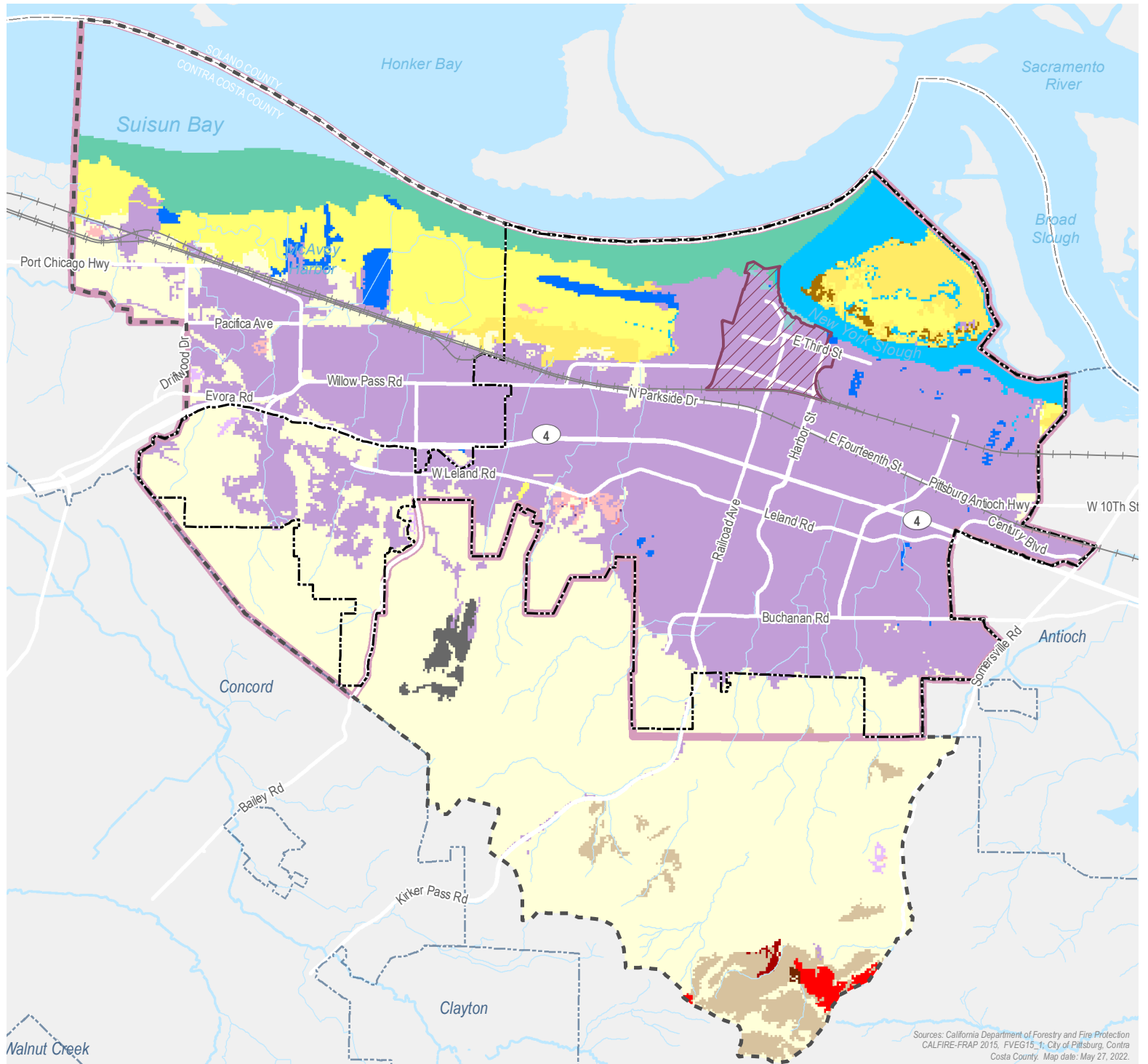
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Figure 3.4-1:

# WILDLIFE-HABITAT RELATIONSHIP COVER TYPES

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Subarea
- Neighboring City
- Tree-Dominated Habitats**
  - Blue Oak Woodland
  - Valley Foothill Riparian
  - Montane Hardwood
- Shrub-Dominated Habitats**
  - Chamise-Redshank Chaparral
  - Coastal Scrub
- Herbaceous-Dominated Habitats**
  - Annual Grassland
  - Fresh Emergent Wetland
  - Saline Emergent Wetland
- Aquatic Habitats**
  - Marsh
  - Estuarine
  - Lacustrine
  - Riverine
- Non-Vegetated Habitats**
  - Open Water
  - Barren
- Developed Habitats**
  - Irrigated Hayfield
  - Urban
  - Evergreen Orchard
  - Dryland Grain Crops
  - Vineyard



Sources: California Department of Forestry and Fire Protection CALFIRE-FRAP 2015, FVEG15\_1, City of Pittsburg, Contra Costa County. Map date: May 27, 2022.

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Figure 3.4-2:

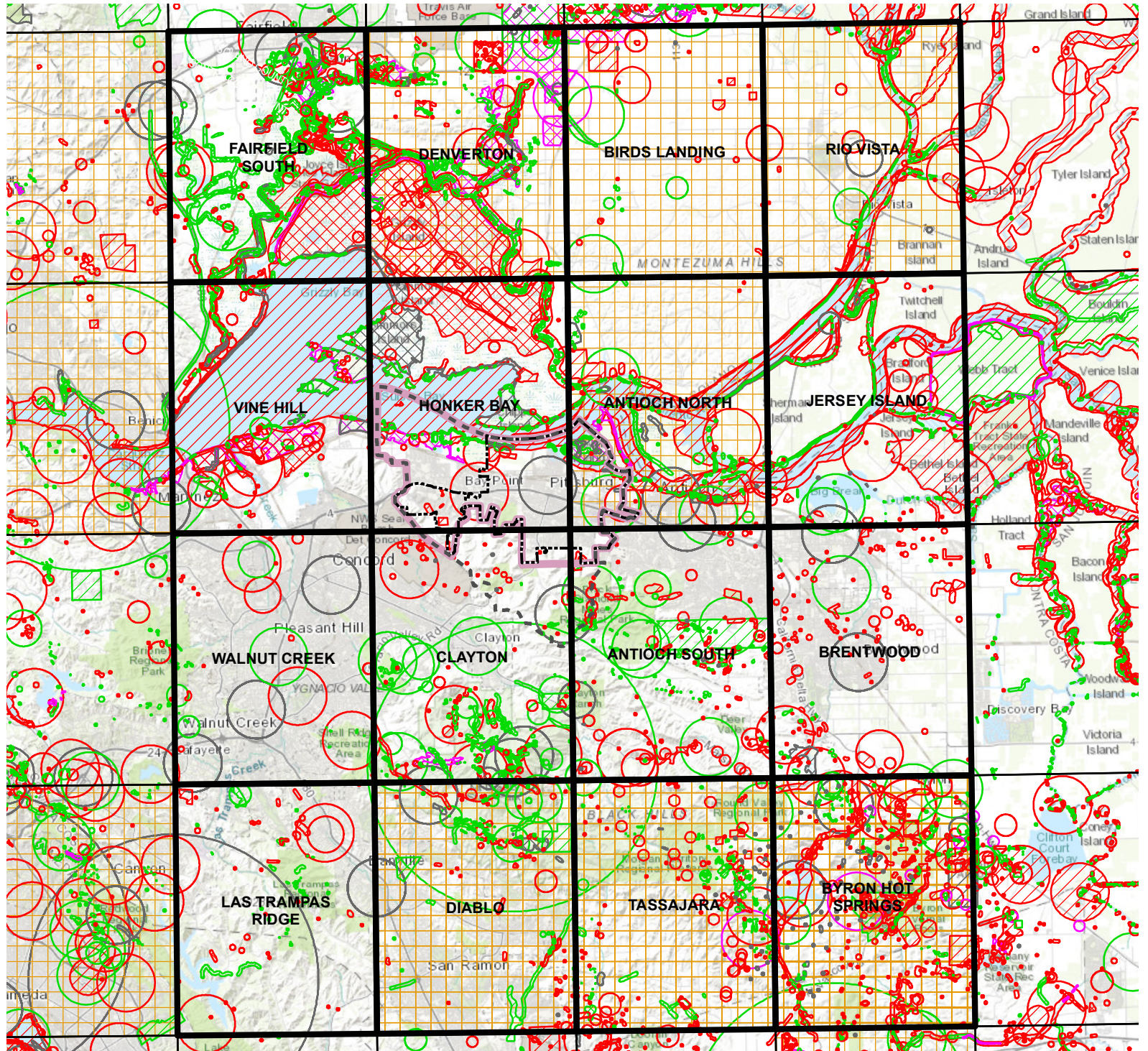
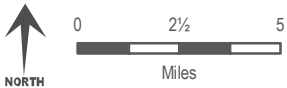
# CALIFORNIA NATURAL DIVERSITY DATABASE 9-Quad Search\*

\* 9-quad search has been extended to 16 quads, as the project area lies within four adjacent USGS quadrangles.

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- USGS 7.5' Quadrangle
- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive Environmental Occurrence

Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.



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Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the city's cultural heritage should be considered when planning for the future.

This section provides a background discussion of the prehistory, ethnology, historical period background, and cultural resources found in Pittsburg. This section is organized with an existing setting, regulatory setting, and impact analysis.

There were no comments received during the NOP comment period related to this environmental topic.

## KEY TERMS

The following key terms are used throughout this section to describe cultural and tribal resources and the framework that regulates them:

**Archaeology.** The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

**Ethnography.** The study of contemporary human cultures.

**Complex.** A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

**Midden.** A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

### 3.5.1 ENVIRONMENTAL SETTING

#### PREHISTORY

It is presumed that the early period of prehistory reflected a material culture and way of life similar to the Borax Lake Pattern, although no good examples of this cultural expression are known in the region. Under this assumption, the way of life of the earliest occupants would have been a forager strategy based on considerable population movement, probably on an annual cycle. Other interpretations are possible, however, since no sites in the area are securely dated to the period before 8,000 Before Christ (BC).

The Early Holocene (or Lower Archaic) dated to 3,500 to 8,000 BC appears to involve a generalized forager settlement pattern. This involves a great deal of mobility within a circumscribed range and exploitation of whatever foods are available. Few components of this age known in the region, and as a result, there is relatively little detail available.

The Early Period (Middle Archaic) is dated to 500 to 3,500 BC. This marks the introduction of cut bead technology, which was increasingly important in the economy through the rest of regional prehistory and is associated with a more sedentary settlement pattern and a burial pattern with



## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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ornaments as grave goods, increased trade volume and the development of large shell mounds along the bay margins.

The Lower Middle Period (Initial Upper Archaic), 500 BC to 430 Anno Domini (AD), is marked by a rather sudden shift in favored bead types. Rectangular *Olivella* beads, common over a wide area in the Early Period, disappeared altogether.

In the Upper Middle Period (Late Upper Archaic), 430 to 1,050 AD, another sudden and widespread change in bead typology occurred. This probably represents a collapse of the trade network established in the previous period. Many of the sites occupied in the previous period are abandoned, and a new burial pattern, the Meganos complex, spread through the East Bay region.

The Initial Late Period (Lower Emergent) is essentially an intensification of the previous period. From 1,050 to 1,550 AD, the degree of complexity and artistry shown in wealth items increases; there appear to be separate burial modes for wealthy individuals in some areas and, in general, status ascription is more obvious in the archeological record.

The Terminal Late Period sees a collapse in the characteristics of the cultural climax achieved in the Initial Late Period. The reasons for this are not clear, but population growth, mass population movement, and diseases spreading north from the Spanish contacts farther south may have played a role. In any event, prehistoric society in the region was beginning to develop in new ways when the Spanish arrived.

### ETHNOLOGY

The Linguistic data suggest that the Miwok have resided in the delta of the Sacramento and San Joaquin rivers for approximately 2,500 years. The Bay Miwok occupied an area south of the Sacramento River, including portions of Contra Costa County east of present-day Walnut Creek. The Bay Miwok were defined based on linguistic affinity. The smaller subdivisions of Bay Miwok that interacted more commonly are called tribelets. The tribelet that controlled the Pittsburg vicinity at the time of Euro-American contact was *Chupcan*.

Along the river to their east were the *Julpun*, near present-day Antioch, and to the west were the *Karkin*, who spoke a completely different language. The pre-contact population of the *Chupcan* was undoubtedly greater than the 103 persons counted in mission baptismal records. In 1776, for instance, Juan Bautista de Anza's expedition visited a village near Antioch, presumably the main village of the *Chupcan*, with a population estimated at 400 persons. This implies that only 25 percent of the villagers were baptized. If the same proportion held true for other Bay Miwok villages, the total for the group probably was about 1,275 persons before contact.

Bay Miwok situated their villages on elevations above the seasonal marshes. Father Jose Viader described the summer flooding of the rivers and said that "at that time the wild Indians live on a few small elevations". Sherburne Cook categorized these elevations as two types:

*(1) small, scattered mounds formed of residual calcareous sand (the so-called "sand mounds") on the summits of which the Indians established their villages;*



*(2) true habitation mounds, perhaps originally situated on a slight elevation, but built up by midden deposit to a height of several feet.*

Large, multi-lineage villages situated along waterways were occupied throughout the year except during the autumn acorn harvest. Single extended families occupied domed houses that were covered with tule mats and grass thatch. Wealthy men sometimes built semi-subterranean lodges. The Miwok also constructed assembly houses in the major villages and round, earth-covered semi-subterranean sweatshouses used by men.

The Delta environment provided abundant food sources for the Miwok, including grasses, berries, and other plants; fish and waterfowl, and herds of elk and deer. Their economy was based primarily on gathering plant foods. Fishing and hunting waterfowl and mammals were subsidiary subsistence activities. The Miwok relied on the acorn as a staple in their diet. Valley oak trees yielded large crops, and the Miwok presumably gathered other acorn varieties as well. Women ground the acorns into a meal that they cooked as a gruel. The Bay Miwok supplemented this food by collecting seeds, nuts, roots, berries, and greens. The Miwok organized communal activities, such as hunting drives and fishing with nets and weirs. Salmon were seasonally plentiful. Father Viader observed Indians with large catches of fish (Cook 1960:258). Individual hunting skills may have been weakly developed. Although the Miwok used sinew-back bows and a variety of arrows, they often chose to run down their game and, after contact, many found it easier to steal horses and cattle than to rely on hunting game. Birds, rodents, and other small mammals apparently took a place in the Miwok diet more consistently than did deer, elk, or antelope.

The Miwok manufactured many specialized tools and utilitarian implements for subsistence activities, and they also excelled in crafting artistically decorated baskets, ornaments, clothing, and ceremonial items. Men made baked clay net weights that were used for bird hunting and fishing, tule duck decoys, and ceremonial baked clay effigies. They created shell ornaments and bone ear decorations and feather-belts for the women. Men also made string and cords for nets and wove feather-cloaks and rabbit-skin blankets. Women twined and coiled baskets that they decorated with quail plumes and beads, and they also fashioned plainer basketry utensils, tule mats, cradles, waist aprons, and clay cooking stones.

Religious ceremonies and rituals marked birth, puberty and marriage. Ceremonies for the dead were the most elaborate observances. The Miwok ornamented the corpse and wrapped it in a tule mat. Common people buried their dead simply, while wealthy families set the corpse on fire and then burned baskets and other mortuary gifts before the grave was filled. Guests feasted and engaged in ritual gift exchange and public displays of grief. The Miwok burned a house when its owner died and burned or abandoned a village when its headman died.

In 1774, the first Bay Miwok converts were recorded at Mission San Francisco, although most of the Bay Miwok neophytes were taken to Mission San Jose. Some of those who escaped the rigid life at the missions hid in the tule marshes and sought protection from extant villages; but Spanish expeditions used military force to recapture runaways and discourage the villagers from harboring fugitives (Cook 1960:258-259). The last Bay Miwok baptisms were recorded in 1827.

Subsequently, the original tribal groups lost their identity, it has been suggested, by joining more distant tribes or because they were decimated by disease.

## HISTORIC PERIOD BACKGROUND

The first introduction of Hispanic peoples into the area of modern Contra Costa County was accomplished by Pedro Fages, who toured the country with twelve soldiers an Indian guide and Father Juan Crespí, in the spring of 1772. This expedition was followed in 1776 by a party led by Captain Juan Bautista de Anza that generally followed along the same route from San Francisco Bay to the Carquinez Straits, continued toward the interior and passed somewhere east of Mt. Diablo. At the start of this era, California's native population was estimated to be approximately 310,000. By the end of this era, California's native population had been reduced to a figure estimated between 200,000 and 250,000.

A borderland province, California, remained on the frontier periphery of the European-based system of mercantile capitalism during this era. The Franciscan order of missionary priests served as the principal agency of Spain's imperial expansion into Alta California. The Franciscan missions became centers for the introduction of Hispano-European agriculture, bringing to Alta California a wide assortment of exotic food plants, weeds, and domestic animals that quickly became established and began an ecological transformation of the countryside. In districts claimed by the missions, this ecological transformation was accelerated by the reallocation of water resources and the introduction of primitive irrigation techniques.

In areas colonized by the missionaries, the drastic impact of ecological change severely undercut the traditional domestic economy of native societies, especially with the depletion or destruction of native food resources by cattle, horses, sheep, and feral swine. Through the displacement of native groups and the penetration of introduced plants and animals into more distant areas, this impact spread outward from the mission sites in a widening circle of effect.

After the 1821 Mexican Revolution, the Franciscan order faced an increasingly strong challenge to its hegemony over the converted tribes and the landed resources of Hispanic California. Amid substantial political and religious controversy, the mission system remained intact through the first decade of independence, but after 1834, the missions were secularized and Franciscan control phased out. The largest part of the mission landholdings came into the hands of opportunistic Spanish colonists, including many retired soldiers and sons of soldiers, who became leaders in developing a hacienda system built around a frontier ranching economy that came to characterize Mexican California during the late 1830s and the 1840s.

Colonel Jonathan Stevenson came to California by sea in 1847, bringing the First Regiment of the New York Volunteers. In 1849, Stevenson purchased the Mexican land grant, Rancho Los Medanos, from the original grantees, José Antonio Mesa and José Miguel García. Stevenson laid out the city "New York of the Pacific" on his rancho at the spot now occupied by Pittsburg. Stevenson had high hopes that his town would develop into a major prosperous seaport, and even hoped to have the state capital located here in 1850, losing that honor to Vallejo.

Coal had been discovered in Contra Costa County as early as 1848. In the late 1850s, several large veins were discovered in the hills in the Pittsburg region, and large-scale operators opened mines, worked by Welsh miners. The towns of Somersville, Nortonville, and Stewartsville grew up near the mines, with roads opened up to New York Landing. A railroad line connected the mining district with Pittsburg Landing at the mouth of the San Joaquin River. The community that served as a busy port for the coal shipment was called Black Diamond.

Railroad lines were also constructed to bring the coal to the landings along the Suisun Bay. The first slump in mining activities occurred in 1878, with most of the coal mines shut down and towns deserted by 1885. There was some excitement over the possibility of the reopening of mining efforts in the 1920s, and in 1932, some of the mines of Nortonville were worked again, with the coal given to the poor and unemployed individuals in the region.

The location of the town on Suisun Bay provided great opportunities for economic development with good water transportation. Railroad lines were built to provide connections with other marketplaces. The fisheries became an early important industry, with canning of the fish and local produce also important industries. Other major commercial industries located along the waterfront included the Redwood Manufacturing Company, Columbia Steel Mill, Pioneer Rubber Mills, Johns-Manville and many others. Other industries in the region included ranching in the in the uplands.

Commercial fishing brought many to the Pittsburg area, beginning in the 1860s. One group came to the area in great numbers—Italians from Sicily. As with much of the settlement of the United States, chain migration occurred with success in local industries drawing relatives and other immigrants from countries and regions with the same industries. Commercial fishing ended in the late 1950s.

The town began to grow with the advent of the industries, and stores and other commercial buildings began to be built in the downtown core. The City was officially incorporated in June 1903. The name of the community of Black Diamond was changed to Pittsburg, in 1911. The area from 3<sup>rd</sup> Street to 6<sup>th</sup> Street between Black Diamond and Cumberland Streets in Pittsburg, consisting of buildings dating between 1914 and 1930, became designated a historical district in 1981, as the “New York Landing Historical District.”

After World War II started, the U.S. Army determined the need for a base for staging personnel and materials to be sent to overseas operations. Grazing land in Pittsburg was selected for the development of Camp Stoneman, with construction beginning February 1942. The base was utilized throughout the war, and for a few years following until the War’s end, processing discharges. Camp Stoneman was also used during the Korean conflict from 1950 to 1953. Camp Stoneman closed in 1954, with the barracks torn down and the land sold back to the City, with only a few storage buildings remaining intact. The closing of the Camp Stoneman appears to have contributed to the decline of business in the City’s downtown.

The growth of the Bay Area in the last two decades has brought many changes to the Pittsburg region, including residential and commercial development.

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

### CULTURAL RESOURCES IN THE PITTSBURG PLANNING AREA

#### California Historic Resources Inventory System

According to files maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), 137 cultural resources have been identified within the Planning Area. The 137 recorded cultural resources span both the prehistoric and historic periods and range from Native American village sites and rock art panels to historic period railroads, boat landings, schools, buildings, and single-family homes (see Table 3.5-1). Of the resources listed in Table 3.5-1, there are two properties listed on the National Register of Historic Places<sup>1</sup> or California Register of Historic Places within the Planning Area: Contra Costa Canal and Black Diamond Mines and there are two identified districts: New York Landing/Pittsburg Historic District and Black Diamond Mines District.

**TABLE 3.5-1: RESOURCES LISTED WITH THE NORTHWEST INFORMATION CENTER FILE DIRECTORY**

PROPERTY #	ADDRESS	TYPE	NAME
<i>PREHISTORIC PERIOD</i>			
P-07-000220 (CA-CCO-000437)	Not Listed	Resource Collection Area	Not Listed
P-07-000271 (CA-CCO-000500)	Not Listed	Habitation Area, Rock Art	Bailey Road Landfill Site
P-07-000272 (CA-CCO-501)	Not Listed	Habitation Area	Not Listed
P-07-000374 (CA-CCO-000609)	Not Listed	Rock Art	Not Listed
P-07-000519	Not Listed	Isolated Artifact	Not Listed
C-127	Not Listed	Rock Art	Not Listed
C-1149	Highlands School	Isolated Artifact	Not Listed
P-07-003086 (CA-CCO-000819)	Not Listed	Lithic Scatter	Not Listed
P-07-000865	Not Listed	Rock Art	Not Listed
<i>HISTORIC PERIOD</i>			
P-07-000273 (CA-CCO-502H)	Not Listed	Mining Feature	Not Listed
P-07-000402 (CA-CCO-000638H)	Not Listed	Educational Building Site	Nichols School
P-07-000403 (CA-CCO-000639H)	Not Listed	Industrial Site	Getty Oil Nichols Pumping Station
P-07-000436 (CA-CCO-000570H)	Not Listed	Ranch Complex	Faria Ranch Headquarters Site
P-07-000437 (CA-CCO-000571)	Not Listed	Single Family Property, Outbuildings	Antone Faria House
P-07-000487	Not Listed	Water Conveyance Feature	Los Medanos Waterway, Contra Costa Canal Spillway

<sup>1</sup> U.S. National Park Service. National Register of Historic Places. Available at: [www.nationalregisterofhistoricplaces.com](http://www.nationalregisterofhistoricplaces.com)

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>TYPE</i>	<i>NAME</i>
P-07-000489 (CA-CCO-843H)	Not Listed	Railway	Oakland, Antioch & Eastern Railway, Sacramento Northern Railway
P-07-000504	Not Listed	Railroad	Southern Pacific: Northern Contra Costa Route
P-07-000520 (CA-CCO-000713H)	Not Listed	Ranch Complex Site	Alvernaz Ranch Complex
P-07-000524	110 North Broadway Avenue, Bay Point	Single Family Property	110 North Broadway Avenue
P-07-000525	53 Solano Avenue, Bay Point	Single Family Property	53 Solano Avenue
P-07-000526	166 Solano Avenue, 167 Poinsettia Avenue, Bay Point	Single Family Property	188 Solano Avenue, 167 Poinsettia Avenue
P-07-000527	57 Poinsettia Avenue, Bay Point	Single Family Property	57 Poinsettia Avenue
P-07-000528	62 Poinsettia Avenue, Bay Point	Single Family Property	62 Poinsettia Avenue
P-07-000529	117 Poinsettia Avenue, Bay Point	Single Family Property	117 Poinsettia Avenue
P-07-000530	127 Poinsettia Avenue, Bay Point	Single Family Property	127 Poinsettia Avenue
P-07-000531	53 Fairview Avenue, Bay Point	Single Family Property	53 Fairview Avenue
P-07-000761 (CA-CCO-000715H)	Not Listed	Industrial Site	Pacific Coast Stone Company Site, Columbia Steel Clarifier & Substation Site
P-07-000806 (CA-CCO-000732H)	Not Listed	Railroad	Atchison, Topeka & Santa Fe Railroad
P-07-000813 (CA-CCO-000733H)	Not Listed	Railroad	Southern Pacific: Northern Contra Costa Spur Line
P-07-000814	967 Carpino Way, Pittsburg	Single Family Property	967 Carpino Way, Evans Residence
P-07-000815	959 Carpino Way, Pittsburg	Single Family Property	959 Carpino Way, Johnson Residence
P-07-000816	953 Carpino Way, Pittsburg	Single Family Property	953 Carpino Way, McKennon Residence
P-07-000817	947 Carpino Way, Pittsburg	Single Family Property	947 Carpino Way
P-07-000817	947 Carpino Way, Pittsburg	Single Family Property	N/A
P-07-000817	947 Carpino Way, Pittsburg	Single Family Property	N/A
P-07-000818	941 Carpino Way, Pittsburg	Single Family Property	941 Carpino Way, Brown Residence
P-07-000819	935 Carpino Way, Pittsburg	Single Family Property	935 Carpino Way, Nathan Brown Residence
P-07-000820	929 Carpino Way, Pittsburg	Single Family Property	929 Carpino Way, Nichols Residence

## 3.5

## CULTURAL AND TRIBAL CULTURAL RESOURCES

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>TYPE</i>	<i>NAME</i>
P-07-000821	923 Carpino Way, Pittsburg	Single Family Property	923 Carpino Way, Jack Residence
P-07-000822	919 Carpino Way, Pittsburg	Single Family Property	919 Carpino Way, Lawson Residence, Fuller Residence
P-07-000823	913 Carpino Way, Pittsburg	Single Family Property	913 Carpino Way, Moore Residence
P-07-000824	907 Carpino Way, Pittsburg	Single Family Property	907 Carpino Way
P-07-000825	875 El Pueblo Avenue, Pittsburg	Single Family Property	875 El Pueblo Avenue
P-07-000826	950 El Pueblo Avenue, Pittsburg	Educational Building Complex	950 El Pueblo Avenue*, Martin Luther King Elementary School, El Pueblo Elementary School
P-07-000827	1501 Loveridge Road, Pittsburg	Industrial Building	1501 Loveridge Road, Columbia-Geneva Steel Company Plant
P-07-000828	1600 Loveridge Road, Pittsburg	Industrial Building	1600 Loveridge Road
P-07-000829	283 Diane Avenue, Pittsburg	Church	283 Diane Avenue, First Church of Christ
P-07-000830	263 Diane Avenue, Pittsburg	Commercial Building	263 Diane Avenue, Biltmore Market
P-07-000831	255 Diane Avenue, Pittsburg	Single Family Property	255 Diane Avenue. Sedrich Residence
P-07-000832	243 Diane Avenue, Pittsburg	Single Family Property	243 Diane Avenue, Little Residence, Thames Residence
P-07-000833	231 Diane Avenue, Pittsburg	Single Family Property	231 Diane Avenue, McCoy Residence
P-07-000834	223 Diane Avenue, Pittsburg	Single Family Property	223 Diane Avenue, Saguindel Residence, Moore Residence
P-07-000835	213 Diane Avenue, Pittsburg	Single Family Property	213 Diane Avenue, Page Residence
P-07-000836	201 Diane Avenue, Pittsburg	Single Family Property	201 Diane Avenue, Blackmon Residence
P-07-000840	Not Listed	Public Utility Building	Mallard Slough Pump Station
P-07-000864	Not Listed	Industrial Building Site	Redwoods Manufacturing Facility*
P-07-000869	Not Listed	Industrial Building, Commercial Building	Diablo Services Corporation*, Ultramar Corporation
P-07-001093	371 Railroad Avenue, Pittsburg	Commercial Building	California Theatre, 371 Railroad Avenue

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>TYPE</i>	<i>NAME</i>
P-07-001114	Not Listed	District	New York Landing, Pittsburg Historic District. New York Landing Historic District
P-07-001118	Not Listed	Railroad Depot	Sacramento Northern Railroad Depot*, Early Electric Railroad
P-07-001292 (National Register Number #9100125)	Not Listed	Mines, Buildings, District	Black Diamond Mines, Black Diamond Regional Preserve
P-07-001920	Not Listed	Engineering Structure	Shell Chemical Electric Utility Towers
P-07-001921	240 School Street	Educational Building Complex	Pittsburg High School
P-07-001922	105, 107, 541-553 Bliss Avenue, Pittsburg	Military Property	Camp Stoneman Warehouses
P-07-001936	2099 Railroad Avenue, Pittsburg	Commercial Building	2099 Railroad Avenue*
P-07-001959	183 Victory Avenue, Pittsburg	Single Family Property	193 Victor Avenue
P-07-002016	296 MacArthur Avenue, Pittsburg	Single Family Property	296 MacArthur Avenue
P-07-002323	1461 Loveridge Road, Pittsburg	Military Property	Pittsburg X-Ray Facility
P-07-002498	Not Listed	Bridge	Caltrans Bridge #28-0094
P-07-002499	150-162 Harbor Court, Pittsburg	Military Property	Camp Stoneman Warehouse and Bunker
P-07-002500	Not Listed	Bridge	Caltrans Bridge #28-0095, Harbor Street Overcrossing
P-07-002501	920 Power Avenue, Pittsburg	Single Family Property	920 Power Avenue
P-07-002502	395 Andrew Avenue, Pittsburg	Single Family Property	395 Andrew Avenue
P-07-002503	820 Power Avenue, Pittsburg	Single Family Property	820 Power Avenue Ruiz Residence
P-07-002504	776 Power Avenue, Pittsburg	Single Family Property	776 Power Avenue. Ross Residence
P-07-002505	408 Power Avenue, Pittsburg	Single Family Property	408 Power Avenue Iniquez Residence
P-07-002506	367 Jimno Avenue, Pittsburg	Single Family Property	367 Jimmo Avenue Ternes Residence
P-07-002507	338 Power Avenue, Pittsburg	Multiple Family Property	338 Power Avenue Oliveri Property
P-07-002508	296 Power Avenue, Pittsburg	Multiple Family Property	296 Power Avenue Pandi Property
P-07-002509	292 Power Avenue, Pittsburg	Multiple Family Property	292 Power Avenue Siino Property
P-07-002510	99 Power Avenue, Pittsburg	Military Property	National Guard Armory

## 3.5

## CULTURAL AND TRIBAL CULTURAL RESOURCES

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>TYPE</i>	<i>NAME</i>
P-07-002564 (CA-CCO-000747H)	Not Listed	Road Segment	Not Listed
P-07-002565 (CA-CCO-000748H)	Not Listed	Road Segment	Not Listed
P-07-002566	4723 Suzanne Road, Pittsburg	Ranch Complex	Warren and William Abrams Ranch Complex, Wayne Thomas Ranch
P-07-002573	3865 Railroad Avenue, Pittsburg	Commercial Building	Fort Knox Storage
P-07-002598	Not Listed	Industrial Structures	Standard Oil Los Medanos Tank Farm
P-07-002648	Not Listed	Bridges	Contra Costa Canal Bridges
P-07-002695 (National Register Number #07-0055)	Not Listed	Canal	Contra Costa Canal
P-07-002743	875 El Pueblo Avenue, Pittsburg	Multiple Family Property	El Pueblo Public Housing
P-07-002745	56 Mountain View Avenue, Bay Point	Single Family Property	56 Mountain View Avenue
P-07-002751	Not Listed	Ranch Complex	Alves Ranch
P-07-002762	543-544 Clark Avenue, Pittsburg	Military Property	Camp Stoneman Buildings 543 and 544
P-07-002763	545 Bliss Avenue, Pittsburg	Military Property	Camp Stoneman Building 545, Central Valley Tire Service
P-07-002764	546-547 Bliss Avenue, Pittsburg	Military Property	Camp Stoneman Buildings 546 and 547, Black Diamond Electric
P-07-002765	548-549 Bliss Avenue, Pittsburg	Military Property	Camp Stoneman Buildings 548-549, Tri Point Inc., Custom Woodworking
P-07-002766	552-553 Clark Avenue, Pittsburg	Military Property	Camp Stoneman Building 553
P-07-002767	555-556 Clark Avenue	Military Property	Camp Stoneman Buildings 555 and 556
P-07-002768	557 Clark Avenue, Pittsburg	Military Property	Camp Stoneman Building 557, Western Metal Decorating Company
P-07-002770	Not Listed	Engineering Structure	Kirker Creek Culvert
P-07-002771	Not Listed	Engineering Structure	Loveridge Road Overcrossing Structures
P-07-002772	Not Listed	Engineering Structure	PG&E South Tower- Contra Costa Transmission Line
P-07-002773	Not Listed	Engineering Structure	Utilities Undercrossing
P-07-002774	Not Listed	Bridge	Century Boulevard Utilities Undercrossing
P-07-002775	Not Listed	Engineering Structure	Los Medanos Wasteway & Culvert



<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>TYPE</i>	<i>NAME</i>
P-07-002777	2727-2731 Pittsburg Antioch Highway, Pittsburg	Motel Industrial Building	Hemstocks Motor Court, Motor Court Motel, Rainbow Motel and Apartments, The Casa Medanos
P-07-002778	2717 Pittsburg Antioch Highway, Pittsburg	Industrial Building	2717 Pittsburg Antioch Highway
P-07-002779	2707 Pittsburg Antioch Highway, Pittsburg	Industrial Building	2707 Pittsburg Antioch Highway
P-07-002956	Not Listed	Engineering Structure	Pittsburg Tesla Transmission Line
P-07-002986	591 Bailey Road, Pittsburg	Single Family Property	591 Bailey Road*
P-07-002987	605-615 Bailey Road, Pittsburg	Single Family Property	605-615 Bailey Road*
P-07-002988	671 Bailey Road, Pittsburg	Single Family Property	671 Bailey Road*
P-07-003054	Not Listed	Dump	Not Listed
P-07-003055	Not Listed	Landscaping	Not Listed
P-07-003056	Not Listed	Landscaping	Not Listed
P-07-003057	Not Listed	Fence	Not Listed
P-07-003058	Not Listed	Engineering Structure	Not Listed
P-07-003059	Not Listed	Ranch Feature	Not Listed
P-07-003060	Not Listed	Trash Scatter	Not Listed
P-07-003061	Not Listed	Industrial Building	Not Listed
P-07-003062	Not Listed	Reservoir	Not Listed
P-07-003075	Not Listed	Engineering Structure	Not Listed
P-07-004536	Not Listed	Ranch Site	Lowry Ranch Site
P-07-004631	520 Pacifica Avenue, Bay Point	Single Family Property	520 Pacifica Avenue
P-07-004688	Not Listed	Engineering Structure	Contra Costa Moraga Transmission Line PG&E CC-Moraga 230kV Transmission Line
P-07-004702	985 W. 17 <sup>th</sup> Street, Pittsburg	Educational Building	Parkside Elementary School
P-07-004705	1300 Loveridge Road, Pittsburg	Public Utility Building	Mt. Diablo Recycling Center
P-07-004736	Not Listed	Machinery (Windmill Site)	Not Listed
P-07-004747	Not Listed	Ranch	Alvernaz Ranch Complex District
P-07-004748	Not Listed	Ancillary Building	Alvernaz Ranch Complex Feed Shed
P-07-004749	Not Listed	Bridge	Alvernaz Ranch Complex Foot Bridge
P-07-004750	Not Listed	Single Family Property	Alvernaz Ranch Complex House #2
P-07-004751	Not Listed	Single Family Property	Alvernaz Ranch Complex House #1
P-07-004819	3059 Century Boulevard, Pittsburg	Engineering Structure	PG&E Lattice Tower

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

PROPERTY #	ADDRESS	TYPE	NAME
P-07-004820	111 Manor Drive, Pittsburg	Engineering Structure	PG&E Lattice Tower Manor- Bay Point
P-07-004825	761 Port Chicago Highway, Pittsburg	Commercial Building	Interlake Packaging Inc
P-07-004847	Not Listed	Single Family Property Commercial Building	High School Village

\* BUILDING NO LONGER PRESENT ACCORDING TO VINCENT FERRANTE, PITTSBURG HISTORICAL SOCIETY

SOURCE: NORTHWEST INFORMATION CENTER (NWIC) OF THE CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM (CHRIS), MAY 17, 2019.

The Contra Costa County Historic Property Data File Directory identified 224 additional built resources within the Planning Area (see Table 5.1-2).

**TABLE 3.5-2: BUILDINGS LISTED ON THE CONTRA COSTA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY**

PROPERTY #	ADDRESS	YEAR BUILT	NAME
177775	25 Anchor Drive, Bay Point	1952	Not Listed
179007	88 Beach Drive, Bay Point	1952	Not Listed
139486	284 Cleveland Avenue, Bay Point	1940	Not Listed
136065	74 Hill Street, Bay Point	Not Listed	Not Listed
186571	52 Inlet Drive, Bay Point	1952	Not Listed
154341	248 Madison Avenue, Bay Point	1942	Not Listed
169379	154 Manor Drive, Bay Point	1947	Not Listed
150538	161 Marys Avenue, Bay Point	1942	Not Listed
141891	10 Mountain View Avenue, Bay Point	1925	Not Listed
136072	91 Mountain View Avenue, Bay Point	1940	Not Listed
136073	434 Pacifica Avenue, Bay Point	1953	Not Listed
169878	536 Shore Road, Bay Point	1957	Not Listed
177401	49 Surf View Drive, Bay Point	1956	Not Listed
136405	50 Surf View Drive, Bay Point	1951	Not Listed
165770	52 Wharf Drive, Bay Point	1953	Not Listed
146721	3105 Willow Pass Road, Bay Point	1941	Not Listed
164367	2112 Abbot Avenue, Pittsburg	1956	Not Listed
167243	2105 Abbot Avenue, Pittsburg	1956	Not Listed
107238/P# 07-002028	109 Army Street, Pittsburg	1943	Not Listed
107239/P# 07-002029	115 Army Street, Pittsburg	1943	Not Listed
107240/P# 07-002030	118 Army Street, Pittsburg	1943	Not Listed
107241/P# 07-002031	121 Army Street, Pittsburg	1943	Not Listed
107242/P# 07-002032	124 Army Street, Pittsburg	1943	Not Listed
107244/P# 07-002034	136 Army Street, Pittsburg	1943	Not Listed
107245/P# 07-002035	141 Army Street, Pittsburg	1943	Not Listed
107246/P# 07-002036	142 Army Street, Pittsburg	1943	Not Listed

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>YEAR BUILT</i>	<i>NAME</i>
107247/P# 07-002037	148 Army Street, Pittsburg	1943	Not Listed
107248/P# 07-002038	149 Army Street, Pittsburg	1943	Not Listed
106963/P# 07-001963	104 Avon Street, Pittsburg	1943	Not Listed
106964/P# 07-001964	111 Avon Street, Pittsburg	1943	Not Listed
106965/P# 07-001965	112 Avon Street, Pittsburg	1943	Not Listed
106966/P# 07-001966	119 Avon Street, Pittsburg	1943	Not Listed
106967/P# 07-001967	120 Avon Street, Pittsburg	1943	Not Listed
106968/P# 07-001968	127 Avon Street, Pittsburg	1943	Not Listed
106969/P# 07-001969	128 Avon Street, Pittsburg	1943	Not Listed
106970/P# 07-001970	135 Avon Street, Pittsburg	1943	Not Listed
106971/P# 07-001971	136 Avon Street, Pittsburg	1943	Not Listed
106972/P# 07-001972	143 Avon Street, Pittsburg	1943	Not Listed
106973/P# 07-001973	144 Avon Street, Pittsburg	1943	Not Listed
106974/P# 07-001974	151 Avon Street, Pittsburg	1943	Not Listed
106975/P# 07-001975	152 Avon Street, Pittsburg	1943	Not Listed
106976/P# 07-001976	160 Avon Street, Pittsburg	1943	Not Listed
106977/P# 07-001977	168 Avon Street, Pittsburg	1943	Not Listed
106978/P# 07-001978	173 Avon Street, Pittsburg	1943	Not Listed
106979/P# 07-001979	174 Avon Street, Pittsburg	1943	Not Listed
106980/P# 07-001980	179 Avon Street, Pittsburg	1943	Not Listed
106981/P# 07-001981	180 Avon Street, Pittsburg	1943	Not Listed
106982/P# 07-001982	187 Avon Street, Pittsburg	1943	Not Listed
106983/P# 07-001983	188 Avon Street, Pittsburg	1943	Not Listed
106984/P# 07-001984	195 Avon Street, Pittsburg	1943	Not Listed
087028/P# 07-001762	79 Bayview Avenue, Pittsburg	1933	Not Listed
114009/P# 07-002058	1008 Beacon Street, Pittsburg	Not Listed	Not Listed
114110/P# 07-002059	1014 Beacon Street, Pittsburg	Not Listed	Not Listed
114111/P# 07-002060	1020 Beacon Street, Pittsburg	Not Listed	Not Listed
178405	1054 Beacon Street, Pittsburg	1961	Not Listed
178406	1058 Beacon Street, Pittsburg	1937	Not Listed
150825	1358 Birch Street, Pittsburg	1943	Not Listed
010563/P# 07-001080	Black Diamond Street, Pittsburg	Not Listed	Theater Sites
010562/P# 07-001079	Black Diamond Street, Pittsburg	1900	Santa Fe Railroad Depot
010595/P# 07-001112	510 Black Diamond Street, Pittsburg	1924	Lepori Building
114014/P# 07-002063	890 Black Diamond Street, Pittsburg	Not Listed	Not Listed
010561/P# 07-001078	Black Diamond Way, Pittsburg	Not Listed	Coulter Pine
010564/P# 07-001081	Buchanan Road, Pittsburg	1772	Fages Crespi Turnback Camp
150363	845 Central Avenue, Pittsburg	1941	Not Listed

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## CULTURAL AND TRIBAL CULTURAL RESOURCES

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>YEAR BUILT</i>	<i>NAME</i>
155553	543 Clark Avenue, Pittsburg	1942	Camp Stoneman Buildings 543 and 544
106985/P# 07-001985	155 Clyde Avenue, Pittsburg	1943	Not Listed
106986/P# 07-0019866	156 Clyde Avenue, Pittsburg	1943	Not Listed
106987/P# 07-001987	175 Clyde Avenue, Pittsburg	1943	Not Listed
106988/P# 07-001988	176 Clyde Avenue, Pittsburg	1943	Not Listed
010567/P# 07-001084	Cumberland Street, Pittsburg	1917	Los Medanos Hotel*
010580/P# 07-001097	348 Cumberland Street, Pittsburg	1926	Last Chance Building
010587/P# 07-001104	411 Cumberland Street, Pittsburg	1928	Vieira Building*
145881	325 East 10 <sup>th</sup> Street, Pittsburg	Not Listed	Enean Theatre
010602/P# 07-001119	East 3 <sup>rd</sup> Street, Pittsburg	1926	John Manville Corporation*
010578/P# 07-001095	150 East 3 <sup>rd</sup> Street, Pittsburg	1925	Greenberg Building
073626/P# 07-001324	160 East 3 <sup>rd</sup> Street, Pittsburg	1925	Greenberg Building
010579/P# 07-001096	190 East 3 <sup>rd</sup> Street, Pittsburg	1925	Green Building
010572/P# 07-001089	200 East 3 <sup>rd</sup> Street, Pittsburg	1925	Liberty Hotel
010593/P# 07-001110	10 4 <sup>th</sup> Street, Pittsburg	1922	Burlessas Building
010584/P# 07-001101	124 4 <sup>th</sup> Street, Pittsburg	1920	Wisemans*
010581/P# 07-001098	153 4 <sup>th</sup> Street, Pittsburg	1929	King Parker Building
010582/P# 07-001099	163 4 <sup>th</sup> Street, Pittsburg	1929	King Parker Building
010585/P# 07-001102	190 4 <sup>th</sup> Street, Pittsburg	1923	Aiello Building
010573/P# 07-001090	201 4 <sup>th</sup> Street, Pittsburg	1929	Woolworth Building*
010588/P# 07-001105	East 5 <sup>th</sup> Street, Pittsburg	1930	Post Office Building*
010596/P# 07-001113	24 East 5 <sup>th</sup> Street, Pittsburg	1925	Scampini Building*
181472	441 East 9 <sup>th</sup> Street, Pittsburg	1927	Not Listed
181470	446 East 9 <sup>th</sup> Street, Pittsburg	1934	Not Listed
087636/P# 07-001769	449 East 9 <sup>th</sup> Street, Pittsburg	1936	Not Listed
181471	454 East 9 <sup>th</sup> Street, Pittsburg	1927	Not Listed
181473	458 East 9 <sup>th</sup> Street, Pittsburg	1927	Not Listed
182450	441 East 9 <sup>th</sup> Street, Pittsburg	1927	Not Listed
182462	458 East 9 <sup>th</sup> Street, Pittsburg	Not Listed	Not Listed
184398	438 East Santa Fe Avenue, Pittsburg	1929	Not Listed
010568/P# 07-001085	Harbor Street, Pittsburg	1942	Camp Stoneman Military Chapel
010599/P# 07-001116	900 Los Medanos Street, Pittsburg	1919	Pittsburg Seventh Day Adventist Church
122619/P# 07-001086	Loveridge Road, Pittsburg	1916	Great Western Electrical Chemical
106996/P# 07-001989	127 Mac Arthur Avenue, Pittsburg	1943	Not Listed
106997/P# 07-001990	139 Mac Arthur Avenue, Pittsburg	1943	Not Listed
106998/P# 07-001991	213 Mac Arthur Avenue, Pittsburg	1943	Not Listed

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>YEAR BUILT</i>	<i>NAME</i>
106999/P# 07-001992	216 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107001/P# 07-001993	217 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107002/P# 07-001994	224 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107003/P# 07-001995	227 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107004/P# 07-001996	232 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107005/P# 07-001997	237 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107006/P# 07-001998	240 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107007/P# 07-001999	243 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107008/P# 07-002000	248 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107009/P# 07-002001	249 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107010/P# 07-002002	253 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107011/P# 07-002003	256 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107012/P# 07-002004	259 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107013/P# 07-002005	263 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107014/P# 07-002006	264 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107015/P# 07-002007	269 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107016/P# 07-002008	272 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107017/P# 07-002009	273 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107018/P# 07-002010	279 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107019/P# 07-002011	280 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107020/P# 07-002012	283 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107021/P# 07-002013	288 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107022/P# 07-002014	289 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107023/P# 07-002015	293 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107025/P# 07-002017	308 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107026/P# 07-002018	316 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107027/P# 07-002019	324 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107028/P# 07-002020	332 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107029/P# 07-002021	340 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107030/P# 07-002022	348 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107031/P# 07-002023	356 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107032/P# 07-002024	364 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107033/P# 07-002025	372 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107034/P# 07-002026	380 Mac Arthur Avenue, Pittsburg	1943	Not Listed
107035/P# 07-002027	396 Mac Arthur Avenue, Pittsburg	1943	Not Listed
067122/P# 07-001259	39 Madison Avenue, Pittsburg	Not Listed	Not Listed
081922/P# 07-001743	80 Mountain View Avenue, Pittsburg	1923	Not Listed
081921/P# 07-001742	84 Mountain View Avenue, Pittsburg	1923	Not Listed
010565/P# 07-001082	Nortonville Road, Pittsburg	1850	Mine Shafts

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## CULTURAL AND TRIBAL CULTURAL RESOURCES

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>YEAR BUILT</i>	<i>NAME</i>
010570/P# 07-001087	Nortonville Road, Pittsburg	1850	Latimer Ranch and Home
010566/P# 07-001083	Nortonville Road, Pittsburg	Not Listed	Rose Hill Cemetery
010560/P# 07-001077	Pittsburg-Antioch Highway	1866	Pittsburg Mine Railroad
010598/P# 07-001115	Railroad Avenue, Pittsburg	1942	Camp Stoneman Gates
010574/P# 07-001091	301 Railroad Avenue, Pittsburg	1922	National Block
010589/P# 07-001106	306 Railroad Avenue, Pittsburg	1914	Martinetti Building
010575/P# 07-001092	323 Railroad Avenue, Pittsburg	1924	National Dollar Store
010590/P# 07-001107	324 Railroad Avenue, Pittsburg	1914	Lazio Building
010591/P# 07-001108	356 Railroad Avenue, Pittsburg	1914	Royce Building
010592/P# 07-001109	368 Railroad Avenue, Pittsburg	1914	Demetrakopoulos Building
010577/P# 07-001094	395 Railroad Avenue, Pittsburg	1920	Sols Clothing Store
010583/P# 07-001100	415 Railroad Avenue, Pittsburg	1921	Contra Costa County Bank
010594/P# 07-001111	430 Railroad Avenue, Pittsburg	1921	Bank of America
010586/P# 07-001103	485 Railroad Avenue, Pittsburg	1926	Medico Dental Building
159879	515 Railroad Avenue, Pittsburg	1924	Pittsburg Post Dispatch
010600/P# 07-001117	1301 Railroad Avenue, Pittsburg	1878	Southern Pacific Railroad Cornwall Station*
106923/P# 07-001923	1999 Railroad Avenue, Pittsburg	1943	Not Listed
106924/P# 07-001924	2003 Railroad Avenue, Pittsburg	1943	Not Listed*
106925/P# 07-001925	2011 Railroad Avenue, Pittsburg	1943	Not Listed*
106926/P# 07-001926	2019 Railroad Avenue, Pittsburg	1943	Not Listed*
106927/P# 07-001927	2027 Railroad Avenue, Pittsburg	1943	Not Listed*
106928/P# 07-001928	2035 Railroad Avenue, Pittsburg	1943	Not Listed*
106929/P# 07-001929	2043 Railroad Avenue, Pittsburg	1943	Not Listed*
106930/P# 07-001930	2051 Railroad Avenue, Pittsburg	1943	Not Listed*
106931/P# 07-001931	2059 Railroad Avenue, Pittsburg	1943	Not Listed*
106932/P# 07-001932	2067 Railroad Avenue, Pittsburg	1943	Not Listed*
106933/P# 07-001933	2075 Railroad Avenue, Pittsburg	1943	Not Listed*
106934/P# 07-001934	2083 Railroad Avenue, Pittsburg	1943	Not Listed*
106935/P# 07-001935	2091 Railroad Avenue, Pittsburg	1943	Not Listed*
106936/P# 07-001936	2099 Railroad Avenue, Pittsburg	1952	Not Listed*
150362	53 Ramona Street, Pittsburg	1940	Not Listed
077910/P# 07-001737	24 South Bella Monte Avenue, Pittsburg	1933	Not Listed
182835	415 Santa Fe Avenue, Pittsburg	1964	Not Listed
106937/P# 07-001937	104 Victory Avenue, Pittsburg	1943	Not Listed
106938/P# 07-001938	113 Victory Avenue, Pittsburg	1943	Not Listed
106939/P# 07-001939	114 Victory Avenue, Pittsburg	1943	Not Listed
106940/P# 07-001940	117 Victory Avenue, Pittsburg	1943	Not Listed
106941/P# 07-001941	123 Victory Avenue, Pittsburg	1943	Not Listed
106942/P# 07-001942	127 Victory Avenue, Pittsburg	1943	Not Listed

<i>PROPERTY #</i>	<i>ADDRESS</i>	<i>YEAR BUILT</i>	<i>NAME</i>
106943/P# 07-001943	128 Victory Avenue, Pittsburg	1943	Not Listed
106944/P# 07-001944	133 Victory Avenue, Pittsburg	1943	Not Listed
106945/P# 07-001945	134 Victory Avenue, Pittsburg	1943	Not Listed
106946/P# 07-001946	138 Victory Avenue, Pittsburg	1943	Not Listed
106947/P# 07-001947	140 Victory Avenue, Pittsburg	1943	Not Listed
106948/P# 07-001948	143 Victory Avenue, Pittsburg	1943	Not Listed
106949/P# 07-001949	144 Victory Avenue, Pittsburg	1943	Not Listed
106950/P# 07-001951	148 Victory Avenue, Pittsburg	1943	Not Listed
106951/P# 07-001951	149 Victory Avenue, Pittsburg	1943	Not Listed
106952/P# 07-001952	153 Victory Avenue, Pittsburg	1943	Not Listed
106953/P# 07-001953	159 Victory Avenue, Pittsburg	1943	Not Listed
106954/P# 07-001954	160 Victory Avenue, Pittsburg	1943	Not Listed
106955/P# 07-001955	163 Victory Avenue, Pittsburg	1943	Not Listed
106956/P# 07-001956	169 Victory Avenue, Pittsburg	1943	Not Listed
106957/P# 07-001957	173 Victory Avenue, Pittsburg	1943	Not Listed
106958/P# 07-001958	179 Victory Avenue, Pittsburg	1943	Not Listed
106959/P# 07-001959	183 Victory Avenue, Pittsburg	1943	Not Listed
106960/P# 07-001960	184 Victory Avenue, Pittsburg	1943	Not Listed
106961/P# 07-001961	189 Victory Avenue, Pittsburg	1943	Not Listed
106962/P# 07-001962	193 Victory Avenue, Pittsburg	1943	Not Listed
178400	440 West 10 <sup>th</sup> Street, Pittsburg	1945	Not Listed
178401	453 West 10 <sup>th</sup> Street, Pittsburg	1940	Not Listed
178402	461 West 10 <sup>th</sup> Street, Pittsburg	1924	Not Listed
178403	477 West 10 <sup>th</sup> Street, Pittsburg	1931	Not Listed
178404	487 West 10 <sup>th</sup> Street, Pittsburg	1931	Not Listed
010603/P# 07-001120	West 4 <sup>th</sup> Street, Pittsburg	1882	Congregational Church
066735/P# 07-001248	West 6 <sup>th</sup> Street, Pittsburg	Not Listed	Pittsburg Family Living Center
010604/P# 07-001121	West 8 <sup>th</sup> Street, Pittsburg	1925	St. Peter Martyr Church
010605/P# 07-001122	West 8 <sup>th</sup> Street, Pittsburg	1914	Black Diamond Grammar School*
153972	424 West 9 <sup>th</sup> Street, Pittsburg	1929	Not Listed
178394	451 West 9 <sup>th</sup> Street, Pittsburg	1941	Not Listed
178395	457 West 9 <sup>th</sup> Street, Pittsburg	1926	Not Listed
178396	465 West 9 <sup>th</sup> Street, Pittsburg	1962	Not Listed
178397	471 West 9 <sup>th</sup> Street, Pittsburg	1929	Not Listed
114012/P# 07-002061	475 West 9 <sup>th</sup> Street, Pittsburg	1999	Not Listed
114013/P# 07-002062	476 West 9 <sup>th</sup> Street, Pittsburg	Not Listed	Not Listed
178398	483 West 9 <sup>th</sup> Street, Pittsburg	1972	Not Listed
178399	489 West 9 <sup>th</sup> Street, Pittsburg	1972	Not Listed
134213	96 Leland Road, Pittsburg	1952	Not Listed

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

PROPERTY #	ADDRESS	YEAR BUILT	NAME
095504/P# 07-001826	11 Poinsettia Avenue, Bay Point	1935	Not Listed
175909	591 Bailey Road, Pittsburg	1932	Not Listed
175911	605 Bailey Road, Pittsburg	1940	Not Listed
175912	611 Bailey Road, Pittsburg	1929	Not Listed
175913	615 Bailey Road, Pittsburg	1941	Not Listed
175910	671 Bailey Road, Pittsburg	1939	Not Listed

*\*BUILDING NO LONGER PRESENT ACCORDING TO VINCENT FERRANTE, PITTSBURG HISTORICAL SOCIETY*

*SOURCE: CONTRA COSTA COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY, MAY 2019.*

Three additional resources within the Planning Area are identified in the Contra Costa County Community Development Department Historic Resource Inventory (5th Draft Update, 2019) (see Table 5.1-3).

**TABLE 3.5-3: BUILDINGS LISTED ON THE CONTRA COSTA COUNTY COMMUNITY DEVELOPMENT DEPARTMENT HISTORIC RESOURCES INVENTORY (5<sup>TH</sup> DRAFT, 2019)**

RESOURCE (LOCATION)	EVALUATION CATEGORY	SIGNIFICANCE/IMPORTANCE
Southern Pacific Railroad Depot (1291 Railroad Avenue)	Structure of Historical Significance/ Architectural Specimen	An early railroad facility that added to the industrial development of Pittsburg, circa 1878. This two-story frame structure with a varied wall design of shiplap, vertical board and batten, fish scale shingles and decorated brackets accommodated passengers and cargo
Santa Fe Railroad Depot (Black Diamond Street)	Structure of Historical Significance	Transportation needs were changing to the faster railroad facilities for inland travel and depots were built to handle the passengers and cargo, circa 1900.
Sacramento Northern Railroad Depot	Structure of Historical Significance	This railroad line, California's first electric line, inaugurated 1909, provided transportation between the Bay Area and the central valley communities including Sacramento, Woodland, Oroville, Chico, Marysville and Stockton.
Vincent A. Davi Library (80 Power Avenue)	Structure of Historical Significance	Pittsburg's library system began circa 1913. It was housed over the town's firehouse on 5th Street and Railroad Avenue. The new Vincent A. Davi Library named in honor of the late mayor of Pittsburg, opened April 24, 1966, at its present location on Power Avenue.
Congregational Church (West 4th and Montezuma Streets)	Structure of Historical Significance	The Congregational Church was first built in Nortonville for the mining community in 1882. It was moved to Pittsburg in 1884 and is still in use as a church.
Latimer Ranch (Nortonville Road)	Structure of Historical Significance	The home of Leo Latimer, private owner of original patent by Governor Bigler of California. Home was built in 1850.
Los Medanos Hotel	Architectural Specimen	A U-shaped two story stucco structure with decorated wood columns around windows, doors and corners. Balconies are located under windows at the second floor. A molded arch trim of wood surrounds the top structural opening of the windows on the first floor. Main entrance is recessed within an arcade. Built in 1917.
Black Diamond District Old Grammar School (West 8th and	Structure of Historical Significance	This grammar school was built in 1914 for the Black Diamond School District. It also housed high school classes when Pittsburg withdrew from the East County's Riverview Union High School District in 1923.



<i>RESOURCE (LOCATION)</i>	<i>EVALUATION CATEGORY</i>	<i>SIGNIFICANCE/IMPORTANCE</i>
Black Diamond Streets)		
Pittsburg Seventh Day Adventist Church (East 9th and Los Medanos Streets)	Structure of Historical Significance/ Architectural Specimen	The history of this old Congregational Church is closely interwoven with the city’s progress. It was dedicated September 28, 1919 and its red brick grandeur with a crenelated tower, decorated rose windows; stained glass windows and arched main entrance is a unique example of turn of the century architecture and style.
California Theater (Railroad and Central Avenues)	Structure of Historical Significance/ Architectural Specimen	The California Theater is the majestic symbol of the city’s past. The theater provided vaudeville and film entertainment from the era of silent movies to sound and color productions. This architectural structure with red and black tile and traditional theater marquee at the entrance has been proclaimed as a most magnificent theater. Built circa 1925.
Military Chapel Stoneman Park (Harbor Street and Leland Road)	Structure of Historical Significance/ Architectural Specimen	Two military chapels, built in 1942 at Camp Stoneman, are still in use by local congregations, This chapel displays the traditional architectural design associated with military bases built during World War II.
St. Peter Martyr Church (West 8th and Black Diamond Street)	Architectural* Specimen	A two-story high stucco structure with a tiled roof and a belfry tower located at the left of the main entrance. The tower has a narrow semi-circular opening at the top. The main entrance has a molded arch trim over the doorway and a rose window directly above with decorative panels on both sides. Main windows have a semicircular top and are of stained glass. Built in 1925.
Dow Chemical Company (Loveridge Road)	Architectural* Specimen	Production began July 1, 1916 at the Dow Chemical Company’s Pittsburg plant. Owned then by the Great Western Electro-Chemical Company, the Pittsburg plant has grown to become the largest chemical production complex in the Western United States. The plant, which now occupies 450 acres of land and a mile of frontage along the San Joaquin River, was formerly a part of the old Rancho Los Medanos.
Johns Manville Corporation (East 3 <sup>rd</sup> and Harbor Street)	Structure of Historical Significance	The Pittsburg plant of Johns Manville Product Corporation broke ground in 1923 and began production in 1926. The plant occupies a 25-acre site and produces a wide variety of home and industrial products.

SOURCE: CONTRA COSTA COUNTY COMMUNITY DEVELOPMENT DEPARTMENT HISTORIC RESOURCES INVENTORY (5<sup>TH</sup> DRAFT, 2019)

### NATIVE AMERICAN CONSULTATION

Peak & Associates requested a check of the Sacred Lands files through the Native American Heritage Commission (NAHC), in April 2019. NAHC responded on April 25, 2019, indicating that no properties in the vicinity of the Planning Area had been recorded as cultural resources. On May 21, 2019, consultation letters were sent to the Contra Costa Historical Society and the Pittsburg Historical Society & Museum requesting information regarding any concerns about historical resources. The Contra Costa County Historical Society replied on June 4, 2019, noting that they are a private organization with no capability to provide research without compensation. Vincent Ferrante, historian with the Pittsburg Historical Society & Museum, replied and expressed interest in consultation. Tables 3.5-1 through 3.5-3 and the Planning Area map were subsequently provided to Mr. Ferrante. Mr. Ferrante provided additional information on building identification and noted

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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that many of the buildings in the lists were no longer extant. This section reflects Mr. Ferrante's information. In addition, the Pittsburg Historical Society & Museum maintains a list of properties or former locations of properties that their group wish to commemorate in the future with interpretive signage.

Pursuant to SB 18 and AB 52, the City of Pittsburg sent letters on October 5, 2023 via certified mail to 15 representatives of tribal organizations, including all tribal organizations included on the Native American Contact List provided by NAHC in its April 15, 2019 letter. To date, two responses from these 15 Tribal Organizations have been received:

- Confederated Villages of Lisjan Nation (October 25, 2023): The Confederated Villages of Lisjan Nation requested a copy of the final CHRIS search results and Sacred Land File results the proposed 2040 General Plan, the Final EIR when finished, and any additional archeological reports.
- Wilton Rancheria (October 20, 2023): The Wilton Rancheria provided their Inadvertent Discovery Treatment Plan to include in the EIR with Wilton Rancheria as a point-of-contact. They noted that they hope the Treatment Plan can be used as an umbrella for the City to pass on to all construction contractors on how to treat and react to the discovery of any Tribal Cultural Resources.

### 3.5.2 REGULATORY SETTING

#### FEDERAL

##### **National Historic Preservation Act**

Most regulations at the Federal level stem from the National Environmental Policy Act (NEPA) and historic preservation legislation such as the National Historic Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (Section 106) which pertain to all projects that are funded, permitted, or approved by any Federal agency and which have the potential to affect cultural resources. All projects that are subject to NEPA are also subject to compliance with Section 106 of the NHPA and NEPA requirements concerning cultural resources. Provisions of NHPA establish a National Register of Historic Places (The National Register) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices (SHPO), and grants-in-aid programs.

##### **American Indian Religious Freedom Act and Native American Graves and Repatriation Act**

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access),

and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

### **Other Federal Legislation**

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on Federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on Federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

## STATE

### **California Register of Historic Resources (CRHR)**

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in documents prepared pursuant to CEQA. Under CEQA, a cultural resource is considered an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. SHPO maintains the California Register of Historic Resources (CRHR). Historic properties listed, or formally designated for eligibility to be listed, on The National Register are automatically listed on the CRHR. State Landmarks and Points of Interest are also automatically listed. The CRHR can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

### **California Environmental Quality Act (CEQA)**

CEQA requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet significance criteria qualifying them as "unique," "important," listed on the CRHR, or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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- identify cultural resources,
- evaluate the significance of the cultural resources found,
- evaluate the effects of the project on cultural resources, and
- develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

### **California Public Resources Code**

Section 5097 of the Public Resources Code specifies the procedures to be followed in the event of the unexpected discovery of historic, archaeological, and paleontological resources, including human remains, historic or prehistoric resources, paleontological resources on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states the following:

*No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

### **State Laws Pertaining to Human Remains**

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-Federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

### **Senate Bill 18 (Burton, Chapter 905, Statutes 2004)**

Senate Bill (SB) 18 requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places (“cultural places”) through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also requires the Governor’s Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments on how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

### **Assembly Bill 978**

In 2001, Assembly Bill (AB) 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-Federally recognized tribes for repatriation.

### **Assembly Bill 52**

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on “tribal cultural resources” with significant environmental impacts (PRC Section 21084.2). AB 52 defines a “California Native American Tribe” as a Native American tribe located in California and included on the contact list maintained by the NAHC. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that the consultation address project alternatives and mitigation measures, for significant effects, if requested by the California Native American Tribe, and that consultation be considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached.

## LOCAL

### **Pittsburg Municipal Code**

Chapter 15.84, Preservation of Historic Structures and Establishment of Historical Districts, of the Municipal Code outlines the process for various historic structures and related buildings, including but not limited to designation of historic districts, official local historic register, requirements for demolition of historic structures, and standards for substandard buildings.

Section 15.84.080 establishes the design criteria considered in review of historic structures pursuant to Chapter 15.84, which include the Secretary of Interior’s Standards for the Treatment of Historic Properties and the State Historic Building Code. Section 15.84.090 establishes requirements, including noticing, environmental documentation, and methods to retain or restore the structure, for the demolition of historic structures.

## 3.5.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on cultural or tribal resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- Disturb any human remains, including those interred outside of formal cemeteries?
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
  - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

### IMPACTS AND MITIGATION MEASURES

#### **Impact 3.5-1: General Plan implementation could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 (Less than Significant)**

A substantial adverse change in the significance of an historic resource is defined in Section 15064.5 (b)(1) of the CEQA Guidelines as the “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” Known historic and prehistoric resource sites are located throughout the Planning Area, as shown in Tables 3.5-1 through 3.5-3, and it is expected that additional undiscovered historical sites may be located in various areas of the City as well.

On May 21, 2019, consultation letters were sent to the Contra Costa Historical Society and the Pittsburg Historical Society & Museum requesting information regarding any concerns about historical resources. The Contra Costa County Historical Society replied on June 4, 2019, and noted that they are a private organization with no capability to provide research without compensation and did not identify any historic resources. Mr. Vincent Ferrante, historian with the Pittsburg Historical Society & Museum, replied and expressed interest in consultation. Tables 3.5-1 through 3.5-3 and the Planning Area map were subsequently provided to Mr. Ferrante. This section reflects information provided by Mr. Ferrante during the consultation process.

The City’s historic core of “Old Town” is generally bounded by Black Diamond Street to the west, the waterfront to the north, Harbor Street to the east, and the rail line to the south. The proposed Land Use Map designations for the “Old Town” and remainder of the City’s historic core are similar to the existing Land Use Map designations.

While the 2040 General Plan does not directly propose any adverse changes to any historic resources, future development allowed under the General Plan could affect known historical resources or unknown historical resources which have not yet been identified. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's 2040 General Plan, Municipal Code, and other applicable State and local regulations.

Future development that would affect designated historic buildings, designated historic sites, all properties located within designated historic districts, and the downtown commercial core would be subject to the Chapter 15.84, Preservation of Historic Structures and Establishment of Historical Districts, of the City's Municipal Code. This chapter of the Code applies to all properties within the city that are designated historic buildings, designated historic sites, all properties located within designated historic districts, and the downtown commercial core. Should demolition or alteration of a historic structure be required in the future, the demolition would be subject to Section 15.84.090, Demolition of Historic Structures, of the City's Municipal Code. Demolition, wholly or partially, of a designated historic building or a designated contributing building within a historic district is prohibited unless the proposed demolition is part of a project that has received all entitlements including approved environmental documentation which evaluated the proposed demolition, or if the property owner of such structure gives the city council 180 days' prior written notice that such act is planned for such structure. Subject to the provisions of subsection (B) of Section 15.84.090, no application to the city for a permit to carry out such demolition shall be accepted during said 180-day notice period. Following the receipt of such notice, the City Council may, among other things, hold a public hearing on the matter and/or direct staff to:

1. Seek local trusts and other financial sources which may be willing to purchase the structure for restoration;
2. Publicize with the owner's consent the availability of the structure for purchase for restoration purposes;
3. Consider acquiring development rights or facade easements and the imposition or negotiation of other restrictions of the preservation of the structure;
4. Investigate possible sites for relocation of the structure;
5. Evaluate the feasibility of the city purchasing the structure pursuant to a development plan if it does not appear that private preservation is feasible.

Additionally, the 2040 General Plan includes policies and actions that would reduce impacts to cultural, historic, and archaeological resources, as well as policies and actions for the conservation of cultural, historic, and archaeological resources. Specifically, Policy 10-A-7.d aims to redefine the New York Landing Historical District to include the Black Diamond Grammar School, Pittsburg Seventh Day Adventist Church, Presbyterian Church, and Hindu Temple. Additionally, General Plan Policy 10-A-7.f requires that new development in historic districts is compatible in bulk, height, material and design with that of the historic character and qualities of the district. Adoption and implementation of the policies and actions listed below, combined with adopted Municipal Code requirements summarized above, would ensure that adverse effects on significant historic resources are **less than significant**.

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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### GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS

#### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-6.10: Encourage the preservation of varied architectural styles that reflect the cultural, industrial, social, economic, political and architectural phases of the City's history.

10-P-6.11: Ensure City Public Works projects (street lights, street tree plantings, signage, etc.), promote, preserve, or enhance the City's historic character.

10-P-6.12: Develop and encourage public/private partnerships as a means to support, expand, and promote historic preservation.

10-P-6.13: Alert property owners, land developers, and the building industry to historic preservation goals and policies and their implications early in the development process.

10-P-7.1: Foster knowledge of our heritage by providing for the educational and cultural enrichment of this and future generations.

10-P-7.2: Redefine the New York Landing Historical District to designate and preserve historical structures not currently located within the district boundaries.

10-P-7.4: Review new development projects and work in conjunction with the California Historical Resources Information System to determine whether project areas contain known historic resources or archaeological resources, either prehistoric and/or historic-era, and whether the site has potential for such resources.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-7.a: Identify mechanisms to incorporate Pittsburg's industrial heritage in historic and cultural preservation.

10-A-7.b: Coordinate with the Historic Resources Commission to implement interpretive facilities within the Historical District, including displays and signs to promote education and understanding of existing historical resources.

10-A-7.d: Redefine the New York Landing Historical District to include the Black Diamond Grammar School, Pittsburg Seventh Day Adventist Church, Presbyterian Church, and Hindu Temple.

10-A-7.f: Require that new development in historic districts is compatible in bulk, height, material and design with that of the historic character and qualities of the district.

10-A-7.g: Develop an identification and preservation system for cultural resources - those places or structures that qualify as "important" or "unique" to local community, ethnic, or social groups.

10-A-7.i: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. If any resources are identified, identify methods to preserve the resource or to document and account for the resource. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.



10-A-7.k: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If human remains are discovered during any ground disturbing activity, work shall stop until the Development Services Director and the Contra Costa County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when measures to relocate or preserve the remains in place, based on the above consultation, have been taken and approved by the Development Services Director.
- If archaeological resources are encountered during construction or ground disturbing activity, work within 50 feet of the find shall be halted and a qualified archaeologist meeting the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall immediately be contacted to evaluate the find pursuant to Public Resources Code Section 21083.2. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for determining California Register of Historical Resources eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work may be warranted, such as data recovery excavation, to mitigate any significant impacts to significant resources. If the resource is of Native American origin, the NAHC shall be contacted to ensure that the Most Likely Descendant can assess the find. Any reports required to document and/or evaluate unanticipated discoveries shall be submitted to the City of Pittsburg for review and approval and submitted to the Northwest Information Center in Sonoma State after completion. Recommendations contained within prepared reports shall be implemented throughout the remainder of ground disturbance activities.
- In the event of the identification of cultural resources on a development project site, a professionally qualified archaeologist and Tribal representative shall monitor ground-disturbing construction conducted during project implementation. The monitors shall observe ground-disturbing construction to identify potential archaeological deposits and avoid or limit damage to such deposits. The monitors shall have the discretion to reduce the intensity of monitoring, or suspend such monitoring, if field conditions clearly indicate that no potential intact archaeological deposits could be encountered. Should an intact archaeological deposit be identified, the monitors shall be empowered to temporarily halt construction in the vicinity of the find. The archaeologist shall, in consultation with the Tribal representative and City, evaluate the eligibility of the deposit for inclusion in the California Register of Historical Resources. If the deposit is eligible, the project shall attempt to feasibly avoid damage to the deposit (e.g., redesign or capping). If avoidance is not feasible, the archaeologist shall, in consultation with the Tribal representative and City, develop and implement a plan to recover the scientifically consequential data represented by the deposit in a manner respectful of tribal concerns. A report of the finds of any resource evaluation and/or data recovery efforts shall be submitted to the Northwest Information Center in Sonoma State as a condition for access to its archives.

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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### POLICIES – DOWNTOWN ELEMENT

5-P-1.9: Continue the preservation, rehabilitation, and reuse of historically significant structures within the Downtown.

5-P-1.10: Require new construction and remodeling throughout Downtown (including the New York Landing Historical District as shown in Figure 5-2) to be reviewed for design compatibility by the Planning Commission.

### **Impact 3.5-2: General Plan implementation could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 (Less than Significant)**

According to the University of California Museum of Paleontology, Berkeley, Contra Costa County has over 2,000 previously recorded paleontological sites. Of these, two are located in the City of Pittsburg. Additionally, the historic core of “Old Town”, generally bounded by Black Diamond Street to the west, the waterfront to the north, Harbor Street to the east, and the rail line to the south, has the potential to be sensitive for subsurface historic archaeological deposits. The undeveloped hillsides have the potential for subsurface prehistoric archaeological deposits. Details regarding the exact nature and location of archaeological resources are intentionally withheld from this EIR in order to help protect the integrity of these resources. Confidential versions of cultural resources reports are maintained by the City of Pittsburg.

While the 2040 General Plan does not directly propose any adverse changes to any archaeological resources, future development allowed under the General Plan could affect known archaeological resources or unknown archaeological resources which have not yet been identified.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City’s 2040 General Plan, Municipal Code, and other applicable State and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2040 General Plan includes policies and actions that would reduce impacts to cultural, historic, and archaeological resources, as well as policies and actions for the conservation of cultural, historic, and archaeological resources. Specifically, Policy 10-P-7.3 requires the protection of archaeological and paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs. Additionally, General Plan Action 10-A-7.c requires that construction be halted immediately and an archaeological investigation conducted to collect all valuable remnants if archaeological resources are found during ground-breaking for new urban development. Further, Action 10-A-7.h requires the preparation of a resource mitigation plan and monitoring program for new development by a qualified archaeologist in the event that archaeological resources are uncovered. Adoption and implementation of the policies and actions listed below, combined with adopted CEQA review requirements, would ensure that adverse effects on significant historic and archaeological resources are reduced to a **less than significant** level, and no mitigation is required.

**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICY – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-7.3: Protect archaeological/paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs.

10-P-7.4: Review new development projects and work in conjunction with the California Historical Resources Information System to determine whether project areas contain known historic resources or archaeological resources, either prehistoric and/or historic-era, and whether the site has potential for such resources.

**ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-7.a: Identify mechanisms to incorporate Pittsburg’s industrial heritage in historic and cultural preservation.

10-A-7.c: Halt construction immediately and conduct an archaeological investigation to collect all valuable remnants if archaeological resources are found during ground-breaking for new urban development.

10-A-7.g: Develop an identification and preservation system for cultural resources - those places or structures that qualify as "important" or "unique" to local community, ethnic, or social groups.

10-A-7.h: Require the preparation of a resource mitigation plan and monitoring program for new development by a qualified archaeologist in the event that archaeological resources are uncovered.

10-A-7.i: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. If any resources are identified, identify methods to preserve the resource or to document and account for the resource. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

**Impact 3.5-3: Implementation of the General Plan could lead to the disturbance of any human remains (Less than Significant)**

Indications are that humans have occupied areas near the Planning Area for at least 9,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities allowed under the General Plan may yield human remains that may not be marked in formal burials.

Although Native American human remains are normally associated with former residential village locations, isolated burials and cremations have been found in many other locations. Future projects may disturb or destroy buried Native American human remains, including those interred outside of formal cemeteries. Consistent with state laws protecting these remains (that is, Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98), sites containing

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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Native American human remains must be treated in a sensitive manner. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the City's Municipal Code and other applicable State and local regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that Native American human remains are inadvertently discovered during development activities. The 2040 General Plan requires that human remains are treated in compliance with the provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. Through compliance with these state requirements and Action 10-A-7.k, adverse impacts to human remains would be **less than significant**, and no mitigation measures are required.

### **GENERAL ACTION THAT MINIMIZES THE POTENTIAL FOR IMPACTS**

#### **ACTION – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-7.k: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If human remains are discovered during any ground disturbing activity, work shall stop until the Development Services Director and the Contra Costa County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when measures to relocate or preserve the remains in place, based on the above consultation, have been taken and approved by the Development Services Director.
- If archaeological resources are encountered during construction or ground disturbing activity, work within 50 feet of the find shall be halted and a qualified archaeologist meeting the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall immediately be contacted to evaluate the find pursuant to Public Resources Code Section 21083.2. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for determining California Register of Historical Resources eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work may be warranted, such as data recovery excavation, to mitigate any significant impacts to significant resources. If the resource is of Native American origin, the NAHC shall be contacted to ensure that the Most Likely Descendant can assess the find. Any reports required to document and/or evaluate unanticipated discoveries shall be submitted to the City of Pittsburg for review and approval and submitted to the Northwest Information Center in Sonoma State after completion. Recommendations contained within prepared reports shall be implemented throughout the remainder of ground disturbance activities.

- In the event of the identification of cultural resources on a development project site, a professionally qualified archaeologist and Tribal representative shall monitor ground-disturbing construction conducted during project implementation. The monitors shall observe ground-disturbing construction to identify potential archaeological deposits and avoid or limit damage to such deposits. The monitors shall have the discretion to reduce the intensity of monitoring, or suspend such monitoring, if field conditions clearly indicate that no potential intact archaeological deposits could be encountered. Should an intact archaeological deposit be identified, the monitors shall be empowered to temporarily halt construction in the vicinity of the find. The archaeologist shall, in consultation with the Tribal representative and City, evaluate the eligibility of the deposit for inclusion in the California Register of Historical Resources. If the deposit is eligible, the project shall attempt to feasibly avoid damage to the deposit (e.g., redesign or capping). If avoidance is not feasible, the archaeologist shall, in consultation with the Tribal representative and City, develop and implement a plan to recover the scientifically consequential data represented by the deposit in a manner respectful of tribal concerns. A report of the finds of any resource evaluation and/or data recovery efforts shall be submitted to the Northwest Information Center in Sonoma State as a condition for access to its archives.

**Impact 3.5-4: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or a resource determined by the lead agency (Less than Significant).**

A check of the Sacred Lands Files through the NAHC was completed in April 2019. NAHC responded on April 25, 2019, indicating that no properties in the vicinity of the Planning Area had been recorded as cultural resources.

The City of Pittsburg conducted Native American consultations under SB 18 (Chapter 905, Statutes of 2004), also known as SB 18, which requires local governments to consult with Tribes prior to making certain planning decisions and requires consultation and notice for a general and specific plan adoption or amendments in order to preserve, or mitigate impacts to, cultural places that may be affected. In addition to SB18 consultation, the City conducted tribal consultations under the provisions of CEQA (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, which requires consulting for projects within the City of Pittsburg's jurisdiction and within the traditional territory of the tribal organizations who have previously requested AB 52 consultations with the City. Pursuant to these requirements, the City of Pittsburg sent letters to all 15 tribal organizations on October 5, 2023 via certified mail. To date, two responses from these 15 Tribal Organizations have been received:

- Confederated Villages of Lisjan Nation (October 25, 2023): The Confederated Villages of Lisjan Nation requested a copy of the final CHRIS search results and Sacred Land File results the proposed 2040 General Plan, the Final EIR when finished, and any additional archeological reports.

## 3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

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- Wilton Rancheria (October 20, 2023): The Wilton Rancheria provided their Inadvertent Discovery Treatment Plan to include in the EIR with Wilton Rancheria as a point-of-contact. They noted that they hope the Treatment Plan can be used as an umbrella for the City to pass on to all construction contractors on how to treat and react to the discovery of any Tribal Cultural Resources.

While no specific resources have been identified through consultation with affiliated tribes, it is possible that unknown tribal cultural resources may be present and could be adversely affected by future projects that may be accommodated by the 2040 General Plan.

Specific locations for future development and improvements have not been identified. Future projects would be required to be evaluated for project-specific impacts under CEQA at the time of application. The General Plan and CEQA guidelines require tribal consultation and the protections of any identified archeological and tribal resources.

All future development projects would be required to follow development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of tribal resources. Subsequent projects would be required to prepare site-specific project-level analysis to fulfill CEQA requirements, which also would include additional AB 52 consultation that could lead to the identification of potential site specific tribal resources.

As discussed under impact discussions 3.5-1 and 3.5-2, impacts from future development could impact unknown archaeological resources including Native American artifacts and human remains. Impacts would be reduced to a less-than-significant level with implementation of 2040 General Plan policies and actions and local review guidelines. Compliance with the 2040 General Plan policies and actions, as well as State and local regulations would provide an opportunity to identify, disclose, and avoid or minimize the disturbance of and impacts to a tribal resource through tribal consultation and CEQA review procedures. Therefore, impacts related to tribal resources as a result of 2040 General Plan implementation would be considered **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-7.1: Foster knowledge of our heritage by providing for the educational and cultural enrichment of this and future generations.

10-P-7.3: Protect archaeological/paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs.

10-P-7.4: Review new development projects and work in conjunction with the California Historical Resources Information System to determine whether project areas contain known historic resources or archaeological resources, either prehistoric and/or historic-era, and whether the site has potential for such resources.

10-P-7.4: Review new development projects and work in conjunction with the California Historical Resources Information System to determine whether project areas contain known historic resources or archaeological resources, either prehistoric and/or historic-era, and whether the site has potential for such resources.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-7.c: Halt construction immediately and conduct an archaeological investigation to collect all valuable remnants if archaeological resources are found during ground-breaking for new urban development.

10-A-7.g: Develop an identification and preservation system for cultural resources, including tribal cultural resources, - those places or structures that qualify as "important" or "unique" to local community, ethnic, or social groups.

10-A-7.h: Require the preparation of a resource mitigation plan and monitoring program for new development by a qualified archaeologist in the event that archaeological resources are uncovered.

10-A-7.j: Consistent with State, local, and tribal intergovernmental consultation requirements such as SB 18 and AB 52, consult as necessary with Native American tribes that may be interested in proposed new development and land use policy changes.

10-A-7.k: Require all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- If human remains are discovered during any ground disturbing activity, work shall stop until the Development Services Director and the Contra Costa County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when measures to relocate or preserve the remains in place, based on the above consultation, have been taken and approved by the Development Services Director.
- If archaeological resources are encountered during construction or ground disturbing activity, work within 50 feet of the find shall be halted and a qualified archaeologist meeting the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall immediately be contacted to evaluate the find pursuant to Public Resources Code Section 21083.2. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for determining California Register of Historical Resources eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work may be warranted, such as data recovery excavation, to mitigate any significant impacts to significant resources. If the resource is of Native American origin, the NAHC shall be contacted to ensure that the Most Likely Descendant can assess the find. Any reports required to document and/or evaluate unanticipated discoveries shall be submitted to the City of Pittsburg for review and approval and submitted to the Northwest Information Center in Sonoma State after completion. Recommendations contained within prepared reports shall be implemented throughout the remainder of ground disturbance activities.

- In the event of the identification of cultural resources on a development project site, a professionally qualified archaeologist and Tribal representative shall monitor ground-disturbing construction conducted during project implementation. The monitors shall observe ground-disturbing construction to identify potential archaeological deposits and avoid or limit damage to such deposits. The monitors shall have the discretion to reduce the intensity of monitoring, or suspend such monitoring, if field conditions clearly indicate that no potential intact archaeological deposits could be encountered. Should an intact archaeological deposit be identified, the monitors shall be empowered to temporarily halt construction in the vicinity of the find. The archaeologist shall, in consultation with the Tribal representative and City, evaluate the eligibility of the deposit for inclusion in the California Register of Historical Resources. If the deposit is eligible, the project shall attempt to feasibly avoid damage to the deposit (e.g., redesign or capping). If avoidance is not feasible, the archaeologist shall, in consultation with the Tribal representative and City, develop and implement a plan to recover the scientifically consequential data represented by the deposit in a manner respectful of tribal concerns. A report of the finds of any resource evaluation and/or data recovery efforts shall be submitted to the Northwest Information Center in Sonoma State as a condition for access to its archives.



This section provides a background discussion of the seismic and geologic hazards found in the City and the regional vicinity. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments on this environmental topic were received during the NOP comment period.

### 3.6.1 ENVIRONMENTAL SETTING

#### REGIONAL GEOLOGY

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The Planning Area lies at the boundary of the Great Valley and Coast Range Geomorphic Provinces. The majority of the Planning Area is within the Coast Range Province, while the eastern corner of the Planning Area is within the Great Valley Province.

The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River, and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic period (about 160 million years ago). Great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor.

The Coast Range is a northwest-trending mountain range (2,000 to 4,000 feet and occasionally 6,000 feet in elevation above sea level) and a set of valleys. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. Strata dip beneath alluvium of the Great Valley. To the west is the Pacific Ocean. The coastline is uplifted, terraced and wave-cut. The Coast Range is composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma, and Clear Lake volcanic fields. The Coast Ranges are subparallel to the active San Andreas Fault. The San Andreas is more than 600 miles long, extending from Pt. Arena to the Gulf of California. West of the San Andreas Fault is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands

#### LOCAL SETTING

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The topography ranges in elevation from approximately 23 to 886 feet above sea level. Hillside areas in the western and southern portions of the Planning Area have the highest elevation, while the marine and waterfront areas have the lowest elevation.

Pittsburg consists of two general topographic zones: the lowland zone and the hillside zone. The lowland zone corresponds to estuarine and flatland soils, and the hillside zone includes steep slopes and rocky soils.

## 3.6 GEOLOGY AND SOILS

In the Lowland Zone, estuarine (coastal) areas are underlain by Bay Mud, which consists of unconsolidated silt and clay with abundant organic material, local peat, sand, and gravel lenses or discontinuous beds (USGS, 1973). Local deposits of artificial fill occur along the margins of Suisun Bay, particularly around the power plant and in filled channels. Old fill (generally placed before the 1950s) typically consisted of heterogeneous material. Engineering challenges associated with coastal areas include weak compressible soils and risk of liquefaction. The flatland areas of Pittsburg are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay, irregularly interstratified.

In the Hillside Zone, the hillside areas of the City consist primarily of tilted marine sedimentary and volcanic rocks that range in age from Paleocene to Pliocene. Hillside areas in the western and southern portions of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits.

### SOILS

A Custom Soil Survey was completed for the Planning Area using the U.S. Natural Resources Conservation Service (NRCS) Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-1. Table 3.6-1, below, identifies the type and range of soils found in the Planning Area. As shown in Table 3.6-1, the majority of soils within the Planning Area consist of clay soils and sandy loams. Below is a brief description of prominent soils within the Planning Area.

**TABLE 3.6-1: PLANNING AREA SOILS**

<i>NAME</i>	<i>CITY</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
Altamont clay, MLRA 15	699.49	110.27	114.10	923.86
Altamont-Fontana complex	1,103.48	872.12	5,665.83	7,641.43
Antioch Loam	189.36	1,354.60	0.00	1,543.96
Antioch loam, MLRA 14	338.45	757.58	0.00	1,096.03
Brentwood clay loam	77.44	0.00	0.00	77.44
Briones loamy sand	0.00	0.00	91.06	91.06
Capay clay, MLRA 17	2,640.82	275.08	13.13	2,929.03
Clear Lake clay, MLRA 15	685.64	0.00	0.00	685.64
Cropley clay	12.47	8.72	6.59	27.78
Diablo clay, MLRA 15	827.89	210.75	455.16	1,493.80
Gaviota sandy loam, MLRA 15	0.00	0.00	7.37	7.37
Joice muck, MLRA 16	1,271.06	1,229.89	0.00	2,500.95
Lodo-Rock outcrop complex	180.56	127.11	410.49	718.16
Los Gatos loam	0.00	0.00	425.96	425.96
Omni silty clay	174.39	0.00	0.00	174.39
Pescadero clay, loam strongly alkali	3.22	0.00	59.24	62.46
Piper sandy loam	51.48	0.00	0.00	51.48
Rincon clay loam, MLRA 14	2,970.16	23.71	80.19	3,074.06
Rock outcrop-Xerorthents association	0.00	0.00	108.76	108.76

<i>NAME</i>	<i>CITY</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
Sycamore silty clay loam, MLRA 17	75.90	0.00	0.00	75.90
Tidal marsh	0.00	5.93	0.00	5.93
Water	1,342.17	2,191.12	2.10	3,535.39

*SOURCE: NRCS CUSTOM SOIL SURVEY 2019.*

The **Altamont** series of soils consist of deep, well-drained soils that formed in material weathered from fine-grained sandstone and shale. Runoff varies from slow to rapid, and permeability is slow. These soils are located mostly in the southern portion of the Planning Area south of SR-4.

The **Antioch** series of soils consist moderately well to somewhat poorly drained soils. Runoff varies from slow to medium, and permeability is very slow. These soils are located mostly in the northwestern portion of the Planning Area.

The **Brentwood** series consists of well-drained soils on valley fill with slopes between zero and two percent. These soils are formed in alluvium from sedimentary rock. Runoff and permeability are slow. These soils are located in the eastern portion of the Planning Area.

The **Briones** series consists of somewhat excessively drained, moderately deep soils over sandstone. Briones soils are found on uplands and on strongly sloping to steep terrain. These soils have medium to rapid runoff and rapid permeability of the soil, but slow or very slow permeability in the sandstone. These soils are located mostly in the eastern portion of the Planning Area.

The **Capay** series consists of moderately well drained soils on lower edges of valley fill and on old benches that have been slowly dissected. These soils formed in alluvium from sedimentary rock and have slow runoff and slow permeability. These soils are located throughout the Planning Area.

The **Clear Lake** series of soils consist of very deep, poorly drained soils that formed in fine textured alluvium derived from mixed rock sources. Runoff varies from negligible to high, and permeability is slow to very slow. These soils are located mostly in the northern portion of the Planning Area along the waterfront.

The **Cropley** series of soils consist of very deep, moderately well and well drained soils that formed in alluvium from mixed rock sources. Cropley soils are on alluvial fans, floodplains and in small basins. Runoff varies from medium to very high, and permeability is slow. These soils are located mostly in the northwestern portion of the Planning Area north of SR-4.

The **Diablo** series of soils consists of well drained soils that formed in residuum weathered from shale, sandstone, and consolidated sediments with minor areas of tuffaceous material. Runoff varies from slow when the soil is dry to medium or rapid when the soils are moist and permeability is slow. These soils are located mostly in the foothill areas in the southern and western portions of the Planning Area.

The **Gaviota** series of soils consist of well- and excessively well-drained soils that formed in material weathered from sandstone and meta-sandstone. Runoff varies from very low to very

high, and permeability is moderately rapid. These soils are located in the northern portion of the Planning Area.

The **Joice** series of soils consist of poorly drained soil that formed from hydrophytic plant remains and mixed alluvium. Runoff is very slow, and permeability is rapid. These soils are located mostly along the waterfront in the Planning Area and on Browns Island.

The **Lodo** series of soils consist of shallow, somewhat excessively drained soils that formed in material weathered from hard shale and fine grained sandstone. Runoff varies from medium to rapid, and permeability is moderate. These soils are located mostly in the foothill areas in the southern and western portions of the Planning Area.

The **Los Gatos** series of soils consist of well-drained soils that formed in residuum from sandstone, shale and metasedimentary rock. Runoff varies from rapid to very rapid, and permeability is moderate. These soils are located in the southern portion of the Planning Area on the hillside.

The **Omni** series of soils consist of very deep, poorly drained soils that formed in mixed sediments. Runoff varies from very slow to slow, and permeability is slow. These soils are located mostly in the marina area of the Planning Area.

The **Pescadero** series consists of very deep, poorly drained soils that formed in alluvium from sedimentary rocks. They are poorly drained or ponded in concave slopes, with very slow runoff and very slow permeability. These soils are located in the southern portion of the Planning Area near Kirker Creek.

The **Piper** series consists of poorly drained soils formed on low eolian mounds and ridges that have become more prominent as the surrounding organic soils subsided. These soils are located on Browns Island in the Planning Area.

The **Rincon** series consists of well-drained soils mainly on benches, formed in alluvial valley fill from sedimentary rock. Runoff varies from slow to medium and permeability is slow. These soils are located in the eastern and central portions the Planning Area.

The **Sycamore** series consists of poorly drained soils that formed in alluvium from sedimentary rock. These soils are on flood plains. These soils are located in the northern portion of the Planning Area near Willow Creek.

## FAULTS

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A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch

to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The state designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

**TABLE 3.6-2: FAULT ACTIVITY RATING**

<i>FAULT ACTIVITY RATING</i>	<i>GEOLOGIC PERIOD OF LAST RUPTURE</i>	<i>TIME INTERVAL (YEARS)</i>
Active (A)	Holocene	Within last 11,000 years
Potentially Active (PA)	Quaternary	11,000-1.6 Million Years
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million

*SOURCE: CALIFORNIA GEOLOGICAL SURVEY*

The U.S. Geological Survey (USGS) identifies potential earthquake fault lines within one mile of the Planning Area. The closest faults include an unnamed fault approximately one mile to the west of the SOI, the Clayton Fault (within the Greenville Fault Zone), located approximately one mile to the south of the Planning Area, the Montezume Hills Fault (within the Vaca Fault zone), located approximately one mile north of the Planning Area, and the Antioch Fault, located approximately three miles to the east of the Planning Area. Additionally, the Concord Fault, located approximately four miles to the west, is within an Alquist-Priolo Fault Zone. Figure 3.6-2 provides a map of known area faults.

## SEISMICITY

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

## 3.6 GEOLOGY AND SOILS

**TABLE 3.6-3: RICHTER MAGNITUDES AND EFFECTS**

MAGNITUDE	EFFECTS
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	“Major Earthquake” with the ability to cause damage over larger areas
≥ 8	“Great Earthquake” can cause damage over several hundred miles

SOURCE: UNITED STATES GEOLOGICAL SURVEY, 1997.

The California Geological Survey estimates a 10% probability of exceeding 30- to 50 percent of gravity at peak ground acceleration over the next 50 years in the City, as well as other communities within Contra Costa County. Moving west toward the Hayward Fault, the estimates increase up to 70 percent or more of gravity at peak ground acceleration.

The Modified Mercalli intensity scale for earthquakes is summarized in Table 3.6-4.

**TABLE 3.6-4: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES**

RICHTER MAGNITUDE	MODIFIED MERCALLI	EFFECTS OF INTENSITY
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed and railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed and railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

SOURCE: UNITED STATES GEOLOGICAL SURVEY, 1997.

The Significant United States Earthquake data, published by the USGS in the National Atlas, identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within the Planning Area; however, significant earthquakes are documented in the region. The following table presents the significant earthquakes in the region.

**TABLE 3.6-5: SIGNIFICANT EARTHQUAKES IN THE REGION**

<i>MAGNITUDE</i>	<i>INTENSITY</i>	<i>LOCATION</i>	<i>YEAR</i>
4.1	IV	9 miles south east of Alum Rock	2017
4.0	IV	Piedmont	2015
4.1	IV	6 miles east of Yountville	2015
4.0	IV	2 miles north of Fremont	2015
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8, 5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7, 5.6	N/A	Santa Rosa	1969
5.3, 4.2	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: UNITED STATE GEOLOGICAL SURVEY, 2019

### ALQUIST-PRIOLO SPECIAL STUDY ZONE

The California legislature passed the Alquist-Priolo Special Studies Zone Act, in 1972, to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require

site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo Fault Zone, the Concord Fault Zone, is located approximately four miles west of Pittsburg.

### SEISMIC HAZARDS

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#### **Seismic Ground Shaking**

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the state requires special design considerations for all structural improvements in accordance with the seismic design provisions in the CBC. These seismic design provisions require enhanced structural integrity based on several risk parameters.

#### **Fault Rupture**

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Pittsburg does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-2 shows regional faults in relation to the City.

#### **Liquefaction**

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Figure 3.6-3 provides a map of the liquefaction potential of the soils within the Planning Area and general vicinity. As shown in the figure, portions of the City could be subject to liquefaction during or after an earthquake. The locations in the City which are prone to liquefaction are located in the hillside areas and the marina and waterfront areas.

#### **Lateral Spreading**

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. The potential for liquefaction exists in the hillside and waterfront areas; lateral spreading of soils may occur in these areas of the Planning Area.

#### **Landslides**

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for



landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The potential for landslides is low in the flat areas of the Planning Area.

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## NON-SEISMIC HAZARDS

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### **Expansive Soils**

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

According to the NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential. The portions of the Planning Area that have a moderate to high potential are located along the waterfront and hillside areas.

### **Erosion**

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) are loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The Web Soil Survey identified the erosion potential for the soils in the Planning Area. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Planning Area, the erosion factor Kf varies from 0.20 to 0.43, which is considered a low to moderate potential for erosion. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall; however, this potential for wind erosion diminishes during the winter.

### **Collapsible Soils**

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

### **Subsidence**

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified as an issue in the Planning Area.

### **Naturally Occurring Asbestos**

The term “asbestos” is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth’s surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is identified within Contra Costa County, although it is all located to the south of the Planning Area near Walnut Creek. There is no naturally occurring asbestos mapped within the Planning Area.

### **Paleontological Resources**

Among the natural resources deserving conservation and preservation are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist in below the surface in areas in and near Pittsburg, and span millions of years in age of origin. Fossils constitute a non-renewable resource; once lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they

interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a bay environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

The University of California Museum of Paleontology (UCMP) maintains archival records of recorded paleontological resources. A UCMP Locality Search conducted for Contra Costa County and Pittsburg identified 2,578 paleontological records attributed to Contra Costa County, including two identified in Pittsburg and 1,663 records with no identified location within the county. The Pittsburg records include 1) a vertebrate record from the Wolfskill formation and associated with the Pliocene epoch, which dates to about 5.3 million to 2.6 million years ago and is the second geological epoch of the Neogene period, and 2) an invertebrate record from the San Pablo formation (marine) and associated with the Miocene epoch, which is the first geological epoch of the Neogene period and dates to about 23 million to 5.3 million years ago.

### 3.6.2 REGULATORY SETTING

#### FEDERAL

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##### **Earthquake Hazards Reduction Act**

The Earthquake Hazards Reduction Act of 1977 (42 USC, 7701 et seq.) requires the establishment and maintenance of an earthquake hazards reduction program by the federal government. Under the National Earthquake Hazards Reduction Program (NEHRP), four federal agencies have responsibility for long-term earthquake risk reduction: the USGS, the National Science Foundation (NSF), the Federal Emergency Management Agency (EMA), and the National Institute of Standards and Technology (NIST). NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerability; improvements of building codes and land use practices; risk reduction through post- earthquake investigation and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results.

##### **Executive Order 12699**

Signed in January 1990, Presidential Executive Order 12699 implements provisions of the Earthquake Hazards Reduction Act for "federal, federally assisted or federally regulated new building construction" and requires the development and implementation of seismic safety programs by Federal agencies.

##### **International Building Code (IBC)**

The purpose of the International Building Code (IBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

#### STATE

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##### **California Building Standards Code**

CCR Title 24, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code (CBC), California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), and the California Reference Standards Code. Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

CBC Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Sections 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Sections 1808, 1809, and 1810 provide standards and requirements for the construction of varying foundations.

### **California Environmental Quality Act**

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in a project's area of potential affect, assessment of potential impacts on significant or unique resources, and development of mitigation measures for potentially significant impacts, which may include monitoring combined with data recovery and/or avoidance.

### **State Laws Pertaining to Paleontological Resources**

Several sections of the PRC protect paleontological resources.

Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any "vertebrate paleontological site, including fossilized footprints," on public lands, except where the agency with jurisdiction has granted express permission. "As used in this section, 'public lands' means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof."

PRC Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The sections of the California Administrative Code relating to the State Division of Beaches and Parks afford protection to geologic features and "paleontological materials" but grant the director of the State Park system authority to issue permits for specific activities that may result in damage

to such resources, if the activities are in the interest of the State park system and for State Park purposes (California Administrative Code, Title 14, Section 4307 – 4309).

### **California Health and Safety Code**

Section 19100 et seq. of the California Health and Safety Code establishes the state’s regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

### **Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and Criteria of the State Mining and Geology Board, which governs the exercise of governments’ responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

### **Seismic Hazards Mapping Act**

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Seismic Hazards Mapping Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and Counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits

for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.

- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

### **Caltrans Seismic Design Criteria**

Caltrans has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

### **Division of Mines and Geology**

The California Division of Mines and Geology (DMG) operates within the DOC. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

### **State Geological Survey**

Similar to the DMG, CGS is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

### **Surface Mining and Reclamation Act of 1975**

The California Department of Conservation Surface Mining and Reclamation Act of 1975 (Section 2710), also known as SMARA, provides a comprehensive surface mining and reclamation policy that permits the continued mining of minerals, as well as the protection and subsequent beneficial use of the mined and reclaimed land. The purpose of SMARA is to ensure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition and are readily adaptable for alternative land uses. The production and conservation of minerals are encouraged, while also giving consideration to values relating to recreation, wildlife, range and forage, as well as aesthetic enjoyment. Residual hazards to public health and safety are eliminated. These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

If a use is proposed that might threaten the potential recovery of minerals from an area that has been classified MRZ-2, SMARA would require the jurisdiction to prepare a statement specifying its

reasons for permitting the proposed use, provide public notice of these reasons, and forward a copy of the statement to the State Geologist and the State Mining and Geology Board (Cal. Pub. Res. Code Section 2762). Lands classified MRZ-2 are areas that contain identified mineral resources.

### 3.6.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; or
  - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

#### IMPACTS AND MITIGATION MEASURES

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**Impact 3.6-1: General Plan implementation has the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides (Less than Significant)**

There are no Alquist-Priolo Earthquake Fault Zones located within the Planning Area. However, there are numerous known active or potentially active faults located in the region. Figure 3.6-2 illustrates the location of these faults. The USGS Survey identifies potential earthquake fault lines within one mile of the Planning Area. The closest faults include an unnamed fault approximately one mile to the west of the SOI the Clayton Fault (within the Greenville Fault Zone), located



approximately one mile to the south of the Planning Area, the Montezume Hills Fault (within the Vaca Fault Zone), located approximately one mile north of the Planning Area, and the Antioch Fault, located approximately three miles to the east of the Planning Area. Additionally, the Concord Fault, located approximately four miles to the west, is within an Alquist-Priolo Fault Zone. As a result, future development in the City accommodated by the 2040 General Plan may expose people or structures to potential adverse effects associated with a seismic event, including strong ground shaking and seismic-related ground failure.

There are no seismic hazard zones currently mapped in the Planning Area; however, Working Group on California Earthquake Probabilities predicts that the probability that an earthquake will occur in the San Francisco region within the next 30 years (starting from 2014) is:

- 72 percent probability that an earthquake measuring magnitude 6.7 will occur;
- 51 percent probability that an earthquake measuring magnitude 7 will occur; and
- 20percent probability that an earthquake measuring magnitude 7.5 will occur.

Additionally, as noted previously, the State Seismic Hazards Mapping Act (1990) addresses hazards along active faults. Seismic hazard zones are currently mapped in Pittsburg, and include areas mapped for liquefaction and earthquake induced landslide hazards. Further, as noted previously, most areas of the City susceptible to seismic-related landslides are located in the higher-elevation portions of the City.

All projects accommodated by the 2040 General Plan would be required to comply with the provisions of the CBSC, which requires development projects to perform geotechnical investigations in accordance with state law, engineer improvements to address potential seismic and ground failure issues, and use earthquake-resistant construction techniques to address potential earthquake loads when constructing buildings and improvements. As future development and infrastructure projects are considered by the City, each project will be evaluated on a project-by-project basis for conformance with the CBSC, General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. In addition to the requirements associated with the CBSC and the Municipal Code, the General Plan includes policies and actions to address potential impacts associated with seismic activity.

Development proposals would be reviewed to ensure compliance with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind. The General Plan policies and actions (listed below) include Policy 11-P-4.1, which requires that development in areas of seismic and geologic hazards are regulated to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and expansive soils, and require new development redevelopment and infrastructure projects to avoid unreasonable exposure to seismic and geologic hazards. All development and construction proposals must be reviewed by the City to ensure conformance with applicable building standards. Policy 11-P-4.4 requires that the grading and development of hillside areas are regulated for new urban land uses.

## 3.6 GEOLOGY AND SOILS

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Development in these areas must ensure that such new uses are constructed to reduce erosion and land sliding hazards by implementing the following provisions:

- Limit cut slopes to 3:1, except where an engineering geologist can establish that a steeper slope would perform satisfactorily over the long term.
- Encourage use of retaining walls or rock-filled crib walls as an alternative to high cut slopes.
- Ensure revegetation of cut-and-fill slopes to control erosion.
- Ensure blending of cut-and-fill slopes within existing contours, and provision of horizontal variation, in order to mitigate the artificial appearance of engineered slopes.

All future projects are subject to CEQA review to address seismic safety issues and provide adequate mitigation for existing and potential hazards identified. With the implementation of the policies and actions in the General Plan, as well as applicable State and City codes, impacts associated with a seismic event, including rupture of an earthquake fault, seismic ground shaking, liquefaction, and landslides would be **less than significant**, and no mitigation measures are necessary.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.

11-P-1.2: Ensure emergency response equipment and personnel training are adequate to follow the procedures contained within the Emergency Operations Plan for a major earthquake, wildland fire, flood, or hazardous materials release event.

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-1.4: Maintain, modernize, and designate new sites for emergency response facilities, including fire and police stations, as needed to accommodate population growth.

11-P-1.5: Prepare and disseminate information to local residents, businesses, and schools about emergency preparedness, including for flooding, fire, hazardous material releases, and seismic activity, and evacuation routes.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

11-P-4.1: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and expansive soils, and

require new development redevelopment and infrastructure projects to avoid unreasonable exposure to seismic and geologic hazards.

11-P-4.2: Limit urban development in high-risk areas (such as landslide areas, flood zones, and areas subject to liquefaction) to low-occupancy or open forms of land use.

11-P-4.3: 11-P-4.3: Limit development on slopes greater than 30 percent (as delineated on Figure 11-3) to lower elevations, foothills, and knolls, unless it can be demonstrated that appropriate soil stability techniques can be implemented.

11-P-4.4: Regulate the grading and development of hillside areas for new urban land uses. Ensure that such new uses are constructed to reduce erosion and land sliding hazards:

- Limit cut slopes to 3:1, except where an engineering geologist can establish that a steeper slope would perform satisfactorily over the long term.
- Encourage use of retaining walls or rock-filled crib walls as an alternative to high cut slopes.
- Ensure revegetation of cut-and-fill slopes to control erosion.
- Ensure blending of cut-and-fill slopes within existing contours, and provision of horizontal variation, in order to mitigate the artificial appearance of engineered slopes.

11-P-4.5: Limit future extension of development into the southeast hills, where there are high levels of risk due to previous coal mining.

#### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-1.b: Identify and pursue strategies to increase the City's resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the City and particularly the waterfront's unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-4.f: Periodically review revisions to the California Code of Regulations (CCR), Title 24 and consider adoption of updates into City Ordinances and Municipal Code to include new or revised measures to avoid or reduce the potential for damage to structures and facilities caused by seismic and other geologic hazards.

11-A-4.g: Require strict adherence to the requirements of the CCR Title 24 in all areas of the City and, during the development review process.

11-A-4.h: Explore programs and funding sources that would encourage, assist, or provide incentives to property owners to retrofit their buildings for seismic safety, such as the Unreinforced Masonry (URM) program.

11-A-4.i: Continue to maintain and provide an inventory of all natural hazards, including active faults, Alquist-Priolo Special Study Zones, floodplains, hazardous soil conditions, and dam failure inundation areas.

### ACTION – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

11-A-4.i: Continue to maintain and provide an inventory of all natural hazards, including active faults, Alquist-Priolo Special Study Zones, floodplains, hazardous soil conditions, and dam failure inundation areas.

#### **Impact 3.6-2: General Plan implementation has the potential to result in substantial soil erosion or the loss of topsoil (Less than Significant)**

The General Plan would allow development and improvement projects that would involve some land clearing, mass grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

As noted previously, soil erosion data for the City was obtained from the NRCS. As identified by the NRCR Web Soil Survey, the erosion factor Kf varies from 0.20 to 0.43, which is considered a low to moderate potential for erosion. The NRCS does not provide erosion factors for the urban land soils in the City.

As future development and infrastructure projects resulting from implementation of the 2040 General Plan are considered by the City, each project will be evaluated on a project-by-project basis for conformance with the CBSC, General Plan, Zoning Ordinance, and all other applicable regulations. In addition to compliance with City standards and policies, the RWQCB will require a project specific Storm Water Pollution Prevention Plan SWPPP to be prepared for each project that disturbs an area of one acre or larger. The SWPPPs will include project-specific BMPs that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2040 General Plan includes a range of policies and one action related to BMPs, NPDES requirements, and ensuring that new development on unstable slopes is designed to avoid potential soil creep and debris flow hazards. With the implementation of the policies and actions in the 2040 General Plan, as well as applicable state and City requirements, potential impacts associated with erosion and loss of topsoil would be **less than significant**, and no mitigation measures are necessary.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### POLICIES – SAFETY & RESILIENCY ELEMENT

11-P-3.4: Ensure that development projects mitigate impacts to the City's storm drainage capacity from storm water runoff occurring from the property. Project applicants shall demonstrate that projects implement Best Management Practices (BMPs) and Low Impact Development measures (LID) to treat stormwater before discharge from the site project and that project implementation

would not result in increases in the peak flow runoff to adjacent lands or drainage facilities that would exceed the design capacity of the drainage facility or result in an increased potential for off-site flooding.

11-P-4.1: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and expansive soils, and require new development redevelopment and infrastructure projects to avoid unreasonable exposure to seismic and geologic hazards.

11-P-4.3: Limit development on slopes greater than 30 percent (as delineated on Figure 11-3) to lower elevations, foothills, and knolls, unless it can be demonstrated that appropriate soil stability techniques can be implemented.

11-P-4.4: Regulate the grading and development of hillside areas for new urban land uses. Ensure that such new uses are constructed to reduce erosion and land sliding hazards:

- Limit cut slopes to 3:1, except where an engineering geologist can establish that a steeper slope would perform satisfactorily over the long term.
- Encourage use of retaining walls or rock-filled crib walls as an alternative to high cut slopes.
- Ensure revegetation of cut-and-fill slopes to control erosion.
- Ensure blending of cut-and-fill slopes within existing contours, and provision of horizontal variation, in order to mitigate the artificial appearance of engineered slopes.

#### POLICY – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-3.1: Require development to use best management practices (BMPs) to minimize the runoff and erosion caused by earth movement.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-3.a: Require evaluation and implementation of appropriate measures as part of development plans for creek bank stabilization as well as necessary BMPs to reduce erosion and sedimentation.

10-A-3.b: See also Safety and Resiliency 11-A-4.c: During development review, ensure that new development on unstable slopes is designed to avoid potential soil creep and debris flow hazards. Avoid concentrating runoff within swales and gullies, particularly where cut-and-fill has occurred.

10-A-4.c: Continue working with the Regional Water Quality Control Board in the implementation of the National Pollutant Discharge Elimination System (NPDES) permits, with specific requirements established in each NPDES permit.

### **Impact 3.6-3: General Plan implementation has the potential to result in development located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (Less than Significant)**

Development allowed under the General Plan could result in the exposure of people and structures to conditions that have the potential for adverse effects associated with ground instability or failure. Soils and geologic conditions in the Pittsburg Planning Area have the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. Each are discussed below:

**Landslide:** The landslide potential is relatively low in the northern and eastern portion of the City, where elevation change is relatively low. However, the landslide potential increases in the southern and southwestern portions of the City, which contain areas with increased elevation change.

**Lateral Spreading:** Lateral spreading generally is a phenomenon where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. The potential for lateral spreading is present where open banks and unsupported cut slopes provide a free face (unsupported vertical slope face). Ground shaking, especially when inducing liquefaction, may cause lateral spreading toward unsupported slopes. The greatest potential for lateral spreading in the Planning Area is in the southern and southwestern portions of the City.

**Subsidence:** Drainage sufficient to create subsidence is uncommon within the City, and subsidence in the Planning Area is not a significant issue.<sup>1</sup>

**Liquefaction:** Figure 3.6-3 shows liquefaction seismic hazard zones mapped within the City, which delineates areas where liquefaction may occur during a strong earthquake. Areas along existing waterways and drainage areas, such as along Suisun Bay and Kirker Creek, are defined as having the greatest potential for liquefaction.

**Collapse:** Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Existing alluvium within the City of Pittsburg may be susceptible to collapse and excessive settlements, which could create the risk of hydroconsolidation if these soils were exposed to excessive moisture.

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<sup>1</sup> Lund, J. (2015) "San Francisco Bay-Delta: Ground Zero for California water challenges – risks and water resources." Hendry Hydraulic Engineering Repository. Page 7.

**Conclusion:** Based on the above, implementation of the policies and actions listed below would reduce the potential for impacts related to unstable geologic units in the City. As future development and infrastructure projects accommodated by the 2040 General Plan are considered by the City, each project will be evaluated on a project-by-project basis for conformance with the CBSC, the General Plan, Zoning Ordinance, and other regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Future development and improvement projects would be required to have a specific geotechnical study prepared and incorporated into the improvement design, consistent with the requirements of the state and City codes. In addition to the requirements associated with the CBSC and the Municipal Code, the 2040 General Plan includes policies and actions to ensure that development projects located in areas of steep slopes, unstable soils, or other areas of geologic or seismic risks by requiring a geotechnical review, address potential geologic hazards, at-risk buildings and infrastructure is evaluated for potential risks, and site-specific studies are completed for area subject to liquefaction. With the implementation of the policies and actions in the General Plan, as well as conformance with applicable federal, state and City codes, impacts associated with ground instability or failure would be **less than significant**, and no mitigation measures are necessary.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-4.1: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and expansive soils, and require new development redevelopment and infrastructure projects to avoid unreasonable exposure to seismic and geologic hazards.

11-P-4.2: Limit urban development in high-risk areas (such as landslide areas, flood zones, and areas subject to liquefaction) to low-occupancy or open forms of land use.

11-P-4.3: Limit development on slopes greater than 30 percent (as delineated on Figure 10-1) to lower elevations, foothills, and knolls and restrict development over the 900-foot elevation contour, and on major and minor ridgelines (as delineated in Figure 4-2).

11-P-4.4: Regulate the grading and development of hillside areas for new urban land uses. Ensure that such new uses are constructed to reduce erosion and land sliding hazards:

- Limit cut slopes to 3:1, except where an engineering geologist can establish that a steeper slope would perform satisfactorily over the long term.
- Encourage use of retaining walls or rock-filled crib walls as an alternative to high cut slopes.
- Ensure revegetation of cut-and-fill slopes to control erosion.

## 3.6 GEOLOGY AND SOILS

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- Ensure blending of cut-and-fill slopes within existing contours, and provision of horizontal variation, in order to mitigate the artificial appearance of engineered slopes.

11-P-4.5: Limit future extension of development into the southeast hills, where there are high levels of risk due to previous coal mining.

11-P-4.6: Continue to require geotechnical review of projects located in areas of steep slopes, unstable soils, or other areas of geologic or seismic risks.

11-P-4.7: Ensure that Bay Area Air Quality Management District requirements are implemented in construction projects to reduce soil and particulate matter transport.

11-P-4.8: Ensure geotechnical studies prior to development approval in geologic hazard areas, as shown in Figure 11-3. Comprehensive geologic and engineering studies of critical structures shall be required regardless of location.

11-P-4.9: Ensure that public and critical use buildings shall not be located in areas susceptible to potential natural hazards. Require geotechnical investigations to be completed prior to approval of any public safety or critical facilities, in order to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic and/or geologic hazards.

11-P-4.10: Form geological hazard abatement districts (GHADs) prior to development approval in unstable hillside areas (as designated in Figure 11-3) to ensure that geotechnical mitigation measures are maintained over the long-term, and that financial risks are equitably shared among owners and not borne by the City.

### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-4.a: Ensure preparation of a geotechnical report by a City-approved engineer or geologist in areas identified as having geological or seismic hazards in Figure 11-3, as part of development review.

11-A-4.b: As part of the development approval process, restrict grading to only those areas going into immediate construction as opposed to grading the entire site, unless necessary for slope repair or creek bed restoration. On large tracts of land, avoid having large areas bare and unprotected; units of workable size shall be graded one at a time.

11-A-4.c: During development review, ensure that new development on unstable slopes (as designated in Figure 11-3) is designed to avoid potential soil creep and debris flow hazards. Avoid concentrating runoff within swales and gullies, particularly where cut-and-fill has occurred.

11-A-4.d: As part of development approval, ensure that a registered engineering geologist be available at the discretion of the City Engineer to review reports submitted by applicants in the geologic hazard areas. Project proponents shall pay all costs associated with engineering studies related to geologic hazards.

11-A-4.e: Periodically review and update as necessary the City's hazard mitigation plan for existing residential development in unstable hillside areas (as designated in Figure 11-3). This would include inspection of structures for conformance with the Building Code.



11-A-4.f: Periodically review revisions to the California Code of Regulations (CCR), Title 24 and consider adoption of updates into City Ordinances and Municipal Code to include new or revised measures to avoid or reduce the potential for damage to structures and facilities caused by seismic and other geologic hazards.

11-A-4.g: Require strict adherence to the requirements of the CCR Title 24 in all areas of the city and, during the development review process.

11-A-4.h: Explore programs and funding sources that would encourage, assist, or provide incentives to property owners to retrofit their buildings for seismic safety, such as the Unreinforced Masonry (URM) program.

11-A-4.i: Continue to maintain and provide an inventory of all natural hazards, including active faults, Alquist-Priolo Special Study Zones, floodplains, hazardous soil conditions, and dam failure inundation areas.

**Impact 3.6-4: General Plan implementation has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property (Less than Significant)**

Expansive soil properties can cause substantial damage to building foundations, piles, pavements, underground utilities, and/or other improvements. Structural damage, such as warping and cracking of improvements, and rupture of underground utility lines, may occur if the expansive potential of soils is not considered during the design and construction of all improvements.

Linear extensibility is a method for measuring expansion potential. The expansion potential is low if the soil has a linear extensibility of less than three percent; moderate if three to six percent; high if six to nine percent; and very high if more than 9 percent. If the linear extensibility is more than three percent, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots, and special design considerations would commonly be needed.

According to the NRCS Web Soil Survey, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential. The portions of the Planning Area that have a moderate to high potential are located along the waterfront and hillside areas.

The Public Safety Element of the 2040 General Plan establishes policies that are designed to protect from geologic hazards, including expansive soils. Consistency with the General Plan policies will require identification of geologic hazards and risk inventory of existing at-risk buildings and infrastructure. As required by the CBSC and various General Plan policies and actions (Policies 11-P-4.6, 11-P-4.8, and 11-P-4.9 and Action 11-A-4.a), a site-specific geotechnical investigation will identify the potential for damage related to expansive soils and non-uniformly compacted fill and engineered fill. If a risk is identified, design criteria and specification options may include removal of the problematic soils, and replacement, as needed, with properly conditioned and compacted fill material that is designed to withstand the forces exerted during the expected shrink-swell cycles and settlements.

As future development and infrastructure projects accommodated by the 2040 General Plan are considered by the City, each project will be evaluated on a project-by-project basis for conformance with the CBSC, General Plan, Zoning Ordinance, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for environmental impacts, consistent with the requirements of CEQA.

Design criteria and specifications set forth in design-level geotechnical investigations will ensure impacts from problematic or potentially expansive soils are minimized. There are no additional significant adverse environmental impacts, apart from those disclosed in the relevant chapters of this Draft EIR, that are anticipated to occur associated with expansive soils. Therefore, this impact is considered **less than significant**, and no mitigation measures are necessary.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-4.1: Regulate development in areas of seismic and geologic hazards to reduce risks to life and property associated with earthquakes, liquefaction, erosion, landslides, and expansive soils, and require new development redevelopment and infrastructure projects to avoid unreasonable exposure to seismic and geologic hazards.

11-P-4.6: Continue to require geotechnical review of projects located in areas of steep slopes, unstable soils, or other areas of geologic or seismic risks.

11-P-4.8: Ensure geotechnical studies prior to development approval in geologic hazard areas, as shown in Figure 10-1. Comprehensive geologic and engineering studies of critical structures shall be required regardless of location.

11-P-4.9: Ensure that public and critical use buildings shall not be located in areas susceptible to potential natural hazards. Require geotechnical investigations to be completed prior to approval of any public safety or critical facilities, in order to ensure that these critical facilities are constructed in a way that mitigates site-specific seismic and/or geologic hazards.

11-P-4.10: Form geological hazard abatement districts (GHADs) prior to development approval in unstable hillside areas (as designated in Figure 11-3) to ensure that geotechnical mitigation measures are maintained over the long-term, and that financial risks are equitably shared among owners and not borne by the City.

#### **ACTION – SAFETY & RESILIENCY ELEMENT**

11-A-4.a: Ensure preparation of a geotechnical report by a City-approved engineer or geologist in areas identified as having geological or seismic hazards in Figure 11-3, as part of development review.

**Impact 3.6-5: General Plan implementation does not have the potential to have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (Less than Significant)**

Sewer services in the Planning Area are provided by the City and the Delta Diablo. The City maintains and owns the local sewage collection system that serves the City's municipal users and the City's wastewater is conveyed to Delta Diablo facilities for treatment. Delta Diablo's service area encompasses the Cities of Pittsburg, Bay Point, and Antioch. Delta Diablo also owns and operates the collection system that serves the Bay Point community. Delta Diablo provides wastewater treatment and owns and operates the regional interceptors and the sewage treatment plant located north of the Pittsburg-Antioch Highway. The Delta Diablo wastewater treatment plant (WWTP), located north of Pittsburg-Antioch Highway, just east of Pittsburg City limits, has a 54 square mile service area with an average wastewater flow of 12.4 million gallons per day.

All new wastewater generated from future development resulting from implementation of the General Plan will be collected and transmitted to the Delta Diablo WWTP for treatment. There will be no septic tanks or alternative wastewater disposal systems utilized for new development anticipated under implementation of the 2040 General Plan. Therefore, this impact is considered **less than significant**, and no mitigation is required.

**Impact 3.6-6: General Plan implementation has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant)**

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils

can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and invertebrate animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important.

As noted in Section 3.5, Cultural and Tribal Cultural Resources, according to the University of California Museum of Paleontology, Berkeley, Contra Costa County has over 2,500 recorded paleontological sites. Of these, two are identified as located in the City of Pittsburg; a number of the recorded sites do not have a specific location identifier.

It is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. The General Plan includes policies and actions that would reduce impacts to cultural, historic, and archaeological resources, as well as policies and actions for the conservation of cultural, historic, and archaeological resources. Specifically, General Plan Policy 10-P-7.3 requires the protection of archaeological and paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs. Additionally, Action 10-A-7.j requires a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources. If any resources are identified, identify methods to preserve the resource or to document and account for the resource. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed..

Implementation of the proposed 2040 General Plan policy and actions would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. This impact would be **less than significant**, and no mitigation measures are necessary.

### **GENERAL PLAN POLICY AND ACTION THAT REDUCES THE POTENTIAL FOR IMPACTS**

#### **POLICY – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-7.3: Protect archaeological/paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs.

#### **ACTION– RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-7.i: Require a records search for any proposed development project, to determine whether the site contains known archaeological, historic, cultural, or paleontological resources and/or to determine the potential for discovery of additional cultural or paleontological resources. If any resources are identified, identify methods to preserve the resource or to document and account for the resource. This requirement may be waived if determined by the City that the proposed project area is already sufficiently surveyed.

Figure 3.6-1:

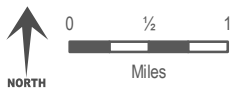
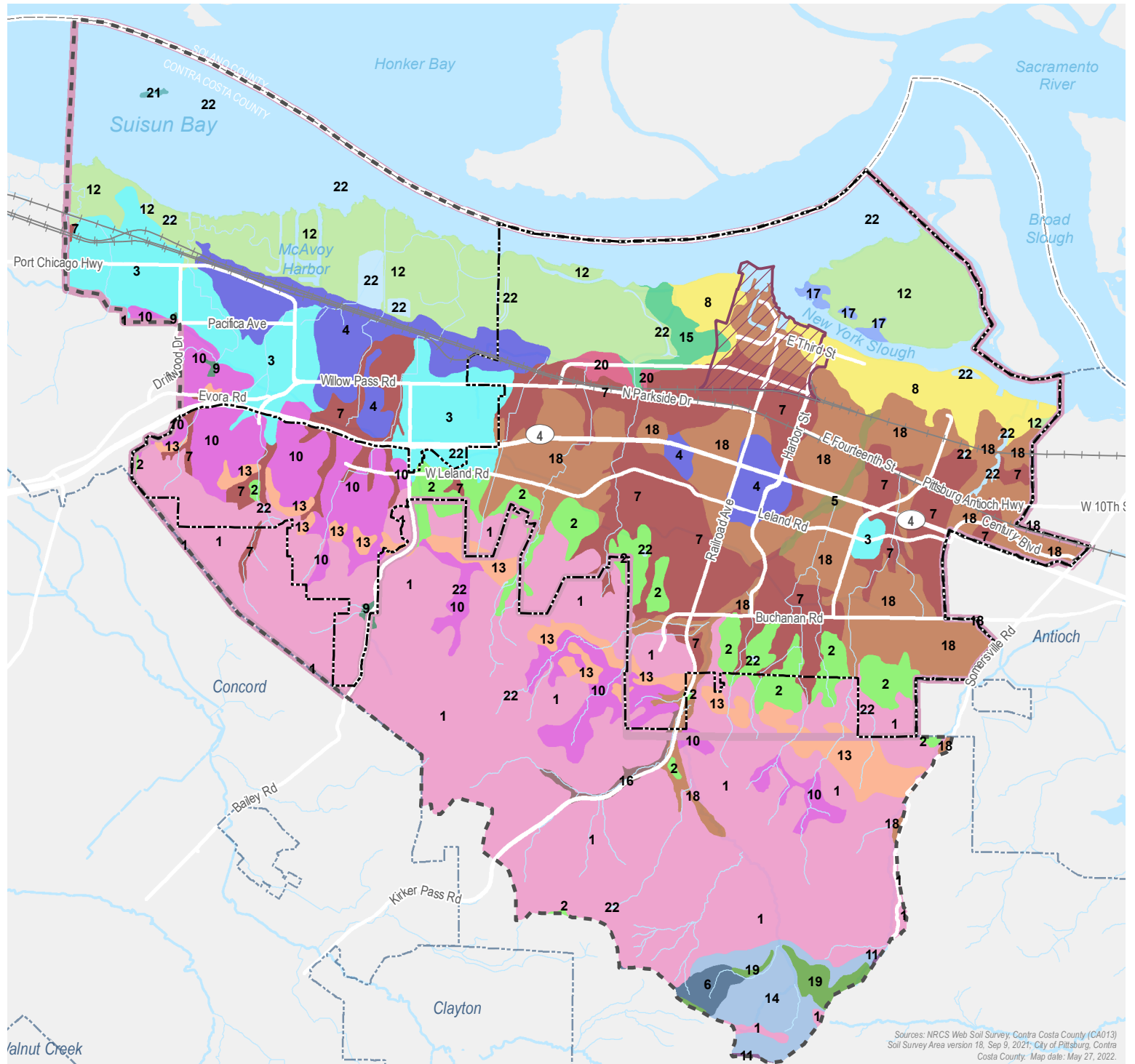
# NRCS SOILS

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Subarea
- Neighboring City

## Map Label: Soil Classification

- 1: Altamont-Fontana complex
- 2: Altamont clay, MLRA 15
- 3: Antioch loam
- 4: Antioch loam, MLRA 14
- 5: Brentwood clay loam
- 6: Briones loamy sand
- 7: Capay clay, MLRA 17
- 8: Clear Lake clay, MLRA 15
- 9: Cropley clay
- 10: Diablo clay, MLRA 15
- 11: Gaviota sandy loam MLRA 15
- 12: Joice muck, MLRA 16
- 13: Lodo-Rock outcrop complex
- 14: Los Gatos loam
- 15: Omni silty clay
- 16: Pescadero clay, loam strongly alkali
- 17: Piper sandy loam
- 18: Rincon clay loam, MLRA 14
- 19: Rock outcrop-Xerorthents association
- 20: Sycamore silty clay loam, MLRA 17
- 21: Tidal marsh
- 22: Water



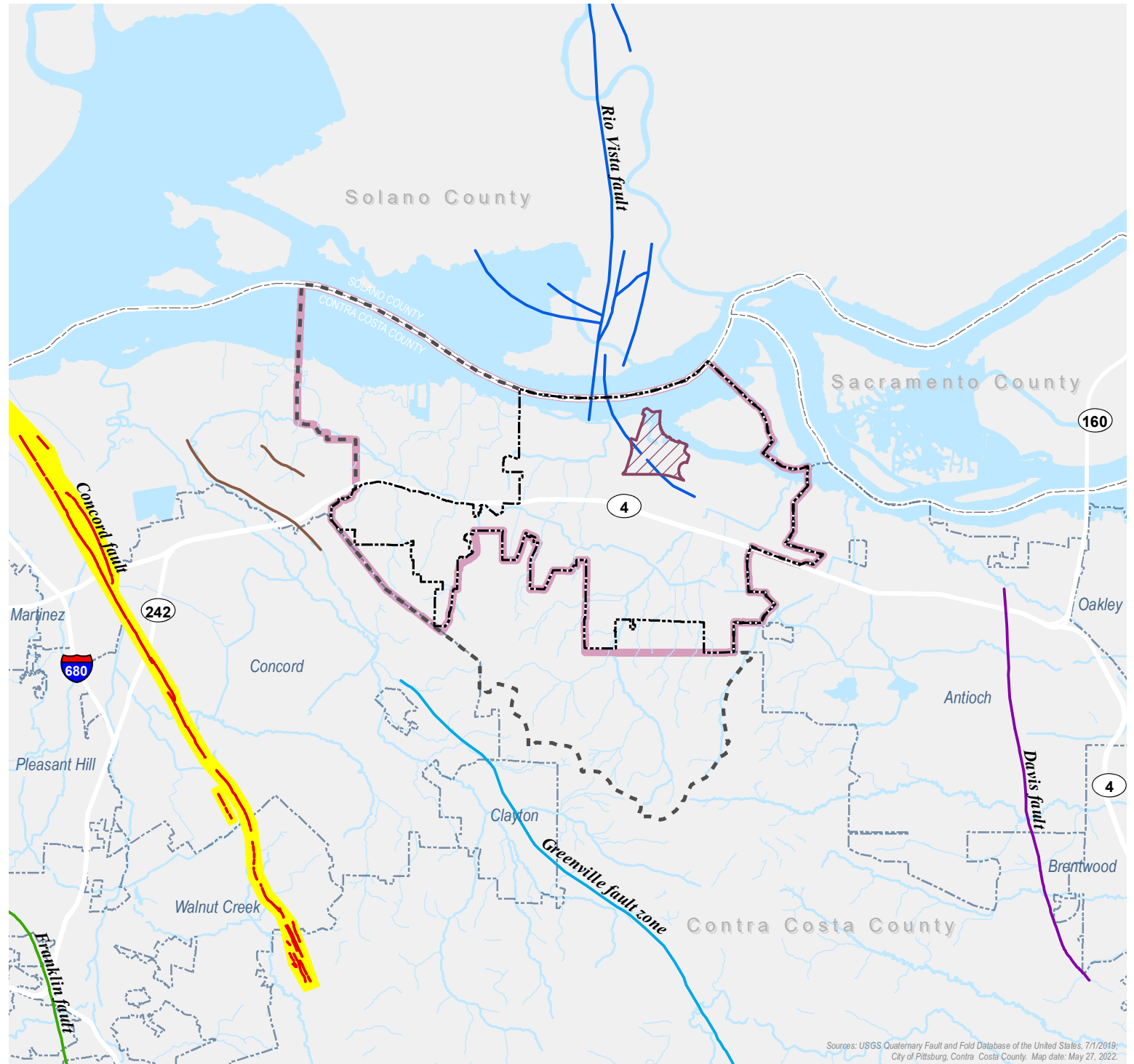
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Figure 3.6-2:

# LOCAL EARTHQUAKE FAULT ZONES

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Subarea
- Neighboring City
- County Boundary
- Concord fault
- Davis fault
- Franklin fault
- Greenville fault zone
- Mount Diablo thrust fault
- Rio Vista fault
- Unnamed fault
- Alquist-Priolo fault zone



Sources: USGS Quaternary Fault and Fold Database of the United States, 7/1/2019; City of Pittsburg, Contra Costa County. Map date: May 27, 2022.







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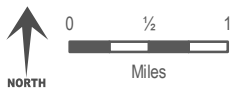
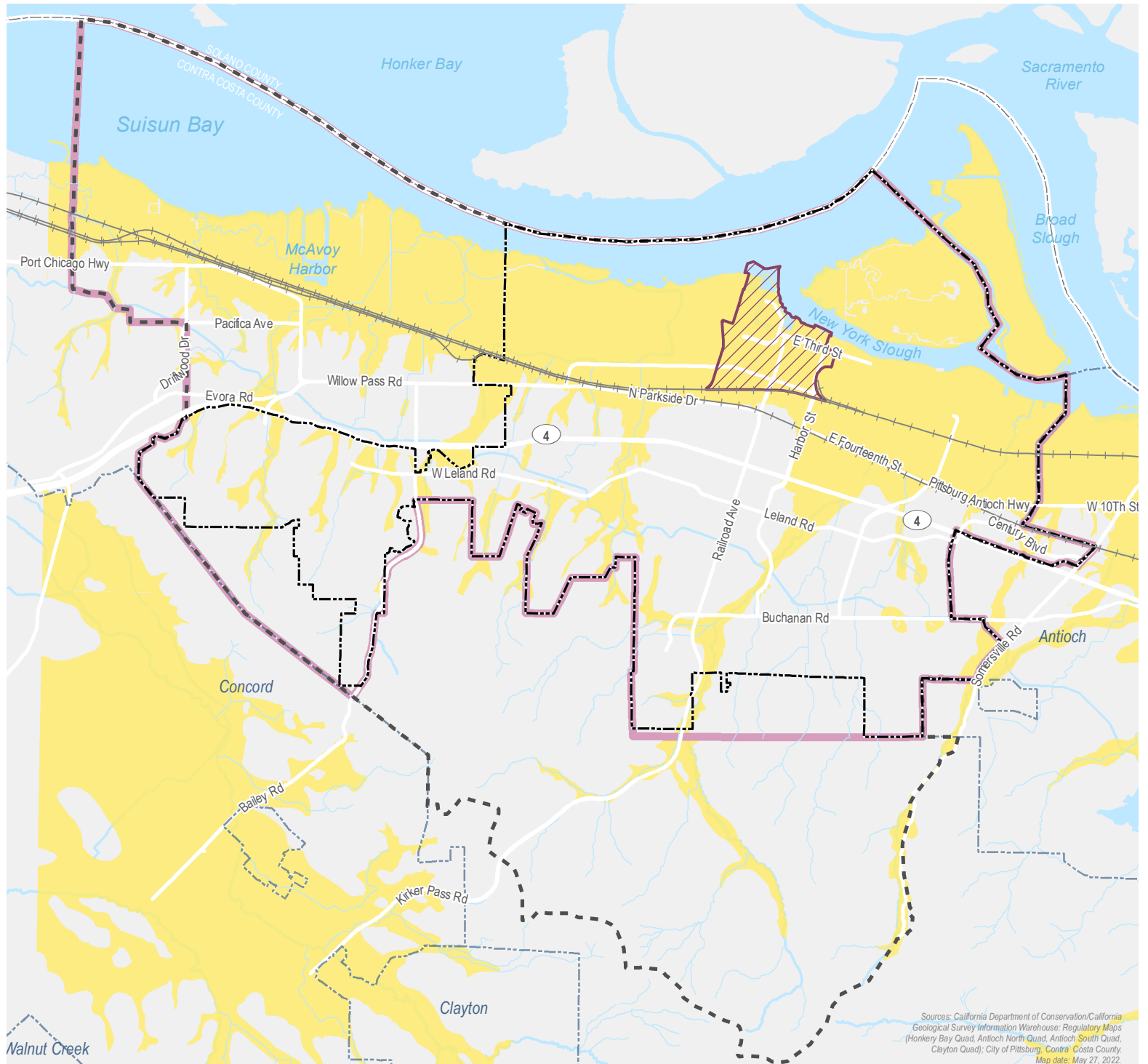


Figure 3.6-3:

# LIQUEFACTION SEISMIC HAZARD ZONES

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Subarea
-  Neighboring City
-  Liquefaction Seismic Hazard Zone



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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy impacts that could result from future implementation of the 2040 General Plan. This section provides a background discussion of GHGs and climate change linkages and effects of global climate change. This section also provides background discussion on energy use in Pittsburg. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis and discussion of the GHG, climate change, and energy impacts in this section focuses on the General Plan's consistency with local, regional, statewide, and federal climate change and energy conservation planning efforts and discusses the context of these planning efforts as they relate to the proposed project. Disclosures of the estimated energy usage and GHG emissions due to implementation of the 2040 General Plan are provided.

Emissions of GHGs are cumulative by nature, and as such, they have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change; however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change are presented in terms of the proposed project's contribution to cumulative impacts and the potential for resulting cumulatively considerable impacts related to GHGs and climate change.

There was one comment received during the NOP comment period regarding GHGs. One comment was provided from the Bay Area Air Quality Control District (May 16, 2022). All comments are included in Appendix A.

### 3.7.1 ENVIRONMENTAL SETTING

#### GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

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Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and ozone. Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2019, concentrations of these three GHGs have increased globally by 47, 156, and 23 percent, respectively (IPCC, 2023).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

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prominent GHGs contributing to the greenhouse effect are cCO<sub>2</sub>) CH<sub>4</sub>, ozone, water vapor, N<sub>2</sub>), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Air Resources Board, 2023).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 369 million gross metric tons of carbon dioxide equivalents (MMTCO<sub>2</sub>e) in 2020 (California Air Resources Board, 2023).

CO<sub>2</sub>equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in CO<sub>2</sub> equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2020, accounting for 38 percent of total GHG emissions in the state. This category was followed by the industrial sector (23 percent), the electricity generation sector (including both in-state and out-of-state sources) (16 percent), the agriculture and forestry sector (nine percent), the residential energy consumption sector (eight percent), and the commercial energy consumption sector (six percent) (California Air Resources Board, 2023).

### EFFECTS OF GLOBAL CLIMATE CHANGE

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The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. The snowpack portion of the supply could potentially decline by 50 percent to 75 percent by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges in securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century, and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. According to the Indicators of Climate Change in California report (OEHHA, 2022), the impacts of global warming in California are anticipated to include, but are not limited to, the following:

#### PUBLIC HEALTH

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25 percent to 35 percent under the lower warming range and to 75 percent to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90 degrees Fahrenheit in Los Angeles and 95 degrees Fahrenheit in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

#### WATER RESOURCES

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major fresh water supply in the State. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25 percent of the water supply they need; decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and

precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70 percent to 90 percent. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

### AGRICULTURE

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued climate change will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

### FORESTS AND LANDSCAPES

Climate change is expected to alter the distribution and character of natural vegetation, thereby resulting in a possible increased risk of major wildfires. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, landscape, and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30 percent toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90 percent.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60

percent to 80 percent by the end of the century, as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease, as a result of global warming.

#### RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. The San Francisco Bay is vulnerable to a range of natural hazards, including storms, extreme high tides, and rising sea levels resulting from climate change.

Rising seas put new areas at risk of flooding and increase the likelihood and intensity of floods in areas that are already at risk. California's Sea Level Rise Guidance Document (2018) projects a "likely" (66 percent probability) increase in sea level at the San Francisco tide gauge of 10 inches by 2040. By the end of the century, sea levels are likely to rise by 2.4 feet under a low emissions scenario and 3.4 feet under a high emissions scenario. Flooding will be more severe when combined with storm events.

## EXISTING GREENHOUSE GAS EMISSIONS IN PITTSBURG

### **Community and Municipal Operations GHG Emissions Inventories**

The City of Pittsburg, in collaboration with ICLEI – Local Governments for Sustainability, had previously developed community and municipal operations greenhouse gas inventories for baseline year 2005. In 2019, the City, in collaboration with Rincon Consultants, developed an updated community and municipal operations baseline year 2005 GHG inventories, and prepared community and municipal operations year 2016 GHG inventories. The 2005 inventories were updated to reflect methodologies and sectors that are consistent with the 2016 inventories and to remove the industrial sector, over which the community has no control or authority.

#### 2005 PITTSBURG UPDATED COMMUNITY GHG EMISSIONS

The 2005 updated community GHG inventory included the following GHG inventory sectors that occurred within City limits:

- Energy;
- Transportation;
- Off-road vehicles and equipment;
- Water and wastewater; and
- Waste.

The inventory utilizes data from the City and Contra Costa Sanitary District (CCSD) for waste and water usage, PG&E for energy usage, Metropolitan Transportation Commission (MTC), and the California Air Resources Board (CARB) for on-road transportation, CARB for off-road vehicles and

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

equipment, the City, CARB and port<sup>1</sup> lessees for marine transit, BART for passenger rail transit, and CalRecycle and LandW Garbage Service for solid waste. Data analysis methodology for the inventory follows the standards of the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, published by ICLEI USA. The report's appendices detail methodology by sector, including emissions factors and activity data.

As shown in Table 3.7-1, the baseline community-wide GHG inventory for 2005 totaled 404,067 MT of CO<sub>2</sub>e. On-road transportation resulted in the largest share of GHG emissions in 2005, accounting for 46 percent of total emissions. Energy use accounted for approximately 38 percent of emissions and off-road transportation and equipment accounted for nine percent of emissions. The remaining emissions were a result of solid waste, water consumption and wastewater treatment, rail and marine transit, which each accounted for approximately seven percent of total emissions.

**TABLE 3.7-1: CITY OF PITTSBURG UPDATED COMMUNITY GHG EMISSIONS - 2005**

<i>SECTOR</i>	<i>EMISSIONS (MT CO<sub>2</sub>E/YEAR)</i>	<i>PERCENT OF TOTAL EMISSIONS</i>
<i>ENERGY</i>		
Electricity use in residential and non-residential buildings	80,052	18.8 %
Natural gas use in residential and non-residential buildings	73,984	18.3%
Electricity transmission and distribution losses	--	1.0%
<i>ON-ROAD TRANSPORTATION</i>		
On-road transportation	184,310	45.6%
<i>WASTE</i>		
Decomposition of solid waste sent to landfills	20,101	5.0%
<i>WATER AND WASTEWATER</i>		
Electricity used to treat, transport, and pump water	4,708	1.2%
Wastewater collection and treatment	517	0.1%
<i>OFF-ROAD VEHICLES AND EQUIPMENT</i>		
Recreational vehicles, landscaping, construction, material handling and agricultural equipment	37,089	9.2%
<i>RAIL TRANSPORT</i>		
BART passenger rail	1,170	0.3%
<i>MARINE TRANSPORT</i>		
Port transport and goods movement	2,136	0.5%
<b>Total</b>	<b>404,067</b>	<b>100%</b>

<sup>1</sup>OFF-ROAD VEHICLES AND EQUIPMENT ENCOMPASS THOSE INCLUDED IN CARB'S ORION DATABASE. IN ADDITION TO THE ABOVE, THIS IS ALSO COMPOSED OF COMMERCIAL AND RECREATION MARINE VESSELS, STREET SWEEPING VEHICLES, PUMPS, GENERATORS, AIR COMPRESSORS, HYDROPOWER UNITS, AND WATERCRAFT.

MT CO<sub>2</sub>E/YEAR = METRIC TONS OF CARBON DIOXIDE EQUIVALENTS PER YEAR

SOURCE: CITY OF PITTSBURG GREENHOUSE GAS INVENTORIES, UPDATED 2005 AND 2016.

<sup>1</sup> There are about two nautical miles of vessel lanes that pass through Pittsburg's waterways, and two commercial ports where large marine vessels enter and dock.



## 2016 PITTSBURG COMMUNITY GHG EMISSIONS

The 2016 community GHG inventory addresses the same sectors as the 2005 inventory. The 2016 inventory utilizes data from the City and CCSD for waste and water usage; PG&E for energy usage; MTC and CARB for on-road transportation, CARB for off-road vehicles and equipment, the City and port lessees for marine transit, BART for passenger rail transit, and the City and CalRecycle for solid waste. Data analysis methodology for the GHG inventory follows the standards of the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions.

As shown in Table 3.7-2, the baseline community GHG inventory for 2016 totaled 428,563 MT of CO<sub>2</sub>e. Energy resulted in the largest share of greenhouse gas emissions in 2016, accounting for 48 percent of total emissions. On-road transportation accounted for approximately 36 percent of emissions and off-road vehicles and equipment accounted for 11 percent of emissions. The remaining emissions were a result of solid waste, water treatment, conveyance and wastewater processing, rail and marine transit, which each accounted for approximately 5.5 percent of total emissions.

**TABLE 3.7-2: CITY OF PITTSBURG UPDATED COMMUNITY GHG EMISSIONS - 2016**

<i>SECTOR</i>	<i>EMISSIONS (MT CO<sub>2</sub>E/YEAR)</i>	<i>PERCENT OF TOTAL EMISSIONS</i>
<i>ENERGY</i>		
Electricity use in residential and non-residential buildings	30,442	7.1%
Natural gas use in residential and non-residential buildings	173,020	40.4%
Electricity transmission and distribution losses	2,636	0.6%
<i>ON-ROAD TRANSPORTATION</i>		
On-road transportation	152,535	35.6%
<i>WASTE</i>		
Decomposition of solid waste sent to landfills	20,269	4.8%
<i>WATER AND WASTEWATER</i>		
Electricity used to treat, transport, and pump water	1,917	0.4%
Wastewater collection and treatment	526	0.1%
<i>OFF-ROAD VEHICLES AND EQUIPMENT</i>		
Recreational vehicles, landscaping, construction, material handling and agricultural equipment	46,240	10.8%
<i>RAIL TRANSPORT</i>		
BART passenger rail	163	<0.1%
<i>MARINE TRANSPORT</i>		
Port transport and goods movement	814	0.2%
<b>Total</b>	<b>428,563</b>	<b>100%</b>

<sup>1</sup>OFF-ROAD VEHICLES AND EQUIPMENT ENCOMPASS THOSE INCLUDED IN CARB'S ORION DATABASE. IN ADDITION TO THE ABOVE, THIS IS ALSO COMPOSED OF COMMERCIAL AND RECREATION MARINE VESSELS, STREET SWEEPING VEHICLES, PUMPS, GENERATORS, AIR COMPRESSORS, HYDROPOWER UNITS, AND WATERCRAFT.

MT CO<sub>2</sub>E/YEAR = METRIC TONS OF CARBON DIOXIDE EQUIVALENTS PER YEAR

SOURCE: CITY OF PITTSBURG GREENHOUSE GAS INVENTORIES UPDATED 2005 AND 2016

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

Table 3.7-3, below, provides a side-by-side comparison of the 2005 and 2016 Pittsburgh community GHG emissions.

**TABLE 3.7-3: CITY OF PITTSBURG UPDATED COMMUNITY GHG EMISSIONS – 2005 AND 2016**

SECTOR	EMISSIONS - 2005	EMISSIONS - 2016
<i>ENERGY</i>		
Electricity use in residential and non-residential buildings	80,052	30,442
Natural gas use in residential and non-residential buildings	73,984	173,020
Electricity transmission and distribution losses	--	2,636
<i>ON-ROAD TRANSPORTATION</i>		
On-road transportation	184,310	152,535
<i>WASTE</i>		
Decomposition of solid waste sent to landfills	20,101	20,269
<i>WATER AND WASTEWATER</i>		
Electricity used to treat, transport, and pump water	4,708	1,917
Wastewater collection and treatment	517	526
<i>OFF-ROAD VEHICLES AND EQUIPMENT</i>		
Recreational vehicles, landscaping, construction, material handling and agricultural equipment	37,089	46,240
<i>RAIL TRANSPORT</i>		
BART passenger rail	1,170	163
<i>MARINE TRANSPORT</i>		
Port transport and goods movement	2,136	814
<b>Total</b>	<b>404,067</b>	<b>428,563</b>

<sup>1</sup>OFF-ROAD VEHICLES AND EQUIPMENT ENCOMPASS THOSE INCLUDED IN CARB'S ORION DATABASE. IN ADDITION TO THE ABOVE, THIS IS ALSO COMPOSED OF COMMERCIAL AND RECREATION MARINE VESSELS, STREET SWEEPING VEHICLES, PUMPS, GENERATORS, AIR COMPRESSORS, HYDROPOWER UNITS, AND WATERCRAFT.

MT CO<sub>2</sub>E/YEAR = METRIC TONS OF CARBON DIOXIDE EQUIVALENTS PER YEAR

SOURCE: CITY OF PITTSBURG GREENHOUSE GAS INVENTORIES UPDATED 2005 AND 2016

### 2005 PITTSBURG MUNICIPAL OPERATIONS GHG EMISSIONS

The municipal operations greenhouse gas inventory included the following four sources:

- Transportation (composed of employee commutes and the vehicle fleet);
- Building and facility energy usage;
- Municipal Water Supply and Wastewater; and
- Solid Waste

Data analysis methodology follows the Local Government Operations Protocol V 1.1 (LGOP) published by the CARB, California Climate Action Registry, The Climate Registry, and ICLEI USA. The LGOP further categorizes sectors by the following sub-sectors for local government operations: 1) buildings and other facilities, 2) streetlights and traffic signals, 3) water delivery facilities, 4) port facilities, 5) airport facilities, 6) vehicle fleet, 7) transit fleet, 8) power generation facilities, 9) solid waste facilities, 10) wastewater facilities, and 11) all processes and fugitive emissions. The City does not have operational control of an airport, port, power generation facility, or solid waste facility. Local government operations are discussed only in terms of sectors and sub-sectors the City has

operational control over. As shown in Table 3.7-4, below, the baseline municipal operations greenhouse gas emissions inventory for 2005 totaled 5,681 MT of CO<sub>2</sub>e.

**TABLE 3.7-4: CITY OF PITTSBURG UPDATED MUNICIPAL OPERATIONS GHG EMISSIONS - 2005**

SECTOR	EMISSIONS (MT CO <sub>2</sub> E/YEAR)	PERCENT OF TOTAL EMISSIONS
<i>ENERGY</i>		
Building and Facility electricity and natural gas	1,377	24%
Streetlights and traffic signals	538	9%
<i>TRANSPORTATION</i>		
Employee Commute	887	16%
Vehicle and Transit Fleet	1,207	21%
<i>WASTE</i>		
Methane generated from decomposition of solid waste sent to landfills	206	4%
<i>WATER AND WASTEWATER</i>		
Electricity used to treat, transport, and pump water and wastewater to City facilities	1,462	26%
Wastewater collection and processing	5	<1%
<b>Total</b>	<b>5,681</b>	<b>100%</b>

<sup>1</sup>OFF-ROAD VEHICLES AND EQUIPMENT ENCOMPASS THOSE INCLUDED IN CARB'S ORION DATABASE. IN ADDITION TO THE ABOVE, THIS IS ALSO COMPOSED OF COMMERCIAL AND RECREATION MARINE VESSELS, STREET SWEEPING VEHICLES, PUMPS, GENERATORS, AIR COMPRESSORS, HYDROPOWER UNITS, AND WATERCRAFT.

MT CO<sub>2</sub>E/YEAR = METRIC TONS OF CARBON DIOXIDE EQUIVALENTS PER YEAR

SOURCE: CITY OF PITTSBURG GREENHOUSE GAS INVENTORIES UPDATED 2005 AND 2016

2016 PITTSBURG MUNICIPAL OPERATIONS GHG EMISSIONS

As for the 2005 inventory update, data analysis methodology for the 2016 inventory follows the LGOP. The LGOP categorizes sectors by the following sub-sectors for local government operations: 1) buildings and other facilities, 2) streetlights and traffic signals, 3) water delivery facilities, 4) port facilities, 5) airport facilities, 6) vehicle fleet, 7) transit fleet, 8) power generation facilities, 9) solid waste facilities, 10) wastewater facilities, and 11) all processes and fugitive emissions. Local government operations are discussed only in terms of sectors and sub-sectors over which the City has operational control. Appendix A details methodology by sector, including emissions factors and activity data. As shown in Table 3.7-5, below, the municipal operations GHG emissions inventory for 2016 totaled 3,520 MT of CO<sub>2</sub>e.

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

**TABLE 3.7-5: CITY OF PITTSBURGH MUNICIPAL OPERATIONS GHG EMISSIONS - 2016**

SECTOR	EMISSIONS (MT CO <sub>2</sub> E/YEAR)	PERCENT OF TOTAL EMISSIONS
<i>ENERGY</i>		
Building and Facility electricity and natural gas	647	19%
Marina	94	3%
Streetlights and traffic lights	104	3%
<i>TRANSPORTATION</i>		
Employee Commute	339	10%
Vehicle and Transit Fleet	1,390	39%
<i>WASTE</i>		
Methane generated from decomposition of solid waste sent to landfills	339	11%
<i>WATER AND WASTEWATER</i>		
Wastewater collections and treatment	6	<1%
Electricity used to treat, transport, and pump water and wastewater to City facilities	547	16%
<b>Total</b>	<b>3,520</b>	<b>100%</b>

<sup>1</sup>OFF-ROAD VEHICLES AND EQUIPMENT ENCOMPASS THOSE INCLUDED IN CARB'S ORION DATABASE. IN ADDITION TO THE ABOVE, THIS IS ALSO COMPOSED OF COMMERCIAL AND RECREATION MARINE VESSELS, STREET SWEEPING VEHICLES, PUMPS, GENERATORS, AIR COMPRESSORS, HYDROPOWER UNITS, AND WATERCRAFT.

MT CO<sub>2</sub>E/YEAR = METRIC TONS OF CARBON DIOXIDE EQUIVALENTS PER YEAR

SOURCE: CITY OF PITTSBURGH GREENHOUSE GAS INVENTORIES UPDATED 2005 AND 2016

Table 3.7-6, below, provides a side-by-side comparison of the 2005 and 2016 Pittsburgh municipal operations GHG emissions.

**TABLE 3.7-6: CITY OF PITTSBURGH UPDATED MUNICIPAL OPERATIONS GHG EMISSIONS – 2005 AND 2016**

SECTOR	EMISSIONS (2005)	EMISSIONS (2016)
<i>ENERGY</i>		
Building and Facility electricity and natural gas	1,377	647
Marina	-	94
Streetlights and traffic signals	538	104
<i>TRANSPORTATION</i>		
Employee Commute	887	339
Vehicle and Transit Fleet	1,207	1,390
<i>WASTE</i>		
Methane generated from decomposition of solid waste sent to landfills	206	339
<i>WATER AND WASTEWATER</i>		
Electricity used to treat, transport, and pump water and wastewater to City facilities	1,462	547
Wastewater collection and processing	5	6
<b>Total</b>	<b>5,681</b>	<b>3,520</b>

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<sup>1</sup>OFF-ROAD VEHICLES AND EQUIPMENT ENCOMPASS THOSE INCLUDED IN CARB'S ORION DATABASE. IN ADDITION TO THE ABOVE, THIS IS ALSO COMPOSED OF COMMERCIAL AND RECREATION MARINE VESSELS, STREET SWEEPING VEHICLES, PUMPS, GENERATORS, AIR COMPRESSORS, HYDROPOWER UNITS, AND WATERCRAFT.

MT CO<sub>2</sub>E/YEAR = METRIC TONS OF CARBON DIOXIDE EQUIVALENTS PER YEAR

SOURCE: CITY OF PITTSBURG GREENHOUSE GAS INVENTORIES UPDATED 2005 AND 2016

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## ENERGY CONSUMPTION

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Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the state. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the state's current Renewable Portfolio Standard (RPS), which requires the state to derive at least 60 percent of electricity generated from renewable resources by 2030 and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2019, California was the second-largest total energy consumer among U.S. states, but its per capita energy consumption was less than in all other states except Rhode Island, due in part to its mild climate and its energy efficiency programs (U.S. EIA, 2022). Many state regulations since the 1970s, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the state in check.

The consumption of non-renewable energy (i.e., fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

### Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2020, California received approximately 30 percent of its electricity supply from outside the state. In 2020, wind energy and hydropower facilities each supplied about one-fifth of California's imported electricity. Other, unspecified sources supplied nearly one-fifth of imports. Nuclear energy and natural gas each accounted for more than one-tenth, and coal fueled less than one-tenth. Other renewable resources accounted for most of the rest. Although coal-fired power plants supplied approximately nine percent of imports, coal's total contribution to the state's electricity supply from imports and in-state generation in 2020 was less than three percent (U.S. EIA, 2022). Renewable resources, including hydropower and small-scale (less than 1-megawatt), customer-sited solar photovoltaic (PV) systems, supplied nearly half of California's total in-state electricity generation despite a decline in hydroelectric generation caused by drought. Natural gas-fired power plants provided more than two-fifths of the state's total net generation and about half of California's utility-scale generation. Nuclear power's share of in-state generation was less than one-tenth, down from nearly one-fifth in 2011 (U.S. EIA, 2022).

California's renewable portfolio standard (RPS), enacted in 2002, and revised several times since then, required that 33 percent of electricity retail sales in California come from eligible renewable resources by 2020. The state met that goal three years before the target date. The RPS also requires that 60 percent of electricity retail sales come from renewables by 2030, and 100 percent by 2045. By 2020, qualifying renewables generated an estimated 36 percent of the State's electricity retail sales (U.S. EIA, 2022). According to the California Energy Commission (CEC), total statewide electricity consumption was 272,576 gigawatt-hours (GWh) in 2020, down two percent from 2019. In 2020, electricity consumption in Contra Costa County was 8,622 GWh (California Energy Commission, 2022). Residents of the City use PG&E as their electricity provider.

### **Oil**

The primary energy source for the U.S. is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2018, world consumption of oil had reached 100 million barrels per day. The U.S., with approximately five percent of the world's population, accounts for approximately 21 percent of world oil consumption, or approximately 20.5 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the state's transportation energy needs.

### **Natural Gas/Propane**

California's natural gas production is less than one-tenth of the state's total end-use sector consumption. In 2020, about 34 percent of the natural gas delivered to California consumers went to the state's industrial sector, and about 30 percent went to the electric power sector, where it fuels about half of the state's utility-scale electricity generation. The residential sector, where two-thirds of California households use natural gas for home heating, accounted for 23 percent of natural gas use, and the commercial sector used about 12 percent. The transportation sector uses compressed natural gas vehicle fuel, and it consumed the remaining one percent (U.S. EIA, 2022). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the Contra Costa County area and the City. In 2020, natural gas consumption in Contra Costa County was 1,061 million therms (California Energy Commission, 2022).

## 3.7.2 REGULATORY SETTING

### FEDERAL

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#### **Clean Air Act**

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor National Ambient Air Quality Standards (NAAQS)

vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. Environmental Protection Agency (USEPA) is responsible for administering the FCAA. The FCAA requires the USEPA to set NAAQS for several problem air pollutants based on human health and welfare criteria.

On April 2, 2007, in the case of *Massachusetts et al. vs. the USEPA et al.* (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the FCAA (42 USC Sections 7401-7671q). The U.S. Supreme Court held that the USEPA Administrator must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the USEPA Administrator is required to follow the language of Section 202(a) of the FCAA. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the FCAA:

- **Endangerment Finding:** The USEPA Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The USEPA Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

### **Energy Policy and Conservation Act**

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through the Energy Policy and Conservation Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Energy Policy and Conservation Act, the NHTSA, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which

is administered by the USEPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The USEPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

### **Energy Policy Act of 1992 (EPAct)**

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

### **Energy Policy Act of 2005**

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the Energy Policy Act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

### **Federal Climate Change Policy**

According to the USEPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The USEPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

### **Mandatory Greenhouse Gas Reporting Rule**

In 2009, USEPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the U.S. In general, this national reporting requirement will provide USEPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO<sub>2</sub> per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85 percent of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.



## STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the \state. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the state; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB “Scoping Plans” intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

### **Statutes Setting Statewide GHG Reduction Targets**

#### **ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)**

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

#### **SENATE BILL 32**

Senate Bill (SB) 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that “[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.” In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the California Legislature has codified some of the GHG reduction targets included within Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger’s 2005 Executive Order, known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) Executive Order S-3-05 included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several state agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission

reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in Executive Order S-3-05.

In 2015, Governor Gerald Brown issued Executive Order, B-30-15, which created a “new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.” SB 32 codified this target.

In 2018, the Governor Brown issued Executive Order B-55-18, which established a statewide goal to “achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter.” The order directs CARB to work with other State agencies to identify and recommend measures to achieve those goals.

The California Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. SB 350 (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain state agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that “[t]he Legislature finds and declares [that] ... [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.” Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the CEC, must “direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, ... and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”

### **Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity**

#### CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In 2002, the Legislature enacted SB 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, Section 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State’s electricity would be generated by renewable sources. (Pub. Utility Code, Section 399.11, subd. (a) [subsequently amended].) As described in the Legislative Counsel’s Digest, SB 1078 required “[e]ach electrical corporation ... to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical

corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year.”

In 2006, the California Legislature enacted SB 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, Section 399.11, subd (a) [subsequently amended].)

SB X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the state’s electricity come from renewables by 2020. This legislation applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].)

SB 350, discussed above, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) Of equal significance, SB 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must “direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, ... and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”

Executive Order B-16-12, issued in 2012, embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the state meet its GHG reduction targets. Executive Order B-16-12 directed the state government to accelerate the market for ZEVs in California through fleet replacement and electric vehicle infrastructure. Executive Order B-16-12 set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be “ZEV ready”;
- By 2020, the State will have established adequate infrastructure to support one million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, SB 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the state will have to achieve a 50 percent renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60 percent target by December 31, 2030. The legislation also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100

percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown established a goal for the state of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

### **Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels**

#### **ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS**

In 2002, the California Legislature enacted Assembly Bill 1493 (“Pavley Bill”) (Stats. 2002, ch. 200), which directed CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the “Pavley standards.” In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the “Pavley II standards.” (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and ZEVs in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the ZEV regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

### **Cap and Trade Program**

In 2011, CARB adopted the final cap-and-trade program for California (See CCR Title 17, Sections 95801-96022.) The California cap-and-trade program creates a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012) and (2) fuel combustion and transportation (2015).

According to 2012 CARB guidance, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance continues to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 MTCO<sub>2</sub>e per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

AB 398 (Stats. 2017, ch. 135) extended the life of the existing Cap and Trade Program through December 2030.

### **Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives**

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

SB 375 is 2008 legislation built on the foundation established by AB 32, by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035. Each of California's

metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

### Climate Change Scoping Plans

#### AB 32 SCOPING PLAN

On December 11, 2008, CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce carbon dioxide-equivalent (CO<sub>2</sub>e) emissions by 169 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO<sub>2</sub>e under a business-as-usual scenario. (This is a reduction of 42 MMT CO<sub>2</sub>e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO<sub>2</sub>e);
- the Low-Carbon Fuel Standard (15.0 MMT CO<sub>2</sub>e);
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO<sub>2</sub>e); and
- a renewable portfolio standard for electricity production (21.3 MMT CO<sub>2</sub>e).

CARB updated the Scoping Plan in 2013 (*First Update to the Scoping Plan*) and again in 2017 (the *Final Scoping Plan*). The 2013 Update built upon the initial Scoping Plan with new strategies and recommendations, and also set the groundwork to reach the long-term goals set forth by the state. Successful implementation of existing programs (as identified in previous iterations of the Scoping Plan) has put California on track to meet the 2020 target.

With the passage of SB 32, the California Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response, CARB adopted an updated Scoping Plan in December 2017 (2017 Update). The document reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;

- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks;
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

The 2017 Update relies on the preexisting programs paired with an extended, more stringent Cap-and-Trade Program, to deliver climate, air quality, and other benefits. The 2017 Update identifies new technologically and feasible and cost-effective strategies to ensure that California meets its GHG reduction goals.

CARB adopted the 2022 version of the Scoping Plan (the Scoping Plan for Achieving Carbon Neutrality) on November 16, 2022. The 2022 Scoping Plan Update assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045.

### **Building Code Requirements Intended to Reduce GHG Emissions**

#### CALIFORNIA ENERGY CODE

The California Energy Code (CCR Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

The most recent Title 24 standards are the 2022 Title 24 standards. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. The California Energy Commission updates the standards every three years. The CEC estimates that the 2022 Title 24 standards will reduce 10 million metric tons of GHG over 30 years. When compared to the 2019 Title 24 standards, the 2022 update focuses on: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic (PV) system and battery storage standards; and strengthening ventilation standards to improve indoor air quality.

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

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### CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (CalGreen) (CCR Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. CalGreen, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- Tier II: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

The latest version of CalGreen is the 2022 CalGreen Code, which became effective on January 1, 2023. Between 2010 and 2022, continuous updates and additions have been made to CALGreen, including water conservation and recycling, electric vehicle infrastructure and charging, and changes intended to eliminate conflicts with the California Energy Code, which is Part 6 of Title 24.

### LOCAL

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#### **Bay Area Air Quality Management District (BAAQMD)**

The BAAQMD attains and maintains air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BAAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA, FCAAA, and the CCAA. For State air quality purposes, the Bay



Area is classified as a serious nonattainment area of the 1-hour ozone standard. The “serious” classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the Bay Area update the Clean Air Plan every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data.

The *2017 Clean Air Plan: Spare the Air, Cool the Climate* (2017 Clean Air Plan) was adopted on April 19, 2019, by BAAQMD in cooperation with the MTC, the San Francisco Bay Conservation and Development Commission, and the Associate of Bay Area Governments (ABAG). The 2017 Clean Air Plan describes a multi-pollutant strategy to simultaneously reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as greenhouse gases that contribute to climate change. The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the 2017 Clean Air Plan describes how BAAQMD will continue our progress toward attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other “super-GHGs” that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

#### ***BAAQMD 2022 CEQA Guidelines***

The BAAQMD 2022 CEQA Air Quality Guidelines (CEQA Guidelines) are the latest version of the BAAQMD’s CEQA Guidelines and were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and GHG emissions. In June 2010, the BAAQMD’s Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Air Quality Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts.

The thresholds were challenged in court. Following litigation in the trial court, the Court of Appeal, and the California Supreme Court, all of the thresholds were upheld. However, in an opinion issued on December 17, 2015, the California Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the project would exacerbate existing environmental hazards. The Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances,

including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The Supreme Court also held that public agencies remain free to conduct this analysis regardless of whether it is required by CEQA.

In view of the Supreme Court's opinion, local agencies may rely on thresholds designed to reflect the impact of locating development near areas of toxic air contamination where such an analysis is required by CEQA or where the agency has determined that such an analysis would assist in making a decision about the project. However, the thresholds are not mandatory and agencies should apply them only after determining that they reflect an appropriate measure of a project's impacts.

The CEQA Air Quality Guidelines for implementation of the thresholds are for information purposes only to assist local agencies. Recommendations in the CEQA Air Quality Guidelines are advisory and should be followed by local governments at their own discretion. These Guidelines may inform environmental review for development projects in the Bay Area, but do not commit local governments or BAAQMD to any specific course of regulatory action.

Land use projects and plans have the potential to generate air pollutants (and precursors) that contribute to the degradation of regional air quality, increase the exposure of local populations to harmful pollutants, and contribute to climate change. The purpose of the Air District's CEQA Guidelines is to assist lead agencies in evaluating air quality and climate impacts from proposed land use projects and plans in the San Francisco Bay Area Air Basin. The CEQA Guidelines include nonbinding recommendations for how a lead agency can evaluate, measure, and mitigate air quality and climate impacts generated from land use construction and operational activities.

The CEQA Guidelines do not replace the State CEQA Statute and Guidelines; rather, they are designed to provide Air District-recommended procedures for evaluating potential air quality and climate impacts during the environmental review process that are consistent with CEQA requirements. The revised Guidelines supersede the Air District's previous CEQA guidance titled BAAQMD CEQA Air Quality Guidelines (this earlier version of the CEQA Guidelines was published in May 2017). BAAQMD published a new version of the CEQA Air Quality Guidelines, dated April 2022, which includes revisions made to address the Supreme Court's opinion.

### ***Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans***

The BAAQMD prepared their Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans (Justification Report), in April 2022. The Justification Report presents the BAAQMD's recommended thresholds of significance for use in determining whether a proposed project will have a significant impact on climate change. BAAQMD recommends that these thresholds of significance be used by public agencies to comply with CEQA.

The BAAQMD recommends that cities and counties evaluate such plans based on whether they will be consistent with California's long-term climate goal of achieving carbon neutrality by 2045. To be consistent with this goal, these plans should reduce GHG emissions in the relevant jurisdiction to meet an interim milestone of 40 percent below the 1990 emission levels by 2030, consistent with SB 32, and to support the state's goal of carbon neutrality by 2045. Cities and counties planning to

develop in a manner that is not consistent with meeting these GHG reduction targets will have a significant climate impact because they will hinder California's efforts to address climate change. Specifically, in order to demonstrate a less-than-significant impact to climate change under CEQA, the BAAQMD states that General Plans and related planning documents must demonstrate that the plan either: a) meets the State's goal to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045; or b) is consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

### **Association of Bay Area Governments and Metropolitan Transportation Commission Bay Area Plan**

Plan Bay Area 2050 was jointly adopted by MTC and ABAG in October 2021 and is the Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). The Plan Bay Area is a long-range regional plan for the nine-county San Francisco Bay Area, encompassing housing, economic, transportation, and environmental strategies designed to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges.

Plan Bay Area 2050 is composed of 35 integrated strategies across the four elements that provide a blueprint for how the Bay Area can accommodate future growth and make the region more equitable and resilient in the face of unexpected challenges and achieve regional GHG emissions reduction targets established by CARB, pursuant to SB 375.

In summary, Plan Bay Area 2050:

- Details housing and economic strategies ("land use") to invest \$702 billion in expected revenues to accommodate 2.7 million new persons, 1.4 million new households, 1.5 million new forecasted housing units, and 1.4 million new jobs between 2015 and 2050;
- Details transportation strategies to invest \$579 billion in expected revenues from federal, state, regional, and local sources over the next 30 years;
- Details environmental strategies to invest \$102 billion in expected revenues to protect the region from at least two feet of future permanent sea level rise inundation, reduce climate emissions, and maintain and expand the region's parks and open space system; and
- Complies with SB 375, the state's SCS law, which requires integration of land use and transportation planning to reduce per-capita passenger vehicle GHG emissions by 2035 and provide adequate housing for the region's forecast of 2.7 million new persons and 1.4 million new households.

### **3.7.3 IMPACTS AND MITIGATION MEASURES**

#### **THRESHOLDS OF SIGNIFICANCE**

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#### **Greenhouse Gas Emissions/Climate Change**

Consistent with Appendix G of the CEQA Guidelines, the proposed project would result in a significant impact related to greenhouse gases and climate change if it would:

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- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

### ANALYSIS APPROACH

As detailed above, BAAQMD prepared their Justification Report in April 2022, presenting BAAQMD's recommended thresholds of significance for use in determining whether a proposed project will have a significant impact on climate change. BAAQMD recommends that these thresholds of significance be used by public agencies to comply with CEQA.

The BAAQMD recommends that cities and counties evaluate such plans based on whether they will be consistent with California's long-term climate goal of achieving carbon neutrality by 2045. To be consistent with this goal, these plans should reduce GHG emissions in the relevant jurisdiction to meet an interim milestone of 40 percent below the 1990 emission levels by 2030, consistent with SB 32, and to support the state's goal of carbon neutrality by 2045. Cities and counties planning to develop in a manner that is not consistent with meeting these GHG reduction targets will have a significant climate impact because they will hinder California's efforts to address climate change.

Specifically, in order to demonstrate a less-than-significant impact to climate change under the CEQA, the BAAQMD states that General Plans and related planning documents must demonstrate that the plan either: a) meets the State's goal to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045; and/or b) is consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

It should also be noted that this analysis relies on, in part, the VMT analysis prepared in 2023 by TJKM transportation consultants and presented in Section 3.14, Transportation and Circulation.

### Energy

The proposed project would result in a significant impact on energy use if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

### IMPACTS AND MITIGATION MEASURES

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**Impact 3.7-1: Project implementation could generate greenhouse gas emissions that could have a significant impact on the environment and could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Significant and Unavoidable)**

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and

agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Future development associated with implementation of the 2040 General Plan would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO<sub>2</sub> and other GHG pollutants, such as CH<sub>4</sub> and N<sub>2</sub>O, from mobile sources and utility usage. Development that occurs because of implementation of the 2040 General Plan would include activities that emit greenhouse gas emissions over the short- and long-term.

#### SHORT-TERM EMISSIONS

Short-term GHG emissions would occur because of the use of construction equipment which could be used for construction activities, such as demolition, grading, paving, and other building construction activities associated with future development and infrastructure projects that would be undertaken in Pittsburg over the buildout horizon of the 2040 General Plan. GHG emissions would also result from worker and vendor trips to and from project sites and from demolition and soil hauling trips. Construction activities are short-term and cease to emit GHGs upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases.

Implementation of the 2040 General Plan does not directly approve or otherwise entitle any new development projects or infrastructure improvement projects in the City. As such, construction-related GHG emissions of future projects cannot be known or quantified at this time and would be highly speculative. Typically, construction-related GHG emissions contribute unsubstantially (less than one percent) to a project's annual GHG emissions inventory, and mitigation for construction-related emissions is not effective in reducing a project's overall contribution to climate change, given the incrementally small proportion of total construction emissions. Short-term climate change impacts due to future construction-related activities would be subject to state requirements related to the reduction of GHG emissions and would be assessed on project-by-project basis.

#### LONG-TERM EMISSIONS

Future development projects will result in continuous GHG emissions from mobile, area, and operational sources. Mobile sources, including vehicle trips to and from development projects, will result primarily in emissions of CO<sub>2</sub>, with minor emissions of CH<sub>4</sub> and N<sub>2</sub>O. The most significant GHG emission from natural gas usage will be CH<sub>4</sub>. Electricity usage by future development and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions of CO<sub>2</sub>. Disposal of solid waste will result in emissions of CH<sub>4</sub> from the decomposition of waste at landfills coupled with CO<sub>2</sub> emission from the handling and transport of solid waste. These sources combine to define the long-term greenhouse gas inventory for typical development projects.

As presented in Section 3.14, with implementation of the 2040 General Plan, the Planning Area is estimated to grow to a total population of 87,915 and employment of 33,604 persons, as shown in Table 3.7-7. This is an approximately 17.8 percent increase and 78.0 percent increase, respectively,

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compared to existing conditions. However, the land use modifications proposed as part of the 2040 General Plan would result in an approximate 0.8 percent reduction in VMT per capita and an approximate 1.2 percent decrease in VMT per employee when compared to existing conditions, as shown in Table 3.7-8.

**TABLE 3.7-7: LAND USE COMPARISON BETWEEN BASELINE AND 2040 GENERAL PLAN**

LAND USE	UNITS	BASELINE	2040 GENERAL PLAN INCREASE	% INCREASE
Households	Housing Units	21,342	29,358	+37.56%
Population	Persons	74,641	87,915	+17.78%
Employment	Employees	18,882	33,604	+77.97%

SOURCE: TJKM, 2023

**TABLE 3.7-8: VMT DATA COMPARISON BETWEEN EXISTING CONDITION AND 2040 GENERAL PLAN**

LAND USE	UNITS	EXISTING CONDITION (BASELINE)	2040 GENERAL PLAN	2040 GENERAL PLAN VS. EXISTING CONDITION
All residential	VMT per Capita	17.38	17.21	-1.0%
All employment	VMT per Employee	12.31	12.21	-1.0%
Total VMT	VMT	2,102,345	2,824,716	+34.4%

SOURCE: TJKM, 2023

According to the latest available data, the transportation sector remains the largest source of GHG emissions in the state, accounting for approximately 38 percent of California’s GHG inventory (CARB, 2023). A typical passenger vehicle emits approximately 4.6 metric tons of CO<sub>2</sub> per year (USEPA, 2018). This number can vary based on a vehicle’s fuel, fuel economy, and the number of miles driven per year. The 1 percent reduction in VMT per capita and 1 percent reduction in VMT per worker (under buildout for the 2040 General Plan compared with existing conditions) would have a substantial reduction in per capita and per employee GHG emissions.

The previously developed GHG inventories for the City do not represent a current local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b). The 2040 General Plan includes Resource Conservation and Open Space Element Policy 10-P-5.1, which requires the City to support the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations; Policy 10-P-5.2, which requires the City to ensure that new development is consistent with the energy objectives and targets identified by the City’s Sustainability Plan; as well as Safety and Resiliency Element Policy 11-P-2.1, which requires the City to consider climate change impacts and adaptive responses in long-term planning and current development decisions consistent with the policies and programs of the City’s Sustainability Plan and Local Hazard Mitigation Plan.

Additionally, in order to reduce community-wide GHG emissions, the 2040 General Plan emphasizes pedestrian-oriented neighborhoods, appropriately-scaled commercial areas with strong pedestrian and bicycle connections, and infill development within the Downtown with a commitment to develop more housing along with amenities and services to meet the day-to-day needs of residents

in a pedestrian-friendly environment served by transit. The Land Use Plan and policies and actions emphasize alternative transportation access and multi-modal connectivity throughout the Planning Area and into the surrounding areas. The 2040 General Plan's proposed land use plan and policy framework would provide for future development that would support placement of land uses in proximity to each other and to transit; reduce vehicle trips; and address potential health-related impacts associated with new development, amongst others. All future development and infrastructure projects within the Planning Area would be subject to the 2040 General Plan goals, policies, and actions, which would contribute to the reduction of GHG impacts.

The 2040 General Plan also includes a variety of goals, policies, and actions that would reduce GHG emissions over the long term. For example, 2040 General Plan Policy 10-P-6.4 encourages and supports infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel. Further, Policy 10-P-6.3 requires the City to encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use. Action 10-A-6.a requires the City to periodically review and report on the effectiveness of the measures outlined in the Sustainability Plan and the strategies in this Element in meeting local and State GHG reduction and climate goals, as well as to institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions. Moreover, Action 10-A-6.b requires the City to implement the Strategic Energy Plan to reduce GHG emissions, including identifying ways to reduce energy use for existing City facilities, improving energy performance for new construction and major renovations, developing fiscal and economic criteria for implementation of energy reduction plans, reducing greenhouse gas emissions through adopting a Climate Action Plan, and engaging the community to increase awareness and reduce energy use. Lastly, Policy 10-A-6.n requires the City to (1) continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals for 2035 and 2050; (2) report on the City's progress annually, and schedule public hearings at the Planning Commission and City Council; and (3) update the City's GHG inventory at least every two years to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020.

The full list of 2040 General Plan policies and actions that reduce potential GHG impacts is provided below. Subsequent development projects would be required to comply with the 2040 General Plan and adopted federal, state, and local regulations for the reduction of GHG emissions.

While the 2040 General Plan goals, policies, and actions would assist the City in reducing GHG emissions, the associated reduction of GHG emissions are not quantifiable (since the exact nature and implementation timeframe of these goals, policies, and actions is not known at this time), and the City cannot state with certainty whether implementation of the 2040 General Plan along would be sufficient to limit GHGs to the extent necessary to achieve California's long-term climate goal of achieving carbon neutrality by 2045. Therefore, implementation of the 2040 General Plan would conservatively be considered to have the potential to generate GHG emissions that could have a significant impact on the environment and/or conflict with an applicable plan, policy or regulation

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adopted for the purpose of reducing GHG emissions. This impact is considered **significant and unavoidable**.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-1.5: Implement and continue to increase efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit.

7-P-3.6: Encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes.

#### **ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT**

7-A-1.b: Require proposed development projects with VMT levels above the City's threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a manner consistent with the City's sustainability goals, the City's Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

7-A-2.j: Adopt a citywide TDM plan to encourage vehicle trip reduction at employment sites, businesses, schools, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

7-A-2.k: Encourage developers to provide enhanced TDM programs and alternative transportation infrastructure that exceeds minimum requirements, as per 7-A-2.j, in exchange for reduced parking requirements, with a focus on priority development areas and locations in proximity to high capacity transit.

#### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-6.1: Support the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations.

10-P-6.2: Ensure that new development is consistent with the energy objectives and targets identified by the City's Sustainability Plan.

10-P-6.3: Encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use.

10-P-6.4: Encourage and support for infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel.



10-P-6.5: Coordinate with the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with BAAQMD, ABAG, and State Air Resources Board in:

- a) Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
- b) Identifying baseline air pollutant and greenhouse gas emissions, including within the City and Sphere of Influence and in the vicinity of intensive industrial and energy-producing uses, to the extent data is available.
- c) Requiring energy-efficiency measures in City operations and facilities and use of low carbon or clean fuels for City vehicle fleets, when feasible.

10-P-6.6: Reduce the generation of TACs such as ozone, carbon monoxide, lead, and particulate matter to work toward improving air quality and meeting all Federal and State ambient air quality standards.

10-P-6.7: Reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust.

10-P-6.8: Reduce the number of motor vehicle trips and emissions accounted to Pittsburg residents and encourage land use and transportation strategies that promote use of alternatives to the automobile for transportation, including bicycling, bus transit, and carpooling.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-6.a: Periodically review and report on the effectiveness of the measures outlined in the Sustainability Plan and the strategies in this Element in meeting local and State GHG reduction and climate goals. Institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions.

10-A-6.b: Implement the Strategic Energy Plan to reduce GHG emissions, including identifying ways to reduce energy use for existing City facilities, improving energy performance for new construction and major renovations, developing fiscal and economic criteria for implementation of energy reduction plans, reducing greenhouse gas emissions through adopting a Climate Action Plan, and engaging the community to increase awareness and reduce energy use.

10-A-6.c: Cooperate with BAAQMD to achieve emissions reductions for ozone and its precursor, PM-10, and ensure compliance with dust abatement measures during construction.

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10-A-6.d: Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

10-A-6.e: Use alternative-fuel vehicles, as feasible, to minimize emissions and air pollution from City operations.

10-A-6.f: Encourage new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

10-A-6.n: Continue to assess and monitor performance of greenhouse gas emissions reduction efforts, including progress toward meeting longer-term GHG emissions reduction goals. Report on the City's progress annually, including progress toward the Sustainability Plan's emission targets of 3.0 metric tons carbon dioxide equivalent (MT CO<sub>2</sub>e) per capita by 2030 and 0.0 MT CO<sub>2</sub>e by 2045, and schedule public hearings at the Planning Commission and City Council. Update the City's GHG inventory at least every three years to demonstrate consistency with State-adopted GHG reduction targets, including those targets established beyond 2020.

10-A-6.p: Complete annual progress reports (every three years) and monitor the progress of implementation of the Sustainability Plan GHG Reduction Goals (Strategy C-1, E-1, E-2, W-1, CS-1, M-1, and M-2).

### POLICIES – SAFETY & RESILIENCE ELEMENT

11-P-2.1: Consider climate change impacts and adaptive responses in long-term planning and current development decisions consistent with the policies and programs of the City's Sustainability Plan and Local Hazard Mitigation Plan.

11-P-2.2: Prepare for and adapt to anticipated sea level rise, including 100-year flood events, and fluctuations and changes in weather conditions, including addressing impacts on existing and future neighborhoods, infrastructure and facilities, the shoreline, and natural resources, as identified through State and regional modeling efforts and science-based data.

11-P-2.3: Prioritize improvements and actions that would protect vulnerable populations (e.g., elderly communities, low-income areas), essential facilities, and vital infrastructure, from damage or lack of access due to flooding from sea level rise including 100-year flood events.

11-P-2.4: As feasible support and prioritize adaptation through green infrastructure and natural measures (e.g., wetland/marsh/habitat restoration, greenspaces, fire resistant landscaping etc.) that build capacity to adapt to rising tides and provide for sequestration.

11-P-2.5: Collaborate with utility providers to ensure that infrastructure and resource management plans account for anticipated effects of climate change, such as increased heat days, changes to flood hazard areas/inundation depths, and changes to precipitation and water supply.

11-P-2.6: When updating master plans for infrastructure, including water supply, flood control and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans

consider the potential effects of climate change and include measures that provide for resilience to climate impacts.

11-P-2.7: Periodically assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions.

#### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-2.a: Participate in regional climate adaptation planning efforts in line with the adopted Sustainability Plan.

11-A-2.b: Review the City’s Sustainability Plan every five years and update as necessary to implement practical measures to align with California’s climate goals and address climate-related hazards and adaptation measures.

11-A-2.c: Upon revisions to the Pittsburg HMP, consider climate change impacts based on the CalAdapt, BCDC, and other science-based models, and adaptive responses to identify responses to climate impacts such as identify and designate public buildings, specific private buildings, or institutions with air conditioning as public cooling shelters.

11-A-2.d: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding, and extreme heat). Incorporate these into all relevant plans, including the EOP and HMP.

11-A-2.e: Update emergency response plans and training programs as the City identifies climate-related risks and strategies in the Hazard Mitigation Plan to ensure residents, infrastructure, and facilities are protected during emergencies and extreme weather events, and other climate related impacts.

11-A-2.f: Extend hours at air-conditioned spaces during periods of extreme heat or power outage and as feasible ensure sites are also supported by backup battery storage or generators.

### **Impact 3.7-2: General Plan implementation has the potential to result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)**

The CEQA Guidelines require consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient and unnecessary” energy usage (PRC Section 21100, subdivision [b][3]). According to Appendix G of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, a project would be considered “wasteful, inefficient, and unnecessary” if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials,

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cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

Future development accommodated by the 2040 General Plan during the buildout horizon could include residential, commercial, office, industrial, mixed-use, open space, and other land uses (see Section 2.0, Project Description for further detail). The amount of energy used in the Planning Area at buildout would directly correlate to the type and size of development, the energy consumption associated with unit appliances, outdoor lighting, and energy use associated with other buildings and activities. Other major sources of Planning Area energy consumption include fuel used by vehicle trips generated during construction and operational activities, and fuel used by off-road and on-road construction vehicles during construction. The following discussion provides a breakdown of the energy uses in the Planning Area upon buildout of the 2040 General Plan.

### ELECTRICITY AND NATURAL GAS

At full buildout of development which could result from 2040 General Plan implementation, the City's electricity and natural gas consumption would be used primarily to power buildings (all types of buildings, including residential, commercial, office, industrial, public, etc.). Electricity and natural gas would primarily come from the electricity and natural gas utility provider, PG&E. However, on-site solar generation would also generate a substantial source of energy for the community at General Plan buildout.

According to the California Energy Commission, the total electricity and natural gas usage in Contra Costa County in 2022 (latest year of data available) was approximately 8,338 GWh, and approximately 895 millions of therms, respectively (California Energy Commission, 2023). Up to approximately 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions. Based on publicly available data, the average residence uses approximately 10,800 kWh per year (SolarReviews, 2023), and 400 therms per year (UC Irvine, 2007). Separately, based on publicly available data, the amount of kWh and therms per non-residential square feet is 22.5 kWh/sf (IotaComm, 2023) and 70.4 MBtu/sf (U.S. Energy Information Administration, 2022), respectively. Based on the up to 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions, buildout of the General Plan could therefore generate a total of approximately 755 GWh per year, and 24.6 millions of therms per year. This is only approximately 3% of the total electricity and 9% of the total natural gas of Contra Costa County, which represents a small percentage of the County's overall energy usage. Therefore, based on the long-term buildout horizon of the General Plan, that future capacity would be available to serve anticipated development projected by the General Plan.

### FUEL CONSUMPTION - ON-ROAD VEHICLES (OPERATION)

Future development associated with implementation of the 2040 General Plan would generate vehicle trips during its operational phase. Based on the traffic analysis prepared for the 2040 General Plan (TJKM, 2023), the Planning Area at buildout is anticipated to have approximately 2,614,649

VMT. Fuel consumption is anticipated to represent the largest sector of GHG emissions at General Plan buildout. Energy for on-road vehicles would derive from gasoline, diesel, as well as electricity from PG&E and from on-site solar generation.

#### FUEL CONSUMPTION - ON-ROAD VEHICLES (CONSTRUCTION)

Implementation of the 2040 General Plan would also generate on-road vehicle trips during construction activities (from construction workers, vendors, and haulers). The vast majority of on-road mobile vehicle fuel used during the construction activities during buildout of the 2040 General Plan would occur during building construction.

#### OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during construction activities. A non-exhaustive list of off-road constructive vehicles expected to be used during construction activities includes cranes, forklifts, generator sets, tractors, excavators, and dozers.

#### CONCLUSION

Buildout of the 2040 General Plan would use energy resources for the operation of buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel) and from off-road construction activities (e.g., diesel fuel). Each of these activities would require the use of energy resources. Developers of individual projects within the Planning Area would be responsible for conserving energy, to the extent feasible, and would rely heavily on reducing per capita energy consumption to achieve this goal, including through statewide and local measures and requirements. For example, developers would be required to comply with the latest CalGreen requirements, in effect at the time. CalGreen requires developers to implement stringent requirements for home insulation, energy efficiency of appliances, renewable energy, electric vehicle charging, water efficiency and conservation, construction waste reduction, indoor and outdoor air quality, material conservation and resource efficiency, and efficiency of building maintenance and operation.

Development under the 2040 General Plan would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for their customers, and are in the process of implementing the RPS to increase the proportion of renewable energy (e.g. solar and wind) within their respective energy portfolios.

PG&E is expected to achieve at least 60 percent renewables by 2030 and 100 percent zero-carbon electricity by 2045 (in compliance with SB 100). MCE's portfolio currently consists of at least 60 percent renewables, with the option to increase to 100 percent renewables. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Additionally, building new transit-oriented housing near new job opportunity areas would reduce commuting time and allow for opportunities for pedestrian and

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alternative modes of transportation, such as walking and biking to work, further reducing energy usage. Furthermore, project-specific sustainability features implemented by individual development projects could further reduce energy consumption associated with individual projects.

The 2040 General Plan includes policies and actions to support energy conservation and renewable energy, as well as reducing energy use, such as Circulation and Transportation Element Policy 7-P-1.6, which requires the City to emphasize efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit. Furthermore, connections exist between the Planning Area and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. Although improvements to the City's pedestrian, bicycle, and public transit systems would provide further opportunities for alternative transit, the Planning Area would be linked closely with existing networks that, in large part, are sufficient for most residents of the Planning Area and neighboring communities. See Section 3.14: Transportation and Circulation of this EIR for further detail.

Further, Action 10-P-5.12 requires the City to implement development standards, mitigation measures, and best practices that require energy conservation and the reduction in greenhouse gases, including:

- Require new development to incorporate energy-efficient features through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access);
- Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;
- Require all projects to meet or, when feasible, exceed the most current "green" development standards in the California Green Building Standards Code;
- Require developments to include vehicle charging stations that meet or exceed the requirements of State law and to include outdoor electrical outlets. Discourage portable generators or other portable power sources;
- Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;
- Encourage projects to incorporate enhanced energy conservation measures, electric-only appliances, and other methods of reducing energy usage and greenhouse gas emissions; and
- Require large energy users to implement an energy conservation plan, which may include solar or other non-fossil fuel sources to meet the operation's full power demand and 100% fleet electrification, as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

Furthermore, Policy 10-P-5.2 requires the City to ensure that new development is consistent with the energy objectives and targets identified by the City's Sustainability Plan. Additionally, Safety and Resiliency Element Policy 11-P-2.1 requires the City to consider climate change impacts and adaptive

responses in long-term planning and current development decisions consistent with the policies and programs of the City's Sustainability Plan and Local Hazard Mitigation Plan.

As a result, the 2040 General Plan would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type, including during construction, operations, maintenance, and/or removal. PG&E, the natural gas provider, maintains sufficient capacity to serve the Planning Area. The City and future development would comply with all existing energy standards, and future development accommodated by the 2040 General Plan would not result in significant adverse impacts on energy resources. For the reasons stated above, buildout of the 2040 General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This is a **less than significant** impact.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-1.5: Implement and continue to increase efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit.

7-P-3.6: Encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes.

#### **ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT**

7-A-1.b: Require proposed development projects with VMT levels above the City's threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a manner consistent with the City's sustainability goals, the City's Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

7-A-2.j: Adopt a citywide TDM plan to encourage vehicle trip reduction at employment sites, businesses, schools, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and dedicated staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

7-A-2.k: Encourage developers to provide enhanced TDM programs and alternative transportation infrastructure that exceeds minimum requirements, as per 7-A-2.j, in exchange for reduced parking requirements, with a focus on priority development areas and locations in proximity to high capacity transit.

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

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### POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-P-6.1: Support the principles of reducing air pollutants and greenhouse gas emissions through comprehensive and sustainable land use, transportation, and energy planning and addressing opportunities to decrease emissions associated with local government operations.

10-P-6.2: Ensure that new development is consistent with the energy objectives and targets identified by the City’s Sustainability Plan.

10-P-6.3: Encourage transportation modes that minimize toxic air contaminants (TACs) and greenhouse (GHG) gas emissions from motor vehicle use.

10-P-6.4: Encourage and support for infill, mixed use, and higher density development, where appropriate, in order to reduce GHG emissions associated with vehicle travel.

10-P-6.5: Coordinate with the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG), and the California Air Resources Board (State Air Board), and other agencies to develop and implement regional and county plans, programs, and mitigation measures that address cross-jurisdictional and regional air quality impacts, including land use, transportation, and climate change impacts, and incorporate the relevant provisions of those plans into City planning and project review procedures. Also cooperate with BAAQMD, ABAG, and State Air Resources Board in:

- a) Enforcing the provisions of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality.
- b) Identifying baseline air pollutant and greenhouse gas emissions, including within the City and Sphere of Influence and in the vicinity of intensive industrial and energy-producing uses, to the extent data is available.
- c) Requiring energy-efficiency measures in City operations and facilities and use of low carbon or clean fuels for City vehicle fleets, when feasible.

10-P-6.6: Reduce the generation of TACs such as ozone, carbon monoxide, lead, and particulate matter to work toward improving air quality and meeting all Federal and State ambient air quality standards.

10-P-6.7: Reduce the potential for human discomfort or illness due to local concentrations of toxic contaminants, odors, and dust.

10-P-6.8: Reduce the number of motor vehicle trips and emissions accounted to Pittsburg residents and encourage land use and transportation strategies that promote use of alternatives to the automobile for transportation, including bicycling, bus transit, and carpooling.

10-P-6.10: Require all new public and privately constructed buildings to exceed, where feasible, and comply with construction and design standards that promote energy conservation, including the most current “green” development standards in the California Green Building Standards Code.



10-P-6.11: Require expanded innovative and green building best practices, where feasible, including, but not limited to, LEED certification for all new development and retrofitting existing uses, and encourage public and private projects to exceed the most current “green” development standards in the California Green Building Standards Code.

10-P-6.13: Implement development standards, mitigation measures, and best practices that require energy conservation and the reduction in greenhouse gases, including:

- Require new development to incorporate energy-efficient features through passive design concepts (e.g., techniques for heating and cooling, building siting orientation, street and lot layout, landscape placement, and protection of solar access);
- Require construction standards which promote energy conservation including window placement, building eaves, and roof overhangs;
- Require all projects to meet or, when feasible, exceed the most current "green" development standards in the California Green Building Standards Code;
- Require developments to include vehicle charging stations that meet or exceed the requirements of State law and to include outdoor electrical outlets. Discourage portable generators or other portable power sources;
- Require best practices in selecting construction methods, building materials, project appliances and equipment, and project design;
- Encourage projects to incorporate enhanced energy conservation measures, electric-only appliances, and other methods of reducing energy usage and greenhouse gas emissions; and
- Require large energy users to implement an energy conservation plan, which may include solar or other non-fossil fuel sources to meet the operation's full power demand and 100% fleet electrification, as part of the project review and approval process, and develop a program to monitor compliance with and effectiveness of that plan.

#### ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT

10-A-6.a: Periodically review and report on the effectiveness of the measures outlined in the Sustainability Plan and the strategies in this Element in meeting local and State GHG reduction and climate goals. Institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions.

10-A-6.b: Implement the Strategic Energy Plan to reduce GHG emissions, including identifying ways to reduce energy use for existing City facilities, improving energy performance for new construction and major renovations, developing fiscal and economic criteria for implementation of energy reduction plans, reducing greenhouse gas emissions through adopting a Climate Action Plan, and

## 3.7 GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

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engaging the community to increase awareness and reduce energy use.

10-A-6.c: Cooperate with BAAQMD to achieve emissions reductions for ozone and its precursor, PM-10, and ensure compliance with dust abatement measures during construction.

10-A-6.d: Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

10-A-6.e: Use alternative-fuel vehicles, as feasible, to minimize emissions and air pollution from City operations.

10-A-6.f: Encourage new residential development and remodeled existing homes to install clean-burning fireplaces and wood stoves.

10-A-6.o: Continue to review development projects to ensure that all new public and private development complies with or exceeds the California Code of Regulations, Title 24 standards as well as the energy efficiency standards established by the General Plan and the Municipal Code.

### POLICIES – SAFETY & RESILIENCY ELEMENT

11-P-2.1: Consider climate change impacts and adaptive responses in long-term planning and current development decisions consistent with the policies and programs of the City’s Sustainability Plan and Local Hazard Mitigation Plan.

11-P-2.2: Prepare for and adapt to anticipated sea level rise, including 100-year flood events, and fluctuations and changes in weather conditions, including addressing impacts on existing and future neighborhoods, infrastructure and facilities, the shoreline, and natural resources, as identified through State and regional modeling efforts and science-based data.

11-P-2.3: Prioritize improvements and actions that would protect vulnerable populations (e.g., elderly communities, low-income areas), essential facilities, and vital infrastructure, from damage or lack of access due to flooding from sea level rise including 100-year flood events.

11-P-2.4: As feasible support and prioritize adaptation through green infrastructure and natural measures (e.g., wetland/marsh/habitat restoration, greenspaces, fire resistant landscaping etc.) that build capacity to adapt to rising tides and provide for sequestration.

11-P-2.5: Collaborate with utility providers to ensure that infrastructure and resource management plans account for anticipated effects of climate change, such as increased heat days, changes to flood hazard areas/inundation depths, and changes to precipitation and water supply.

11-P-2.6: When updating master plans for infrastructure, including water supply, flood control and drainage, and critical facilities, review relevant climate change scenarios and ensure that the plans consider the potential effects of climate change and include measures that provide for resilience to climate impacts.

11-P-2.7: Periodically assess and monitor the effects of climate change and the associated levels of risk in order to adapt to changing climate conditions.

#### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-2.a: Participate in regional climate adaptation planning efforts in line with the adopted Sustainability Plan.

11-A-2.b: Review the City’s Sustainability Plan every five years and update as necessary to implement practical measures to align with California’s climate goals and address climate-related hazards and adaptation measures.

11-A-2.c: Upon revisions to the Pittsburg HMP, consider climate change impacts based on the CalAdapt, BCDC, and other science-based models, and adaptive responses to identify responses to climate impacts such as identify and designate public buildings, specific private buildings, or institutions with air conditioning as public cooling shelters.

11-A-2.d: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding, and extreme heat). Incorporate these into all relevant plans, including the EOP and HMP.

11-A-2.e: Update emergency response plans and training programs as the City identifies climate-related risks and strategies in the Hazard Mitigation Plan to ensure residents, infrastructure, and facilities are protected during emergencies and extreme weather events, and other climate related impacts.

11-A-2.f: Extend hours at air-conditioned spaces during periods of extreme heat or power outage and as feasible ensure sites are also supported by backup battery storage or generators.

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Hazards include man-made or natural materials or man-made or natural conditions that may pose a threat to human health, life, property, or the environment. Hazardous materials and waste present health hazards for humans and the environment. These health hazards can result during the manufacture, transportation, use, or disposal of such materials if not handled properly. In Pittsburg, hazards to humans can also occur from natural or human induced wildfire and air traffic accidents.

This section provides a background discussion of the hazardous materials and waste, fire hazards, and hazards from air traffic found in the City of Pittsburg. This section is organized with an existing setting, regulatory setting, and impact analysis. Additional analysis related to wildfire hazards is contained in Section 3.16 of this EIR.

Comments on this environmental topic received during the NOP comment period include the following: U.S. Department of Transportation, Federal Aviation Administration (June 22, 2022).

### 3.8.1 ENVIRONMENTAL SETTING

#### HAZARDOUS MATERIALS AND WASTE

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##### **Hazardous Materials**

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

##### **Hazardous Waste**

Hazardous waste is the subset of hazardous materials that has been abandoned, discarded, or recycled and is not properly contained, including soil or groundwater that is contaminated with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

##### **Transportation of Hazardous Materials**

The transportation of hazardous materials within California is subject to various federal, state, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or

the loading of such materials (California Vehicle Code §§ 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

## HAZARDOUS SITES

### Envirostor Data Management System

The Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating. Figure 3.8-1 provides a map of the hazardous sites within the Planning Area that the available databases (including the Envirostor database) classify as having an active cleanup status.

There are 57 listings with a Pittsburg address listed in the Envirostor database. Listings are categorized by project type: nine are listed as corrective action, 13 as evaluation, one as military evaluation, seven as non-operating, one as operating, one as school cleanup, four as state response, two as inspection, three as tiered permit, and eight as voluntary cleanup. Listings are also categorized by project status. Table 3.8-1 provides the listings located within the Planning Area. A discussion of each of the sites with an active cleanup status follows the table (note: the status provided by the database does not always correlate with the *cleanup* status of the site – asterisks are provided in Table 3.8-1 for sites that have active cleanup status).

**TABLE 3.8-1: PITTSBURG SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)**

NAME	STATUS	PROJECT TYPE	ADDRESS
1 Leslie Drive	Active*	Voluntary Cleanup	1 Leslie Drive, Pittsburg
1X Faultless Cleaners	Active	Evaluation	427 East 10 <sup>th</sup> Street, Pittsburg
ABB Daimler	No Further Action	Evaluation	1461 Loveridge Road, Pittsburg
Acme Steel Co.	Refer: Other Agency	Tiered Permit	855 North Parkside Drive, Pittsburg
Alves Ranch 11-acre School Site	No Action Required	School Investigation	West Leland Road & Alves Ranch Road, Pittsburg
Antioch Building Materials	Inactive - Needs Evaluation	Evaluation	1375 California Avenue, Pittsburg
Aquilex Hydrochem LLC	Protective Filer*	Non-Operating	901 Loveridge Road, Pittsburg
Burlington Northern Santa Fe Railway Company	Active*	Voluntary Cleanup	Adjoining USS POSCO Steel Facility, Pittsburg
Camp Stoneman Ir-Mmrp (J09CA0773)	No Further Action	State Response	Railroad Avenue, Pittsburg

<i>NAME</i>	<i>STATUS</i>	<i>PROJECT TYPE</i>	<i>ADDRESS</i>
Cintas Pittsburg	Active	Voluntary Cleanup	1229 California Avenue, Pittsburg
Continental Can Company- Plant 80	Refer: RWQCB	Evaluation	1300 Loveridge Road, Pittsburg
Corteva Agriscience LLC, Pittsburg Operations	Operating Permit	Operating	901 Loveridge Road, Pittsburg
Criterion Catalysts & Technologies LP	No Action Required	Corrective Action	2840 Willow Pass Road, Pittsburg
Crown Cork & Seal Co Inc.	Inactive - Needs Evaluation	Corrective Action	1300 Loveridge Road, Pittsburg
Crown Cork & Seal Co Inc.	Protective Filer*	Non-Operating	1300 Loveridge Road, Pittsburg
Delta Auto Wreckers	Active*	State Response	6 Industry Road, Pittsburg
DTSC Chemical & Pigment Site Cleanup	Closed	Non-Operating	600 Nichols Road, Bay Point
DTSC Chemical & Pigment Site Cleanup	No Action	Inspection	600 Nichols Road, Pittsburg
General Chemical	Active	Corrective Action	501 Nichols Road, Bay Point
Greif Brothers Corporation	Certified/Operatio n & Maintenance*	Voluntary Cleanup	701 Willow Pass Road, Pittsburg
Greif Fibre Drum Inc.	Refer: SMBRP	Corrective Action	701 Willow Pass Road, Pittsburg
Greif Fibre Drum Inc.	Protective Filer*	Non-Operating	701 Willow Pass Road, Pittsburg
GWF Power Systems	Certified O&M - Land Use Restrictions Only*	Voluntary Cleanup	895 East 3rd Street, Pittsburg
Harbor Street Site	No Further Action	School Investigation	Harbor Street & Atlantic Avenue, Pittsburg
Hydrochem Industrial Services Inc.	Inactive - Needs Evaluation	Corrective Action	Loveridge Road, Pittsburg
Johns Manville	Closed	Voluntary Cleanup	420 East 3rd Street, Pittsburg
K and S Body Shop	No Further Action	Evaluation	600 East 3rd Street, Pittsburg
Kemwater North America	Protective Filer*	Non-Operating	Loveridge Road & Pittsburg- Antioch Highway, Pittsburg
Kemwater North America	Inactive - Needs Evaluation	Corrective Action	Loveridge Road & Pittsburg- Antioch Highway, Pittsburg
Kemwater Pittsburg Plant	Refer: RWQCB	Evaluation	1401 Loveridge Road, Pittsburg
Koch Carbon Inc.	Refer: RWQCB	Evaluation	700-707 East 3rd Street, Pittsburg
Koch Carbon, LLC	Refer: Other Agency	Tiered Permit	707 East 3rd Street, Pittsburg
Los Medanos Tank Farm	Refer: RWQCB	Voluntary Cleanup	2360 Buchanan Road, Pittsburg
Marina School Expansion	No Further Action	School Investigation	East 8th Street and East 10th Street, Pittsburg
Pacific Ord Steel Foundry	Inactive - Needs Evaluation	Military Evaluation	Unknown, Pittsburg

## 3.8

## HAZARDS AND HAZARDOUS MATERIALS

<i>NAME</i>	<i>STATUS</i>	<i>PROJECT TYPE</i>	<i>ADDRESS</i>
PG&E Pittsburg Power Plant	No Action Required	Evaluation	595 West 10 <sup>th</sup> Street, Pittsburg
PG&E Shell Pond/Carbon Black Area and Power Plant	Active*	Corrective Action	696 West 10 <sup>th</sup> Street, Pittsburg
Pittsburg High School - Main/North Campus	No Further Action	School Investigation	250 School Street, Pittsburg
Pittsburg High School Expansion - East Campus	No Action Required	School Investigation	250 School Street, Pittsburg
Pittsburg Marina Expansion Phase III	No Further Action	Evaluation	Montezuma Street & Cody, Pittsburg
Pittsburg Riverside Site	No Further Action	School Investigation	1151 Stoneman Avenue, Pittsburg
Range Road Middle School Site	No Further Action	School Investigation	Range Road and Leland Road, Pittsburg
Shell Catalysts & Technologies	Protective Filer*	Non-Operating	2840 Willow Pass Road, Bay Point
Shell Chemical Company	Refer: RCRA	Evaluation	2840 Willow Pass Road, Bay Point
Stoneman Elementary School	Certified	School Cleanup	2929 Loveridge Road, Pittsburg
The Dow Chemical Company	Refer: Other Agency	Tiered Permit	Foot of Loveridge Road, Pittsburg
The Dow Chemical Company	Refer: RWQCB	Corrective Action	901 Loveridge Road, Pittsburg
The Pittsburg Owner LPV LLC	Closed	Non-Operating	696 West 10 <sup>th</sup> Street, Pittsburg
Trans Bay Cable Converter Station	Certified O&M - Land Use Restrictions Only*	Voluntary Cleanup	570 to 620 & 650 West 10 <sup>th</sup> Street, Pittsburg
Triangle PWC	Certified	State Response	1666 Willow Pass Road, Pittsburg
Union Carbide, Pittsburg	Certified	State Response	2000 Loveridge Road, Pittsburg
Union Collier	Refer: RWQCB	Evaluation	Nichols Rd. & Port Chicago Highway, Pittsburg
US Steel Pittsburg Works	Refer: RCRA	Evaluation	900 Loveridge Road, Pittsburg
USS - POSCO Industries	Active*	Corrective Action	900 Loveridge Road, Pittsburg
USS-UPI LLC	No Action	Inspection	900 Loveridge Road, Pittsburg
Western States Chemical Company	No Action Required	Evaluation	East of Nichols Road on Port Chicago Highway, Pittsburg
Willow Pass Site	Inactive - Needs Evaluation	School Investigation	Willow Pass Road & Nantucket Drive, Pittsburg

\*NOTE: SITES ARE CONSIDERED ACTIVE IF THEY HAVE A STATUS OF EITHER ACTIVE, CERTIFIED/OPERATION & MAINTENANCE, CERTIFIED O&M – LAND USE RESTRICTIONS ONLY, PROTECTIVE FILER, OR HAZARDOUS WASTE DISPOSAL LAND USE, PER THE DTSC CLASSIFICATION SYSTEM. SEE THE ENVIROSTOR WEBSITE FOR FURTHER DETAIL: [HTTPS://WWW.ENVIROSTOR.DTSC.CA.GOV/PUBLIC/](https://www.envirostor.dtsc.ca.gov/public/) SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTOR DATABASE, 2023.



## Active Sites

The 17 sites that are classified as having an active cleanup status in the Envirostor database are:

- 1 Leslie Drive (Status: Active);
- 1X Faultless Cleaners (Status: Active);
- Aquilex Hydrochem LLC (Status: Protective Filer);
- Burlington Northern Santa Fe Railway Company (Status: Active);
- Cintas Pittsburg (Status: Active)
- Crown Cork & Seal Company Inc. (Status: Protective Filer);
- Delta Auto Wreckers (Status: Active);
- DTSC Chemical & Pigment Site Cleanup (Status: Undergoing Closure);
- Greif Brothers Corporation (Status: Certified/Operation & Maintenance);
- Greif Fibre Drum Inc (Status: Protective Filer);
- GWF Power Systems (Status: Certified O&M – Land Use Restrictions Only);
- Kemwater North America (Status: Protective Filer);
- PG&E Shell Pond/Carbon Black Area and Power Plant (Status: Active);
- Shell Catalysts & Technologies (Status: Protective Filer);
- Trans Bay Cable Converter Station (Status: Certified O&M – Land Use Restrictions Only);  
and
- USS-POSCO Industries (Status: Active).

These sites are described in further detail below.

### 1 LESLIE DRIVE

This site is a voluntary cleanup site, located near the Historic Southern Pacific Railroad, at the current location of Signode Western Operations (a packaging company). According to information provided by the DTSC, the site is developed with two buildings. Current operations at the site include the warehousing and distribution of steel strapping and other packaging materials. Raw materials, including, but not limited to steel strapping, are received at the site via truck. Final products are also shipped from the site via truck.

The site consisted of undeveloped land until approximately 1968. The site was first developed by Signode, the current owner, in 1968. The northern portion of the main building was constructed and was utilized by Signode for steel strapping manufacturing and by Paslode for the manufacture of nails to be used in nail guns. The remainder of the structure was constructed in 1974. Paslode ceased operations in 1978 and vacated the site.

From 1981 until 1986, one 515-gallon gasoline Underground Storage Tank (UST) was in use at the site; it was removed by Signode in 1986. The tank removal and soil analytical results from the tank excavation were transmitted to the Contra Costa County Health Services Department; however, a formal tank closure letter was not issued to Signode. Signode continued steel strapping manufacturing operations at the site until 2008. The majority of manufacturing equipment has been removed from the site, with the exception of the steel rolling mill, which is located in the southwestern corner of the main warehouse building.

Investigation including soil vapor, soil, and groundwater sampling was conducted at the site between August 2015 and January 2017. Volatile organic compounds were detected in soil, soil gas and groundwater samples and total petroleum hydrocarbons were detected in soil and groundwater samples. The DTSC reviewed the Phase I and II Assessment Reports and determined that additional investigation is needed. A Site Characterization Workplan is being prepared and it is expected to be submitted to DTSC for review (information last updated on January 28, 2018).

#### 1X FAULTLESS CLEANERS

This site located at 427 East 10<sup>th</sup> Street. The site operated as a dry cleaner from at least 1967 through 2017. Currently, the property is situated within a single-story commercial building with two detached buildings.

The site was issued a Hazardous Waste U.S. Environmental Protection Agency (USEPA) Identification Number between 1987 until 1995 as a permanent generator and between 1993 until 2000 as a temporary generator. The disposed of liquids with halogenated organic compounds (HOCs) was listed in 1993 at 0.435 tons, 1994 at 0.54 tons, and 1995 at 0.195 tons. Disposal of liquids with halogenated solvents, which also include PCE, was listed in 1987 at 0.2025 tons. Additionally, the Contra Costa County Hazardous Material Program inspection reports indicated tetrachloroethylene (PCE) was used on-site from at least 1987 until 2010. The site has a status of Active and the DTSC is the cleanup oversight agency for the site cleanup program.

#### AQUILEX HYDROCHEM LLC

This site located at 901 Loveridge Road. This site is still pending evaluation, as of June 22, 2009. The site is classified as a “protective filer”; additional information about this site is not provided by the Envirostor database at this time.

#### BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY

This site is bounded to the north by a Union Pacific Rail Road (UPRR) right-of-way. Immediately north of the BNSF and UPRR right-of-ways is the USS-POSCO Industries (UPI) facility. This site is bordered to the south by a residential development, and to the east and west by adjacent portions of the BNSF right-of-way.

The site is currently owned and operated by BNSF Railway Company and United States Steel and according to the DTSC it is delineated primarily by a plume of groundwater contamination more than half a mile long that originated from a portion of a railroad right-of-way owned by BNSF Railway Company. This site encompasses a rectangular area of approximately 150-feet by 550-feet, and contains 11 rail lines trending in an east-west direction. The rail lines are currently used to stage rail cars that are awaiting classification and transport. No prior ownership information was available; however, the site has reportedly been used as a rail car staging area since at least the early 1940's.

DTSC is currently reviewing a Remedial Action Plan detailing a proposed remedy to treat groundwater contaminated with carbon tetrachloride with a permeable reactive barrier wall (information last updated in May 2018).

#### CINTAS PITTSBURG

This site located at 1229 California Avenue. The site has been operating as an industrial laundry facility since 1984. Recognized environmental conditions were identified for the property including a former ink towel laundering and processing facility, underground oil line and former air compressor condensate line. A Standard Voluntary Agreement was executed in April 2021. Additional samples will be collected for characterization. The Work Plan for this sample collection was approved in 2022. Seasonal sampling was conducted in September 2022 and July 2023. Another sampling event is planned for January-March 2024.

#### CROWN CORK & SEAL COMPANY INC.

This site is located at 1300 Loveridge Road. This site is still pending evaluation, as of June 29, 2009. The site is classified as a “protective filer”. This 11.05-acre site is the location of the former Continental Can Company (CCC) USA plant and the current location of the Contra Costa Waste Services (CC&S) Mount Diablo Recycling Center. The site was previously used by Continental Can company to make steel cans and metal shearing from 1954 to 1990. Chemicals used included solvents, thinner, lubricants and hydraulic oil. The business was sold to Crown Cork and Seal company where metal shearing operation continued until 1992. In 1994, the site was transformed by Contra Costa Waste Services into a solid waste material recovery facility for separating recycling materials from municipal refuse. The building and facilities remained the same as when CCC and CC&S operated the plant.

An RCRA Facility Assessment was undertaken and identified a number of releases which are still being addressed under the oversight of the Regional Water Quality Control Board. There are above ground and underground storage tanks, drum handling areas, and at least one unpermitted land disposal unit. Contaminants of concern include VOC's, TPH, Solvents and highly concentrated lead.

#### DELTA AUTO WRECKERS

The site was used to store disabled vehicles around 1981. A site screening completed by the DTSC in May 1999 indicated that disabled vehicles were stored haphazardly at the site. Drums storing hazardous waste and chemicals such as waste oil and used tires were also stored along with dark oily stains. In 1996, a fire involving tires was documented. In August 2002, a search warrant was served on the site by the Pittsburg City Police Department with the support of the DTSC's Task Force. Samples were collected from the site soil, drums and surface water. The results of sampling showed that the site soil is contaminated with waste oil and lead. DTSC is currently undergoing review of further site characterization workplans (information last updated in August 2018).

#### DTSC CHEMICAL & PIGMENT SITE CLEANUP

The site is located at 600 Nichols Road. The facility at this site is currently closed. The facility's former operation included treatment and disposal of hazardous wastes and substances. On November 5, 1997, DTSC issued an administrative enforcement action against the Chemical & Pigment Co. for violations of the California Hazardous Waste Control Law (HWCL). The enforcement action was resolved by a Stipulation and Order, effective March 16, 1998, which required the company to pay fifty thousand dollars (\$50,000) in penalties. In addition, DTSC determined that in order for the facility to continue its operations, a hazardous waste facility permit would be required. Although the facility submitted a standardized permit application in 1998, the facility filed for bankruptcy and subsequently ceased operations before a permit decision could be made by DTSC. Subsequently, the facility was abandoned and is being cleaned up under CERCLA.

#### GREIF BROTHERS CORPORATION

This site consists of 36 acres of land currently occupied primarily by two contiguous industrial warehouses and paved parking, peripheral storage areas, and landscaping associated with them. The property was originally developed in 1953 by Continental Group, Inc. (CGI), a container manufacturer who built and operated a container manufacturing plant in it. In 1985, CGI transferred the operation to Sonoco Products Company (Sonoco) another container manufacturer. In 1998, Sonoco transferred the operation to Greif Brothers Corporation, an industrial packaging provider. In 2001, Davis and Associates acquired the property and currently leases it primarily for warehousing purposes. Activities associated with releases at the site include degreasing associated with manufacturing. Releases have contaminated soil and groundwater. Primary environmental contaminants include volatile organic compounds and, specifically, halogenated industrial solvents. The current remedy currently consists of groundwater monitoring and comparison of results to approved Remedial Action Objectives.

#### GREIF FIBRE DRUM INC.

This site is located on 701 Willow Pass Road. The facility at this site is considered a hazardous waste facility. This site is under corrective action. The site is classified as a "protective filer"; no additional information about this site is provided by the Envirostor database at this time. This site is associated with the Greif Brothers Corporation site, discussed above. Fibre drums, or jerrycans, are manufactured at this site.

#### GWF POWER SYSTEMS

This site is located at 895 East 3<sup>rd</sup> Street. This is a voluntary cleanup site. Past uses at the site that caused contamination include a landfill. Potential contaminants of concern include metals, polynuclear aromatic hydrocarbons (PAHS), motor oil, and PCE.

In 1989, GWF Power Systems Company, Inc. (GWF) purchased 2.5 acres of a 15-acre parcel of land from the Han-Li International Group, in Pittsburg, California. GWF purchased this land for the construction of a 20-megawatt co-generation power plant. The power plant generates electrical

energy from burning petroleum coke, a by-product of crude oil refining and by burning coal and oil. The electricity is sold to the Pacific Gas and Electric Company (PG&E).

Site remedial investigations, prior to the construction of the co-generation power plant, were completed. The investigations determined that soil concentrations of chemicals of concern were higher than the site screening levels USEPA Preliminary Remedial Goals (PRGs). Based on the proposed future land use, the contaminated soil was excavated, consolidated, and capped under the building floors, asphalt pavements, and landscaped areas.

#### KEMWATER NORTH AMERICA

This site is located on Loveridge Road and the Pittsburg-Antioch Highway. The facility requires evaluation as of June 26, 2009. This site is under corrective action. The lead agency for this site is the San Francisco Bay RWQCB. The site is classified as a “protective filer”; additional information about this site is not provided by the Envirostor database at this time.

#### PG&E SHELL POND/CARBON BLACK AREA AND POWER PLANT

The entire facility including the West Pittsburg Power Plant, and the Shell Pond and Carbon Black Area property belonged to PG&E until 1999. The PG&E property subject to corrective action originally encompassed all contiguous land belonging to PG&E when it applied for the Hazardous Waste Facility permit, and currently includes 838 acres including the parcel where the Shell Pond and the Carbon Black Area are located (APN 98260001), and three adjacent parcels located immediately east, west and south of it. (APN 98260003, APN 96100020, and APN 98250013).

The Shell Pond property includes a 72-acre evaporation pond and a historic 26-acre carbon slag storage area (landfill). This area was originally a smaller version of the Shell Pond. Shell Chemical Company, a subsidiary of Shell Oil, owned and operated an ammonia plant on-site from 1930 to 1967. In 1973, Pacific Gas and Electric Company (PG&E) purchased the 72-acre evaporation pond and the 26-acre carbon pile area from Shell Oil for possible use in a planned expansion of the Pittsburg Power Plant. Soil, water, and sediment investigations have detected metals and polynuclear aromatic hydrocarbons (PAHs) at the site. The project is under the oversight of the DTSC Hazardous Waste Management Program and the San Francisco Regional Water Control Board.

In 1986, the USEPA Region IX prepared a RCRA Facility Assessment of the entire power plant and adjacent properties belonging to PG&E including the Shell Pond and Carbon Black Area property. A total of eighteen Solid Waste Management Units (SWMUs) were identified, including six for which potential releases were described.

In 1987, the DTSC issued PG&E West Pittsburg a Hazardous Waste Facility Permit for treatment and storage. This permit expired in September 1992. PG&E West Pittsburg submitted a renewal application for continued operation of the existing permit in March 1992. On January 20, 1995, the DTSC issued a Treatment, Storage, and Disposal (TSD) Permit to PG&E. On March 11, 1999, after PG&E sold the power plant property to Southern Energy LLC, the TSD permit was transferred to

Southern Energy LLC. On April 17, 2003 the permit was modified to reflect the change in the name of the owner and operator to Mirant Delta LLC (Mirant).

**Corrective Action:** In 1986, the USEPA completed a RCRA Facility Assessment of the Facility and identified seven solid waste management units (SWMUs) requiring corrective action. The SWMUs included five located in the power plant property (4.4, 4.6, 4.8, 4.12, 4.13) and two located in the Shell Pond Carbon Black Area property (4.15, and 4.18) Mirant conducted a RCRA Facility Investigation of SWMUs 4.4, 4.6, 4.8, 4.13, and 4.15 and concluded that there was no need for further action. The DTSC approved the report agreeing that no further action was required for those five units.

On December 21, 1996, the DTSC approved a Corrective Measures Study Workplan prepared by PG&E for the two SWMUs in the Shell Pond and Carbon Black Area property. As part of this work plan, PG&E undertook interim measures in 1997 removing product and contaminated media from the property and disposing of it at authorized disposal facilities. PG&E also graded portions of the Carbon Black Area. PG&E also undertook a Human Health and Ecological Risk Assessment which concluded that Contaminants of Concern remaining at the site did not pose unacceptable risks to public health and the environment if access to the property remained restricted.

In 2000, PG&E proposed and the DTSC approved a remedy for both units. The remedy prescribed maintenance of a freshwater cap over the contaminated sediments remaining in the Shell Pond, periodic pond levee inspection and maintenance, installation of a freshwater recirculation system to stabilize the salinity in the Shell Pond, and a deed restriction on the title of the property prohibiting residential development.

With the exception of the deed restriction, PG&E implemented the 2000 remedy until 2008 when higher water quality standards made it impractical for PG&E to maintain the water recirculation system associated with the remedy. In 2009, PG&E submitted to DTSC a new remedy consisting primarily of the removal of all sediments remaining in the pond. DTSC approved the new remedy in June 2011. For the Shell Pond site, a Phase 1 phytoremediation pilot study has been completed a completion report was submitted to the DTSC for review. For the Pittsburg Power Plant site, PG&E submitted a supplemental report to the DTSC for review (information last updated on August 27, 2018).

#### SHELL CATALYSTS & TECHNOLOGIES

This site is located at 2840 Willow Pass Road. The site comprises 29 acres zoned industrial, surrounded by other industrial facilities. The facility manufactured catalysts for chemical refining and manufacturing. Manufacturing operations took place in six different locations within the facility, and a RCRA Facility Assessment (RFA) identified ten SWMUs and two areas of concern (AOCs). No chemical releases were identified or suspected at six of the SWMUs. Two of the SWMUs with documented releases were immediately cleaned up; the cleanup was documented.

The final two SWMUs had documented contamination that had been removed and verified with confirmation sampling. At machine shop underground storage tank SWMU, contamination with

hydrocarbons and metals was detected at the time the tank was removed, but the contamination was removed as part of the UST closure. Confirmation sampling detected no residual contamination or source for groundwater contamination. At the area known as Point G, acid sludges from ammonia processing had been spread on the ground surface, resulting in metals and acid contamination. The contamination at Point G was removed and the area has subsequently been paved. Subsequent groundwater monitoring has not detected any contamination.

The two AOCs were surface impoundments that might have received wastes, but were not included in this EI review because they are now the property of the adjacent PG&E (Pittsburg) facility and are subject to the RCRA Facilities Investigation (RFI) and associated corrective action at the PG&E facility.

#### TRANS BAY CABLE CONVERTER STATION

This facility is located at 570 to 620 & 650 West 10<sup>th</sup> Street. A number of operations were conducted on this approximately five-acre site, including auto repair, vehicle towing and wrecking services, auto junk/scrap yard, and industrial painting. Trans Bay Cable, LLC characterized and cleaned up the site to standards appropriate for commercial/industrial use under DTSC's oversight as part of DTSC's Voluntary Cleanup Program. A total of 1,195 cubic yards (1,673 tons) of California hazardous waste soils and 1,633 cubic yards (2,286 tons) of Class II non-hazardous soils were removed from the site as part of implementation of the cleanup plan. The known chemicals of concern were removed or reduced to concentrations that do not exceed the site-specific cleanup goals that were developed for commercial/industrial property use. The site has been redeveloped into a converter station to be operated by the Pittsburg Power Company. Land use restrictions apply to this site, along with inspection requirements and requirements to conduct five-year reviews. The site is comprised of three parcels belonging to three different parties.

#### USS-POSCO INDUSTRIES

The USS-POSCO Industries Facility in Pittsburg (UPI) belongs to United States Steel, Inc. (USS) and is currently operated by USS and Pohang Iron and Steel Company Ltd. (POSCO), a Korea based corporation. The facility occupies 433 acres. The location has been the site of metal processing and steel manufacturing facilities since 1909. Operations currently consist of receiving coils of hot-rolled steel from off-site sources, and producing cold-rolled steel, galvanized steel, and tin or chromium plated steel. All regulated hazardous waste treatment and storage units at the facility have been closed since 1999. The USS-POSCO Facility holds a Hazardous Waste Facility Post-Closure Permit which it requires to operate the Unit 1 Landfill, a corrective action management unit (CAMU) containing contaminated materials removed during environmental remediation at the facility. The facility is divided into three areas designated by UPI as "Site L-A" (149 acres), "Site L-B" (98.7 acres), and "Main Site" (206 acres). There are also a number of easements cutting across the property. Site L-A used to be the location of manufacturing facilities and a number of land-based waste management units and it has been remediated to industrial use standards, requiring annual land use covenant inspections. Site L-B is the location of a number of landfills, buffer zones and new research centers and facilities. The main site is the location of most of the manufacturing facilities and material storage and handling areas. The DTSC currently oversees on-going RCRA

Corrective Action at the Facility including investigation and remediation of a chlorinated solvent groundwater plume, an arsenic groundwater plume, and a number of Corrective Action SWMUs and AOCs within the main site. DTSC also oversees BNSF's investigation and future remediation of a carbon tetrachloride groundwater contamination plume that originated from railroad operations, and that stretches from south to north across Site L-B, all the way to the Sacramento/San Joaquin Estuary which is the northern boundary of the facility.

Corrective measures have been implemented in the Central Group SWMUs and SWMU 4. Remedies include monitored natural attenuation (MNA) (Central Group), soil vapor and groundwater extraction (SWMU 4), zero-valent iron (ZVI) injections (SWMU 4) and ongoing monitoring. An in situ chemical oxidation (ISCO) pilot study was completed at Northern Boundary SWMUs for arsenic remediation but monitoring showed rebound. Currently, an air sparge pilot study workplan is being drafted for the arsenic contamination. The annual land use restriction report will be combined for Site L-A, SWMU 4 and Central Group SWMUs into one report (information last updated on August 13, 2018).

### Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by state, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal-EPA) to develop at least annually an updated Cortese List. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Table 3.8-2 summarizes the Cortese List sites within the Planning Area and Figure 3.8-2 shows the locations of these sites. As shown, there are 57 leaking underground fuel tank (LUFT) sites and four other sites (including two site cleanup sites, one state response site, and one other waste site) within the Planning Area.

**TABLE 3.8-2: PITTSBURG CORTESE LIST SITES**

<i>NAME</i>	<i>LOCATION</i>
<i>LUFT SITES</i>	
CHEVRON	501 CALIFORNIA AVE
PITTSBURG MARINA	51 MARINA BLVD
PITTSBURG FORD INC	2575 RAILROAD AVE
CONTINENTAL FIBRE DRUM INC	701 WILLOW PASS RD
FOOD & LIQUOR	4102 RAILROAD AVE
SUPERIOR CAR WASH	3590 RAILROAD AVE
UNOCAL	2150 RAILROAD AVE
CHEVRON	2360 BUCHANAN RD
W & J MARKSTEIN FACILITY	2101 MARTIN WY
DOSSEY OLD DUTCH PRIDE DAIRY	3215 WILLOW PASS RD



<i>NAME</i>	<i>LOCATION</i>
BAKER TANK COMPANY	2121 PIEDMONT WY
BEACON	3702 RAILROAD AVE
PERFORMANCE MECHANICAL	630 10TH ST W
CHEMICAL & PIGMENT COMPANY	600 NICHOLS RD
CATALINE BUILT HOMES INC	1050 LOS MEDANOS ST
NARCO/BRICKYARD DEVELOPMENT	1555 PARKSIDE DR N
SHORE ACRES PUMP STATION	UNKNOWN
CHEVRON	11 FRONTAGE RD
UNION CARBIDE CORP	2000 LOVERIDGE RD
US STEEL POSCO INDUSTRIES	900 LOVERIDGE RD
SEENO CONSTRUCTION COMPANY	1600 BUCHANAN RD
BELL GAS AND DIESEL	998 RAILROAD AVE
SHELL	3737 RAILROAD AVE
SHELL	2980 WILLOW PASS RD
EUGENE ALVES CONSTRUCTION COMPANY	571 ALVES RANCH RD
PITTSBURG GOLF COURSE	2222 GOLF CLUB DR
FOOD & LIQUOR	1805 WILLOW PASS RD
PITTSBURG ST RDEVELOPMENT #3	1300 RAILROAD AVE
CITY OF PITTSBURG CORPORATION YARD	357 EAST 12TH STREET
PEPSI COLA COMPANY	338 CENTRAL AVE
SHELL	1315 BUCHANAN RD
LOS MEDANOS PLUMBING	2035 LELAND RD E
GLENN MARTELL & SON	1818 LOVERIDGE RD
CITY OF PITTSBURG	985 RAILROAD AVE
PACIFIC HEATING & SHEET METAL	980 GARCIA ST
CHAMPION NISSAN	2695 LELAND RD E
FAULTLESS CLEANERS	427 10TH ST E
CAL ASIA DEVELOPMENT	391 3RD ST E
GENERAL CHEMICAL CORP FORMER	501 NICHOLS RD
TRIANGLE WIRE AND CABLE INC	1666 WILLOW PASS RD
MERIT USA	620 CLARK AVE
D & L AUTO REPAIR	2363 WILLOW PASS RD
JOSE'S SERVICE STATION	394 10TH ST W
LOS MEDANOS COLLEGE	2700 LELAND RD E
FORMER USA GASOLINE STATION NO. 127	2971 RAILROAD AVENUE
PIEDMONT LUMBER & MILL COMPANY	2120 PEIDMONT WY
REDDING PETROLEUM	1001 RAILROAD AVENUE

<i>NAME</i>	<i>LOCATION</i>
CALIFORNIA THEATER	351 RAILROAD AVE
PITTSBURG REDEVELOPMENT #1	1095 RAILROAD AVE
UNION BEVERAGE INC	640 10TH ST W
TRENCH PLATE 2	522 10TH ST W
BANISTER ELECTRIC	498 10TH ST
HERTZ REALTY	3515 WILLOW PASS RD
GAS N GO	3801 RAILROAD AVE
SHELL	261 BAILEY RD
SANTA FE PITTSBURG DEPOT	1 SANTA FE AVE W
PITTSBURG PLUMBING	441 10TH ST E
<i>SITE CLEANUP SITES</i>	
DIABLO SERVICE CORP.	595 THIRD ST
CHEVRON PIPELINE	2360 BUCHANAN ST
<i>STATE RESPONSE SITE</i>	
DELTA AUTO WRECKERS	6 INDUSTRY RD
<i>OTHER WASTE SITE</i>	
WDR-USS-POSCO	900 LOVERIDGE RD

SOURCE: CAL EPA CORTESE LIST DATA RESOURCES (AVAILABLE AT: [HTTPS://CALEPA.CA.GOV/SITECLEANUP/CORTESELIST/](https://calepa.ca.gov/sitecleanup/corteseelist/))

## GeoTracker

GeoTracker is the State Water Resources Control Board's online database that provides access to statewide environmental data and tracks regulatory data for the following types of sites:

- LUFT cleanup sites;
- Cleanup Program Sites (CPS; also known as Site Cleanups and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites);
- Military sites (consisting of military underground storage tank [UST] sites, military privatized sites, and military cleanup sites [formerly known as DoD non-UST]);
- Land disposal sites (landfills); and
- Permitted UST facilities.

In October of 2023, a search was performed using GeoTracker to identify any known or suspected (reported but not yet confirmed) sources of environmental hazards within the City of Pittsburg. Figure 3.8-1 provides a map of the hazardous sites within the Planning Area that the available databases (including the GeoTracker database) classify as having an active cleanup status.

### LEAKING UNDERGROUND STORAGE TANKS (LUST)

There are 57 locations with a Pittsburg address that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). Fifty-four of the locations have undergone LUST

cleanup and the state has closed those cases. There are three locations in Pittsburg with an open case. Table 3.8-3 lists the location of open and closed cases for LUSTs in Pittsburg.

**TABLE 3.8-3: PITTSBURG LUST CLEANUP SITES**

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
<b>OPEN CASES</b>		
Beacon	Open - Site Assessment	3702 Railroad Avenue
Superior Car Wash	Open - Remediation	3590 Railroad Avenue
City of Pittsburg Corporation Yard	Open - Site Assessment	327 East 12 <sup>th</sup> Street
<b>CLOSED CASES (CLEANUP COMPLETED)</b>		
Baker Tank Company	Completed - Case Closed	2121 Piedmont Way
Banister Electric	Completed - Case Closed	498 10th Street
Bell Gas and Diesel	Completed - Case Closed	998 Railroad Avenue
Cal Asia Development	Completed - Case Closed	391 3rd Street E
California Theater	Completed - Case Closed	351 Railroad Avenue
Cataline Built Homes Inc	Completed - Case Closed	1050 Los Medanos Street
Champion Nissan	Completed - Case Closed	2695 Leland Road E
Chemical & Pigment Company	Completed - Case Closed	600 Nichols Road
Chevron	Completed - Case Closed	2360 Buchanan Road
Chevron	Completed - Case Closed	11 Frontage Road
Chevron	Completed - Case Closed	501 California Avenue
City of Pittsburg	Completed - Case Closed	985 Railroad Avenue
Continental Fibre Drum Inc.	Completed - Case Closed	701 Willow Pass Road
D & L Auto Repair	Completed - Case Closed	2363 Willow Pass Road
Dossey Old Dutch Pride Dairy	Completed - Case Closed	3215 Willow Pass Road
Eugene Alves Construction Company	Completed - Case Closed	571 Alves Ranch Road
Faultless Cleaners	Completed - Case Closed	427 10th Street E
Food & Liquor	Completed - Case Closed	4102 Railroad Avenue
Food & Liquor	Completed - Case Closed	1805 Willow Pass Road
Former USA Gasoline Station No. 127	Completed - Case Closed	1805 Willow Pass Road
Gas N Go	Completed - Case Closed	3801 Railroad Avenue
General Chemical Corp Former	Completed - Case Closed	501 Nichols Road
Glenn Martell & Son	Completed - Case Closed	1818 Loveridge Road
Hertz Realty	Completed - Case Closed	3515 Willow Pass Road
Jose's Service Station	Completed - Case Closed	394 10th Street W
Los Medanos College	Completed - Case Closed	2700 Leland Road E
Los Medanos Plumbing	Completed - Case Closed	2035 Leland Road E
Merit USA	Completed - Case Closed	620 Clark Avenue
Narco/Brickyard Development	Completed - Case Closed	1555 Parkside Drive N
Pacific Heating & Sheet Metal	Completed - Case Closed	980 Garcia Street
Pepsi Cola Company	Completed - Case Closed	338 Central Road
Performance Mechanical	Completed - Case Closed	630 10th Street W

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
Piedmont Lumber & Mill Company	Completed - Case Closed	2120 Piedmont Way
Pittsburg Ford Inc	Completed - Case Closed	2575 Railroad Avenue
Pittsburg Golf Course	Completed - Case Closed	2222 Golf Club Drive
Pittsburg Marina	Completed - Case Closed	51 Marina Boulevard
Pittsburg Plumbing	Completed - Case Closed	441 10th Street E
Pittsburg Redevelopment #1	Completed - Case Closed	1095 Railroad Avenue
Pittsburg St Redevelopment #3	Completed - Case Closed	1300 Railroad Avenue
Redding Petroleum	Completed - Case Closed	1001 Railroad Avenue
Santa Fe Pittsburg Depot	Completed - Case Closed	1 Santa Fe Avenue W
Seeno Construction Company	Completed - Case Closed	1600 Buchanan Road
Shell	Completed - Case Closed	2980 Willow Pass Road
Shell	Completed - Case Closed	3737 Railroad Avenue
Shell	Completed - Case Closed	261 Bailey Road
Shell	Completed - Case Closed	1315 Buchanan Road
Shore Acres Pump Station	Completed - Case Closed	Unknown (Driftwood End Of)
Trench Plate 2	Completed - Case Closed	522 10th Street W
Triangle Wire and Cable Inc	Completed - Case Closed	1666 Willow Pass Road
Union Beverage Inc	Completed - Case Closed	640 10th Street W
Union Carbide Corp	Completed - Case Closed	2000 Loveridge Road
Unocal	Completed - Case Closed	2150 Railroad Avenue
US Steel POSCO Industries	Completed - Case Closed	900 Loveridge Road
W & J Markstein Facility	Completed - Case Closed	2101 Martin Way

SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2023.

#### CLEANUP PROGRAM SITES

There are 21 locations with a Pittsburg address that are listed in the GeoTracker database as Cleanup Program Sites. Table 3.8-4 lists the location of the 24 Cleanup Program Sites in Pittsburg.

**TABLE 3.8-4: PITTSBURG CLEANUP PROGRAM SITES**

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
OPEN CASES		
Former Crown Cork and Seal Company, Inc	Open - Assessment & Interim Remedial Action	1300 Loveridge Road
Great American Cleaners	Open - Assessment & Interim Remedial Action	1317-1399 Buchanan Road
Diablo Services	Open - Site Assessment and Land Use Restrictions	595 East Third Street
GWF Power Systems Inc.	Open - Inactive	707-799 3rd Street E
Mexico Auto Wreckers	Open - Inactive	610 10th Street W
Dow Chemical Co. Pittsburg Facility	Open - Remediation	901 Loveridge Road
Highlands Ranch Phase II	Open - Remediation	2360 Buchanan Road

<i>NAME</i>	<i>ACTIVITY</i>	<i>LOCATION</i>
East 3 <sup>rd</sup> Street Properties	Open - Site Assessment	395 East 3 <sup>rd</sup> Street
Chevron Historical Pipelines – Parkside at Dory Pittsburg	Open - Site Assessment	Parkside Drive at Dory Road
Fort Knox Self Storage Pittsburg	Open - Long Term Management	3809 Shopping Heights Lane
KNA California	Open - Long Term Management	1401 Loveridge Road
Molino Enterprises, Inc.	Open - Site Assessment	1215 Willow Pass Road
Mirant Delta Pittsburg Power Plant (Formerly Southern Energy; Formerly PG&E)	Open - Verification Monitoring	696 West 10th Street
<b>CLOSED CASES (CLEANUP COMPLETED)</b>		
695 East Third Street	Completed - Case Closed	695 East Third Street
Chevron Historic Pipeline - Kirker Creek	Completed - Case Closed	Pittsburg/Antioch Highway and Loveridge Road
Chevron Pipeline - Carpino East	Completed - Case Closed	Carpino East and Columbia Street
Fontaine Cleaners	Completed - Case Closed	168 Atlantic Avenue
Koch Carbon Bay Area Bulk Terminal	Completed - Case Closed	707 E. 3rd. Street
Murphey Property	Completed - Case Closed	1055 North Parkside Drive
City of Pittsburg	Completed - Case Closed	Harbor Street
US Steel POSCO - Pittsburg	Completed - Case Closed	900 Loveridge Road
Acme Steel Property	Completed - Case Closed - Land Use Restrictions	855 North Parkside Drive

*SOURCE: CALIFORNIA WATER RESOURCES CONTROL BOARD GEOTRACKER DATABASE, 2023.*

#### MILITARY CLEANUP SITES

There is one location (Camp Stoneman) with a Pittsburg address that is listed in the GeoTracker database as a military cleanup site (Location Case #71000026). This site is located at Railroad Avenue, north of West Leland Road. This site is located in a severely disadvantaged community. The cleanup status of this site is open – inactive as of September 23, 2009. Several fuel tanks, as well as potential for hazardous, toxic, and radiological wastes, were identified at this site. The most recent site document is from April 12, 2010, and states that no additional work is recommended for the site, based upon the assessments, inspections, and evaluations conducted over the course of 2007 through 2010. site is shown in Figure 4.1-1 as a “Military Cleanup Site”.

#### **Solid Waste Information System (SWIS)**

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Department of Resources Recycling and Recovery (CalRecycle). The SWIS data identifies active, planned and closed sites. The City of Pittsburg has three solid waste facilities listed in the database, all of which are active. The site details are listed in Table 3.8-5, below.

**TABLE 3.8-5: CIWMB FACILITIES/SITES**

NUMBER	NAME	ACTIVITY	REGULATORY STATUS	OPERATIONAL STATUS
07-AC-0042	USS-POSCO Industries Waste Management Unit II	Solid Waste Landfill	Exempt	Active
07-AC-0043	Recycling Center & Transfer Station	Large Volume Transfer/Processing Facility	Permitted	Active
07-AC-0044	CCW Wood Chipping/Grinding	Chipping and Grinding Activity Facility/Operation	Notification	Active

SOURCE: CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY, 2019.

The USS-POSCO Industrials Waste Management Unit II (07-AC-0042) is located at 900 Loveridge Road. The facility is inspected quarterly by the Local Enforcement Agency (City of Pittsburg Environmental Services Department). The most recent inspection (as of May 30, 2019) shows no areas of concern (inspection date of March 26, 2019). Maximum permitted throughput at this facility is eight tons per day, and the facility has a maximum permitted capacity of 86,000 cubic yards. The ceased operating date is anticipated to be January 2118.

The Recycling Center & Transfer Station (07-AC-0043) is a transfer/processing facility located at 1300 Loveridge Road. The facility is inspected monthly by the Local Enforcement Agency (City of Pittsburg Environmental Services Department). The most recent inspection (as of May 30, 2019) shows no areas of concern (inspection date of May 3, 2019). Maximum permitted throughput at this facility is 1,500 tons per day.

The CCW Wood Chipping/Grinding facility (07-AC-0044) is also located at 1300 Loveridge Road. The facility processes compost material. The facility is inspected annually by the Local Enforcement Agency (City of Pittsburg Environmental Services Department). The most recent inspection (as of June 30, 2023) shows no areas of concern (inspection date of June 26, 2023). Maximum permitted throughput at this facility is 200 tons per day, and the facility has a maximum permitted capacity of 25,000 cubic yards.

## HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2002), prepared by the State Division of Aeronautics, 18.2 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

### Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents.

Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions (California Division of Aeronautics, 2002).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site fairly close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway (California Division of Aeronautics, 2002).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed (California Division of Aeronautics, 2002).

### **Takeoff and Departure Accidents**

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While the majority of approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially due to the fact that pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure.

Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2002).

### **Local Airport Facilities**

There are no private or public airport facilities in the Planning Area.

The nearest airport facilities to the Planning Area are Buchanan Field Airport (located approximately 4.4 miles or further southwest of the Planning Area) and Byron Airport (located approximately 17.0 miles or further southeast of the Planning Area).

**Buchanan Field Airport:** Buchanan Field Airport (CCR) is a medium sized, primarily general and business aviation airport located in the City of Concord. The Buchanan Field Airport is used by pilots visiting the area and is home to no less than three major flight schools.

**Byron Airport:** Byron Airport (C83) opened to the public in 1994 to provide service to the eastern part of Contra Costa County. The Byron Airport is located approximately three miles south of the Town of Byron and is used for general aviation and is a popular base for skydivers, gliders and other recreational flight activities.

### **Major Regional Airport Facilities**

**San Francisco International Airport (SFO):** SFO is the largest airport in the region, and a hub for United Airlines. It provides a wide range of domestic airline service and all of the region's long-haul international flights. San Francisco serves 68 percent of regional Bay Area air passengers and 43 percent of regional air cargo shipments.

**Metropolitan Oakland International Airport (OAK):** Oakland Airport has traditionally been the hub for low cost carriers and a major air cargo center due to operations by FedEx and UPS. Oakland serves 17 percent of Bay Area regional air passengers and 52 percent of air cargo.

**Norman Y. Mineta San Jose International Airport (SJC):** Traffic at San Jose Airport has been affected by the recent realignment of airline services in the Bay Area. The airport does not currently offer any long-haul international flights, and air cargo facilities are limited due to space constraints. San Jose serves 15% of the Bay Area regional air passengers and six percent of air cargo.

**Sacramento International Airport (SMF):** The Sacramento Airport served nearly nine million passengers in 2012 with 150 daily departures to 36 destinations. Southwest provides the majority of flights. Many Sacramento area air passengers use Oakland and San Francisco for their air service needs. Conversely, some Bay Area passengers choose Sacramento Airport.

### **National Transportation Safety Board Aviation Accident Database**

The NTSB Aviation Accident Database identifies two aircraft accidents with Pittsburg identified as the location between January 1, 1950, to June 12, 2019. (National Transportation Safety Board, 2019). These incidents were small, causing a total of two fatal accidents. The most recent accident



occurred on October 25, 2016, in a Beechcraft A36 propeller plane (two fatal accidents). The second accident occurred on July 15, 1992, in a Cessna 150L plane (nonfatal).

## 3.8.2 REGULATORY SETTING

### FEDERAL

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#### **Aviation Act of 1958**

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

#### **Federal Aviation Regulations (CFR, Title 14)**

The Federal Aviation Regulation establish regulations related to aircraft, aeronautics, and inspection and permitting.

#### **Clean Air Act**

In according with the FCAA, the USEPA has established National Emissions Standards for Hazardous Air Pollutants. Exceeding the emissions standard for a given air pollutant may cause an increase in illnesses and/or fatalities.

#### **Clean Water Act (CWA)**

The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the Section 404 program to regulate the discharge of dredged and fill material into Waters of the U.S. and the Section 402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the U.S. The Section 401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA Section 404, CWA Section 402, FERC Hydropower and Section 10 Rivers and Harbors).

#### **Comprehensive Environmental Response, Compensation, and Liability Act**

The Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), commonly associated with the term “Superfund,” established:

- Regulations concerning closed and abandoned hazardous waste sites
- Liability of parties responsible for any releases of hazardous waste at these sites
- Funding for cleanup when responsible parties cannot be identified

#### **Environmental Protection Agency (USEPA)**

The primary regulator of hazards and hazardous materials is the USEPA, whose mission is to protect human health and the environment. The City of Pittsburg is located within USEPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

**FY 2001 Appropriations Act**

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

**Hazardous Materials Transportation Act**

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

**Natural Gas Pipeline Safety Act**

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the Federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum Federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

**Resource Conservation and Recovery Act (RCRA)**

The Resource Conservation and Recovery Act (RCRA) established the United States Environmental Protection Agency (USEPA) “cradle to grave” control (generation, transportation, treatment, storage, and disposal) over hazardous materials and wastes. In California, DTSC has RCRA authorization.

**STATE**

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**Aeronautics Act (Public Utilities Code §21001)**

The Caltrans Division of Aeronautics bases the majority of its aviation policies on the Aeronautics Act. Policies include permits and annual inspections for public airports and hospital heliports and recommendations for schools proposed within two miles of airport runways.

**Airport Land Use Commission Law (Public Utilities Code §21670 et seq.)**

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUC) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect *public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports*

*to the extent that these areas are not already devoted to incompatible uses* (Pub. Util. Code §21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

### **Assembly Bill 337**

Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire resistant materials in fire hazard severity zones are also established.

### **California Code of Regulations**

Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application
- Damage non-target crops or animals or any other public or private property
- Contaminate public or private property or create health hazards on said property

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation and maintenance of the state's landfills. The title establishes a landfill classification system and

categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

### **California Department of Transportation**

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

### **California Government Code Section 65302**

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

### **California Health and Safety Code**

Division 20 of the Health and Safety Code establishes Department of Toxic Substances Control (DTSC) authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a state superfund framework that mirrors the federal program.

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 *et seq.* establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12.5 of the Health and Safety Code establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

Division 26 of the Health and Safety Code establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

### **California Health and Safety Code and UBC Section 13000 *et seq.***

State fire regulations are set forth in §13000 *et seq.* of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the UBC and mandate the abatement of fire hazards.

The Health and Safety Code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

### **California Vehicle Code §31600 (Transportation of Explosives)**

This California Vehicle Code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

### **California Public Resources Code**

The State's Fire Safety Regulations are set forth PRC Section 4290, which include the establishment of State Responsibility Areas (SRAs).

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone who "...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material" (§4291(a)).

### **California Fire Code**

The 2019 California Fire Code (CCR Title 24, Part 9) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

### **Food and Agriculture Code**

Division 6 of the California Food and Agricultural Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

### **State Oversight of Hazards and Hazardous Materials**

The DTSC is chiefly responsible for regulating the handling, use, and disposal of toxic materials. The State Water Resources Control Board (SWRCB) regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The Regional Water Quality Control Board (RWQCB) oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the federal level and Cal-OSHA and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and BAAQMD. The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

### **Water Code**

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the SWRCB and RWQCB. In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

## LOCAL

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### **Certified Unified Program Agency (CUPA)**

The California EPA designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. In Contra Costa County, the Contra Costa County Health Services Department Hazardous Materials Division is responsible for the County's CUPA programs. Each designated CUPA is responsible for the implementation of six statewide programs within its jurisdiction. These programs include:

- Underground storage of hazardous substances (USTs)
- Hazardous Materials Business Plan (HMBP) requirements
- Hazardous Waste Generator requirements
- California Accidental Release Prevention (Cal-ARP) program
- Uniform Fire Code hazardous materials management plan
- Above Ground Storage Tanks (Spill Prevention Control and Countermeasures Plan only)

Implementation of these programs involves:

- Permitting and inspection of regulated facilities
- Providing educational guidance and notice of changing requirements stipulated in State or Federal laws and regulations
- Investigations of complaints regarding spills or unauthorized releases
- Administrative enforcement actions levied against facilities that have violated applicable laws and regulations

### **City of Pittsburg Hazard Mitigation Plan**

The City of Pittsburg Hazard Mitigation Plan (HMP) was prepared in order to assess the natural, technological, and human-caused risks to Pittsburg so as to reduce the potential impact of the hazards by creating mitigation strategies. The HMP was updated in 2022. The 2022 HMP represents the City of Pittsburg's commitment to create a safer, more resilient, community by taking actions to reduce risk and by committing resources to lessen the effects of hazards on the people and property of Pittsburg. The HMP complies with the Federal Disaster Mitigation Act (2000), Federal Register 44 CFR Parts 201 and 206. The Pittsburg City Manager's Office and Police Department has coordinated preparation of the HMP in cooperation with other Pittsburg departments, community stakeholders, partner agencies, and members of the public. The HMP addresses hazards and risks associated with releases of hazardous materials, including incidents associated with refineries and chemical plants and establishes a Mitigation Action Plan to reduce risks and inform the City's response to disasters.

### **City of Pittsburg Emergency Operations Plan**

The City of Pittsburg Emergency Operations Plan (EOP) is the official City emergency management document that guides the emergency response and assigns the roles and responsibilities of

departments, units, and individuals during emergencies. The EOP establishes the organizational structure, policies, and procedures for the City's emergency response, including:

- Methods for carrying out emergency operations;
- The process for rendering mutual aid;
- Emergency services of local, state, and federal agencies;
- How resources are mobilized;
- Emergency public information; and
- Continuity of government.

As required by Government Code 8607, the Pittsburg EOP uses the Standardized Emergency Management System and the National Incident Management System for coordination of multi-agency or multi-jurisdictional emergencies.

### **Contra Costa County Emergency Operations Plan (2015)**

The Contra Costa County Emergency Operations Plan (EOP), approved June 16, 2015, provides the basis for a coordinated response before, during, and after an emergency affecting Contra Costa County. The EOP establishes emergency organization, assigns tasks, specifies policies and general procedures, and provides for the coordination of planning efforts of the various emergency staff and service elements in the Operational Area. The EOP facilitates multi-jurisdictional and interagency coordination in emergency operations and is designed to be utilized in coordination with applicable local, State and federal contingency plans. It also establishes the organizational framework of the California Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS) within Contra Costa County.

### **Contra Costa County Airport Land Use Compatibility Plan**

The Contra Costa County Airport Land Use Compatibility Plan (ALUCP), adopted by the Contra Costa County ALUC on December 13, 2000, establishes policies applicable to land use compatibility planning in the vicinity of airports throughout the County, including the Buchanan Field Airport. The basic function of the ALUCP is to promote compatibility between airports and the land uses that surround them. The ALUCP serves as a tool for use by the ALUC in fulfilling its duty to review airport and adjacent land use development proposals.

### **City of Pittsburg Municipal Code**

The City of Pittsburg Municipal Code is the primary tool that regulates development in the City. Chapter 2.44, Emergency Organization and Functions, outlines the City's emergency organization and plan. The declared purpose of Chapter 2.44 is to provide for the preparation and carrying out of plans for the protection of persons and property within this City in the event of an emergency, the direction of the emergency organization, and the coordination of the emergency functions of this city with all other public agencies, corporations, organizations and affected private persons.

Chapter 8.04, Refuse Removal and Disposal, regulates the storage and disposal of refuse, including hazardous waste.

Chapter 9.20, Fireworks, prohibits the possession, manufacturing, selling, offering to sell, using, or discharging any fireworks.

Chapter 15.20, Fire Code – Regulations, includes the adoption of the 2019 California Fire Code.

Chapter 13.20, Industrial Waste Disposal, regulates the use of the City’s waste collection, treatment and disposal system and industrial waste.

Chapter 18.84, Article VI. Hazardous Materials, regulates the use, handling, storage, and transport of hazardous materials and substances.

### 3.8.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.



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## IMPACTS AND MITIGATION MEASURES

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### **Impact 3.8-1: General Plan implementation has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant)**

Future development, infrastructure, and other projects allowed under the 2040 General Plan may involve the transportation, use, and/or disposal of hazardous materials. Hazardous materials are typically used in industrial and commercial uses, as well as residential uses. Future uses may involve the transport and disposal of such materials from time to time. Future activities may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents and fuels, and diesel-fueled equipment), cleanup of sites with known hazardous materials, the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated, or disposal of contaminated materials at an approved disposal site. While hazardous materials may be associated with industrial activities, hazardous materials may also be associated with the regular cleaning and maintenance of residential and other less intense uses. Accidental release of hazardous materials that are used in the construction or operation of a project may occur. There is also the potential for accidental release of pre-existing hazardous materials, associated with previous activities on a site. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below.

The use, transportation, and disposal of hazardous materials is regulated and monitored by local fire departments, CUPAs, the Cal-OSHA and the DTSC consistent with the requirements of federal, state, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with state regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., police and fire departments) would respond. All future projects allowed under the General Plan would be required to comply with the provisions of federal, state, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with federal and state regulations and the Municipal Code, the 2040 General Plan includes policies and actions to address potential impacts associated with hazardous materials among other issues. These policies and actions in the 2040 General Plan would ensure that potential hazards are identified on a project site, that development is located in areas where potential exposure to hazards and hazardous materials can be mitigated to an acceptable level, and that business operations comply with federal and state regulations regarding the use, transport, storage, and disposal of hazardous materials. The 2040 General Plan also includes policies and actions to ensure that the City has adequate emergency response and measures to respond in the event of an accidental release of a hazardous substance.

As described previously in the regulatory setting, hazardous materials regulations related to the use, handling, and transport of hazardous materials are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code. These laws were established at the state level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the state (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or the County. The haulers and users of hazardous materials are listed with the Contra Costa County Fire Authority and are regulated and monitored by the County of Contra Costa. Implementation of Title 49, Parts 171-180, of the Code of Federal Regulations would reduce any impacts associated with the potential for accidental release of hazardous materials. Therefore, implementation of the General Plan policies and actions listed below, as well as compliance with all applicable federal, state and local regulations, would ensure that potential impacts associated with the routine use, transport, storage, or disposal or accidental release of hazardous materials would be **less than significant**, and no mitigation is required.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-5.1: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials.

11-P-5.2: Require hazardous waste generated within the city to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

11-P-5.3: Continue to support and require compliance with Contra Costa County's Countywide Integrated Waste Management Plan as well as all of the Consolidated Unified Protection Agency (CUPA) program elements.

11-P-5.4: Support Contra Costa County in implementing the Hazardous Materials Area Plan (HMAP) to coordinate emergency response and hazardous materials incidents affecting the City.

11-P-5.5: Require compliance with the City's Hazardous Waste Management Plan (HWMP) in addressing the generation, transport, and disposal of hazardous waste in the city, from large and small generators.

11-P-5.6: Encourage and support as feasible the cleanup of contaminated sites during development and redevelopment projects.

##### **ACTIONS – SAFETY & RESILIENCY ELEMENT**

11-A-5.a: Require that applications for discretionary development projects provide detailed information regarding the potential for the historical use of hazardous materials on the site, including information regarding the potential for past soil and/or groundwater contaminations. If warranted, identify and require mitigation measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels accepted by the City and consistent with EPA and/or DTSC standards.

11-A-5.b: Continue to review all new development projects expansions and projects requiring use permits for compliance with Municipal Code Chapter 18.84, Article VI, "Hazardous Materials," to addresses the use, handling, storage, and transport of hazardous materials and substances.

**Impact 3.8-2: General Plan implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant)**

The City of Pittsburg is served by three School Districts: Pittsburg Unified School District (PUSD), Antioch Unified School District (AUSD), and Mt. Diablo Unified School District (MDUSD). Table 3.8-6 provides a summary of the schools serving the City's population.

**TABLE 3.8-6: PUBLIC SCHOOLS SERVING PITTSBURG**

<i>SCHOOL</i>	<i>GRADES SERVED</i>	<i>ADDRESS</i>	<i>ENROLLMENT (2021-2022 SCHOOL YEAR)</i>
<i>ELEMENTARY SCHOOLS</i>			
Parkside	K-5	985 West 17th Street, Pittsburg	577
Marina Vista	K-5	50 East 8th Street, Pittsburg	575
Foothill	K-5	1200 Jensen Drive, Pittsburg	556
Los Medanos	K-5	610 Crowley Avenue, Pittsburg	632
Highlands	K-5	4141 Harbor Street, Pittsburg	484
Heights	TK-5	40 Seeno Street, Pittsburg	517
Shore Acres	K-5	351 Marina Road, Bay Point	413
Rio Vista	K-5	611 Pacifica Ave, Bay Point	446
Delta View	K-5	2916 Rio Verde, Bay Point	569
Fremont	K-5	510 G Street, Antioch	398
Turner	K-5	4207 Delta Fair Boulevard, Antioch	397
<i>JUNIOR/MIDDLE SCHOOLS</i>			
Martin Luther King Jr.	6-8	2012 Carion Court, Pittsburg	700
Rancho Medanos Jr.	6-8	2301 Range Road, Pittsburg	799
Hillview	6-8	333 Yosemite Drive, Pittsburg	905
<i>HIGH SCHOOLS</i>			
Pittsburg	9-12	1750 Harbor Street, Pittsburg	3,637
Black Diamond	9-12	1131 Stoneman Avenue, Pittsburg	187

*SOURCES: SCHOOL ACCOUNTABILITY REPORT CARDS FOR PITTSBURG UNIFIED SCHOOL DISTRICT (PUSD), ANTIOCH UNIFIED SCHOOL DISTRICT (AUSD), AND MT. DIABLO UNIFIED SCHOOL DISTRICT (MDUSD).*

The 2040 General Plan Land Use Element includes land use designations, but does not propose actual development projects, or businesses. As such, it is not possible to determine if a specific use will result in hazardous emissions or require handling of hazardous or acutely hazardous materials, substances, or waste. The land use designations with the highest possibility of having businesses that result in hazardous emissions or require handling of hazardous or acutely hazardous

materials, substances, or waste would be Marina Commercial, Service Commercial, Regional Commercial, Employment Center Industrial, and Industrial uses. Some of these uses would likely occur within ¼ mile of an existing school. Each of these uses may use a variety of hazardous materials commonly found in urban areas including paints, cleaners, and cleaning solvents. If handled appropriately, these materials do not pose a significant risk.

The Marina Commercial land use allows for waterfront-oriented recreational, visitor and community uses, business and professional services, offices, convenience sales, restaurants, public marketplaces, repair services, specialty retail (such as boat sales and repair), hotel/motel with a coastal orientation, recreational facilities, research and development, custom manufacturing, and marinas. The Service Commercial land use allows for commercial business not appropriate in other commercial areas, including automobile sales and services, building materials, nurseries, equipment rentals, contractors, wholesaling, warehousing, storage, and similar uses; offices, retail uses, restaurants, and convenience stores allowed as ancillary uses; residential uses permitted above ground floor commercial uses. The Employment Center Industrial land use allows for employment hubs that accommodate technology, advanced manufacturing, logistics, and other sectors that generate substantial employment opportunities; uses may also include administrative, financial, business, professional, medical and public offices, business incubators, research and development, custom and light manufacturing, limited assembly, warehousing and distribution, data centers, technology and innovation, energy, hospitals and large-scale medical facilities, services, and supporting commercial uses. The Industrial land use allows for manufacturing, wholesale, warehousing and distribution, commercial and business services, research and development, storage uses, agricultural, food and drug, and industrial processing; small restaurant and ancillary commercial uses are permitted subject to design standards.

The proposed 2040 General Plan is not anticipated to directly lead to the establishment of new businesses that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste because the General Plan does not approve any specific development project. However, given the unknown nature of future business establishments within the commercial and industrial use areas, the potential for hazardous materials is present.

Nevertheless, all hazardous materials would be required to be handled in accordance with Federal, State, and County requirements, which would limit the potential for a project to expose nearby uses, including schools, to hazardous emissions or an accidental release. Hazardous emissions are monitored by the BAAQMD, RWQCB, DTSC and the local CUPA. In the event of a hazardous materials spill or release, notification and cleanup operations would be performed in compliance with applicable Federal, State, and local regulations and policies, including hazard mitigation plans. As part of the development review process, the City's proposed General Plan also requires that applications for discretionary development projects provide detailed information regarding the potential for the historical use of hazardous materials on the site, including information regarding the potential for past soil and/or groundwater contaminations. If warranted, identify and require mitigation measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels consistent with EPA and/or DTSC standards. The General Plan also requires and also requires the strict regulation of the production, use, storage, transport, and

disposal of hazardous materials. Compliance with all existing regulations as well as General Plan policies and actions related to land use compatibility and hazardous materials would ensure that the impact is **less than significant**, and no mitigation is required.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-5.1: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials.

11-P-5.2: Require hazardous waste generated within the city to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

11-P-5.3: Continue to support and require compliance with Contra Costa County’s Countywide Integrated Waste Management Plan as well as all of the Consolidated Unified Protection Agency (CUPA) program elements.

11-P-5.5: Require compliance with the City’s Hazardous Waste Management Plan (HWMP) in addressing the generation, transport, and disposal of hazardous waste in the city, from large and small generators.

11-P-5.6: Encourage and support as feasible the cleanup of contaminated sites during development and redevelopment projects.

##### **ACTIONS – SAFETY & RESILIENCY ELEMENT**

11-A-5.a: Require that applications for discretionary development projects provide detailed information regarding the potential for the historical use of hazardous materials on the site, including information regarding the potential for past soil and/or groundwater contaminations. If warranted, identify and require mitigation measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels acceptable by the City and consistent with EPA and/or DTSC standards.

11-A-5.b: Continue to review all new development projects expansions and projects requiring use permits for compliance with Municipal Code Chapter 18.84, Article VI, “Hazardous Materials,” to addresses the use, handling, storage, and transport of hazardous materials and substances.

#### **Impact 3.8-3: General Plan implementation has the potential to have projects located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Less than Significant)**

There are 61 Cortese List site within the Planning Area. These sites are summarized in Table 3.8-2 and shown in Figure 3.8-2. As shown in the table, there are 57 leaking underground fuel tank (LUFT) sites and four other sites (including two site cleanup sites, one state response site, and one other waste site) within the Planning Area.

The Cortese List sites are subject to various Federal and State laws and regulatory agencies, including the CERCLA, USEPA, Cal-EPA, DTSC, and RWQCB. Development allowed by the General Plan could create a hazard to the public or the environment through a disturbance or release of contaminated materials if the development occurs on or adjacent to contaminated sites without appropriate measures to contain or mitigate the existing contamination. The implementation of the policies and actions listed below would reduce potential impacts related to this site.

Federal and state regulations ensure that existing hazards, including those associated with known hazardous materials sites, are addressed prior to development.

Before accepting as complete an application for any development project, the City shall consult lists compiled by the Secretary for Environmental Protection of Cal-EPA pursuant to Government Code Section 65962.5 listing hazardous waste sites and other specified sites located in the City's boundaries. When acting as Lead Agency, the City shall notify an applicant for a development project if the project site is located on such a list and not already identified.

The 2040 General Plan includes policies that are intended to ensure cleanup sites are identified, reviewed, and if needed, remediated, to prevent inappropriate release of hazardous materials. Overall, compliance with all applicable federal, state and local regulations and requirements included in the proposed General Plan would ensure that potential impacts associated with the hazardous conditions on sites listed pursuant to Government Code Section 65962.5 would be **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-5.1: Strictly regulate the production, use, storage, transport, and disposal of hazardous materials.

11-P-5.2: Require hazardous waste generated within the city to be disposed of in a safe manner, consistent with all applicable local, State, and Federal laws.

11-P-5.3: Continue to support and require compliance with Contra Costa County's Countywide Integrated Waste Management Plan as well as all of the Consolidated Unified Protection Agency (CUPA) program elements.

11-P-5.5: Require compliance with the City's Hazardous Waste Management Plan (HWMP) in addressing the generation, transport, and disposal of hazardous waste in the city, from large and small generators.

11-P-5.6: Encourage and support as feasible the cleanup of contaminated sites during development and redevelopment projects.

#### **ACTIONS – SAFETY & RESILIENCY ELEMENT**

11-A-5.a: Require that applications for discretionary development projects provide detailed information regarding the potential for the historical use of hazardous materials on the site,

including information regarding the potential for past soil and/or groundwater contaminations. If warranted, identify and require mitigation measures to ensure the exposure to hazardous materials from historical uses has been mitigated to acceptable levels acceptable by the City and consistent with EPA and/or DTSC standards.

11-A-5.b: Continue to review all new development projects expansions and projects requiring use permits for compliance with Municipal Code Chapter 18.84, Article VI, "Hazardous Materials," to addresses the use, handling, storage, and transport of hazardous materials and substances.

**Impact 3.8-4: General Plan implementation is not located within an airport land use plan, two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area (Less than Significant)**

Hazards related to airports are typically grouped into two categories: air hazards and ground hazards. Air hazards jeopardize the safety of an airborne aircraft and expose passengers, pilots, and crews to danger. Examples of air hazards include tall structures, glare-producing objects, bird and wildlife attractants, radio waves from communication centers, or other features that have the potential to interfere with take-off or landing procedures, posing a risk to aircraft. Ground hazards jeopardize the safety of current and future residents and/or workers in the vicinity of an airport. The most obvious ground hazard is a crash, which may produce a serious, immediate risk to those residing in or using areas adjacent to the airport. Most accidents occur during take-off and landing. Therefore, the higher the density around an airport, including transportation facilities, the higher the risk associated with this type of hazard.

There are no private or public airport facilities in the Planning Area. The nearest airport facilities to the Planning Area are Buchanan Field Airport (located approximately 4.4 miles or further southwest of the Planning Area) and Byron Airport (located approximately 17.0 miles or further southeast of the Planning Area).

As noted previously, Buchanan Field Airport (CCR) is a medium sized, primarily general and business aviation airport located in the City of Concord. The Buchanan Field Airport is used by pilots visiting the area and is home to no less than three major flight schools. Additionally, Byron Airport (C83) is located approximately three miles south of the Town of Byron and is used for general aviation and is a popular base for skydivers, gliders and other recreational flight activities. Pittsburg does not lie within the Runway Protection Zone, Inner/Outer Safety Zones, Inner Turning Zone, Sideline Safety Zone, or Traffic Pattern Zone for these airports. None of the Planning Area lies within the land use compatibility zones for nearby airports. The NTSB Aviation Accident Database identified past minor aviation incidents in the City, as discussed above.

The 2040 General Plan does not include any policies or actions that would impact air hazards or safety. Future development associated with the proposed 2040 General Plan would not affect the Runway Protection Zone, Inner/Outer Safety Zones, Inner Turning Zone, Sideline Safety Zone, Traffic Pattern Zone, or other safety-related zones for the local or regional airports.

Implementation of the General Plan would result in a **less than significant** impact, and no mitigation is required.

**Impact 3.8-5: General Plan implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)**

The 2040 General Plan would allow a variety of new development types, including residential, commercial, industrial, and public projects, resulting in increased employment and population in the City. Road and infrastructure improvements would occur to accommodate the new growth. Future development and infrastructure projects are not anticipated to remove or impede any established evacuation routes within the City. Furthermore, the 2040 General Plan does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans. However, given that the type, location, and size of future development and infrastructure projects is not known at this time, there is the potential that the City could receive a development proposal that could potentially interfere with an established emergency evacuation route or plan. The implementation of the policies and actions listed below would ensure that any potential for impacts would be reduced.

The City is a member of the Contra Costa Operational Area. This entity provides mutual aid to communities via the Contra Costa County Sheriff's Department, Contra Costa County Fire Protection District, and the State of California Office of Emergency Services.

The 2040 General Plan ensures that the City's emergency access routes and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. Important new critical facilities would be located to ensure resiliency in the event of a natural disaster. The General Plan includes policies and actions which address emergency response and evacuation. For example, Policy 11-A-1.a requires the City to implement and periodically review and update, as necessary, emergency response and planning documents, including the EOP and the local HMP to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity. Additionally, Action 11-A-2 requires the City to conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding, and extreme heat). These goals and strategies would be incorporated into all relevant plans, including the EOP and HMP. Implementation of the General Plan policies and actions listed below would reduce ensure that this impact is **less than significant**, and no mitigation is required.



**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.

11-P-1.2: Ensure emergency response equipment and personnel training are adequate to follow the procedures contained within the Emergency Operations Plan for a major earthquake, wildland fire, flood, or hazardous materials release event.

11-P-1.4: Maintain, modernize, and designate new sites for emergency response facilities, including fire and police stations, as needed to accommodate population growth.

11-P-1.5: Prepare and disseminate information to local residents, businesses, and schools about emergency preparedness, including for flooding, fire, hazardous material releases, and seismic activity, and evacuation routes.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

11-P-1.8: Ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments.

11-P-1.9: Maintain effective mutual aid agreements for fire, police, medical response, mass care, heavy rescue, and other functions as appropriate.

11-P-1.10: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

**ACTIONS – SAFETY & RESILIENCY ELEMENT**

11-A-1.a: Implement and periodically review and update, as necessary, emergency response and planning documents, including the Emergency Operations Plan (EOP) and the local Hazard Mitigation Plan (HMP) to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity.

11-A-1.b: Identify and pursue strategies to increase the city's resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the city and particularly the waterfront's unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-1.c: Improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes.

11-A-1.d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

11-A-2.c: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding, and extreme heat). Incorporate these into all relevant plans, including the EOP and HMP.

**Impact 3.8-6: General Plan implementation has the potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires (Less than Significant)**

Wildfires are a potential hazard to development and land uses located in the foothill and forested areas of the City. The severity of wildfire problems depends on a combination of vegetation, climate, slope, and people. The vegetation and topography found in the eastern portions of the Planning Area, coupled with hot, dry summers, present fire hazards during critical fire periods for much of the county. In addition to natural factors such as lightning, human activity is a primary factor contributing to the incidence of wildfires. Campfires, smoking, debris burning, arson, public utility infrastructure, and equipment use are common human-related causes of wildfires.

As shown in Figure 3.16-1 in Section 3.16, Wildfire, the majority of the Planning Area is not located in a “moderate”, “high”, or “very high” FHSZs. However, small portions of the Planning Area are located in “moderate” and “high” FHSZs, including areas in the southeast, southwest, and western portions of the Planning Area. Within the current City limits, small areas containing “moderate” or “high” FHSZs are located only in the southeast and southwest portions of the city. No areas within the Planning Area are categorized as containing a “very high” FHSZs by CalFire.

As shown in Figure 3.16-1, the majority of the Planning Area is located within a Local Responsibility Area (LRA). A small portion in the western section of the Planning Area located near Port Chicago Highway is in a Federal Responsibility Area. Additionally, a portion of the City outside of the City limits but within the southeast portion of the City’s SOI is located in a CalFire designated SRA. Furthermore, the area to the south and southeast of the city limits and the Sphere of Influence, but within the Planning Area, is currently located in a State Responsibility Area.

Fire threat determinations is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. As shown in Figure 3.16-2 in Section 3.16, the City contains areas with “moderate”, “high”, and “very high” fire threats. “Very

high” fire threats are located in the southern and western portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater. CalFire data for the areas immediately south and west of the Planning Area also include “very high” fire threats. CalFire data for the areas immediately north and east of the Planning Area include “moderate” and “high” fire threats.

Development under the 2040 General Plan would allow development to place people and/or structures in currently developed areas that are identified as having a significant risk of wildland fires. As shown in Figure 3.16-1 in Section 3.16, Wildfires, the majority of the Planning Area is not located in a “moderate”, “high”, or “very high” FHSZs. However, small portions of the Planning area are located in “moderate” and “high” FHSZs, including areas in the southeast, southwest, and western portions of the Planning Area. Within the current City limits, small areas containing “moderate” or “high” FHSZs are located only in the southeast and southwest portions of the City. No areas within the Planning Area are categorized as containing a VHFHSZs by CalFire. Additionally, as shown in Figure 3.16-1 in Section 3.16, Wildfires, the majority of the Planning Area is located within a Local Responsibility Area. A small portion in the western section of the Planning Area located near Port Chicago Highway is in a Federal Responsibility Area. Additionally, portions of the City are located in an SRA. The areas within the City Limits located in an SRA are located (2) west of Somersville Road and south of Buchanan Road (2) south of Buchanan Road near Kirker Pass Road, and (3) north of the SOI along Bailey Road. Furthermore, the area to the south and southeast of the City limits and the SOI, but within the Planning Area, is currently located in an SRA.

All future projects allowed under the 2040 General Plan would be required to comply with the provisions of federal, state, and local requirements related to wildland fire hazards, including state fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, specific to the project, associated with wildland fire hazards as required under CEQA. This is considered a significant impact.

Chapter 15.20, Fire Code – Regulations, includes the adoption of the 2019 California Fire Code. Additionally, Chapter 9.20, Fireworks, prohibits the possession, manufacturing, selling, offering to sell, using, or discharging any fireworks.

The 2040 General Plan includes requirements for adequate water supply and water flow availability, ensuring adequate emergency access, adequate fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. Additionally, while existing and limited future development in Pittsburg would be allowed in areas identified as having a very high risk of wildfire, there will always be a risk of loss of life and property as a result of wildland fires within populated areas of the City.

Implementation of the 2040 General Plan policies and actions listed below, combined with local and state requirements discussed previously, would ensure that wildland fire hazards to people and structures are **less than significant**. H

**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.8: Ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments.

**ACTIONS – SAFETY & RESILIENCY ELEMENT**

11-A-1.a: Implement and periodically review and update, as necessary, emergency response and planning documents, including the Emergency Operations Plan (EOP) and the local Hazard Mitigation Plan (HMP) to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity.

11-A-1.b: Identify and pursue strategies to increase the city’s resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the city and particularly the waterfront’s unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-1.c: Improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes.

11-A-1.d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

**POLICIES – COMMUNITY FACILITIES ELEMENT**

12-P-6.1: Promote and cooperate with Contra Costa Fire Protection District to ensure adequate staffing and station locations, a maximum five-minute travel response time 90% of the time for fire and emergency calls, an overall fire insurance (ISO) rating of 3 or better for all developed areas within the City, and a minimum staffing of 3 personnel for all fire stations.

12-P-6.2: Require adequate road widths, turnarounds, and emergency access development projects for fire response trucks.

12-P-6.3: Require development in areas of high fire hazard to be designed and constructed to minimize potential losses and maximize the ability of fire personnel to suppress fire incidents.

12-P-6.4: Require existing and new development in or adjacent to high and very high fire hazard severity zones, wildland urban interface zones, and State Responsibility Areas to maintain defensible space zones, landscape using native, fire-resistant plants and fire-resistant materials, abate weeds, and, where feasible, harden structures and infrastructure against fires.

## ACTIONS – COMMUNITY FACILITIES ELEMENT

12-A-1.a: Update the City's Urban Water Master Plan to implement General Plan growth projections and to review the need for new pressure zones to ensure adequate fire flows in hillside areas.

12-A-6.a: Annually monitor response times and provide the City Council with an annual report on the results of the monitoring.

12-A-6.b: Continue to enforce the California Building Code and the California Fire Code, with amendments to address local conditions, to ensure that all construction and development implements fire-safe techniques, including fire resistant materials, where required.

12-A-6.c: Coordinate with Contra Costa Fire Protection District to periodically review, and if necessary amend, the criteria for determining the circumstances under which fire service will be enhanced and ensure adequate levels of service are provided to older, low income, and disadvantaged areas.

12-A-6.d: Review and amend the Municipal Code to include fire safe requirements, including defensible space zones, structure hardening, fire-resistant materials and landscaping, and, where appropriate, community firebreaks, for development in or adjacent to high and very high fire hazard severity zones and wildland urban interface zones.

12-A-6.e: Cooperate with Contra Costa County Fire Protection District in obtaining sites to either relocate or establish new fire stations within City limits to provide more efficient response times and to ensure new growth receives adequate levels of fire protection.

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Figure 3.8-1:

# HAZARDOUS SITES WITH AN ACTIVE CLEANUP STATUS

## Legend

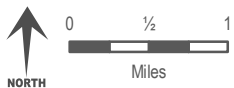
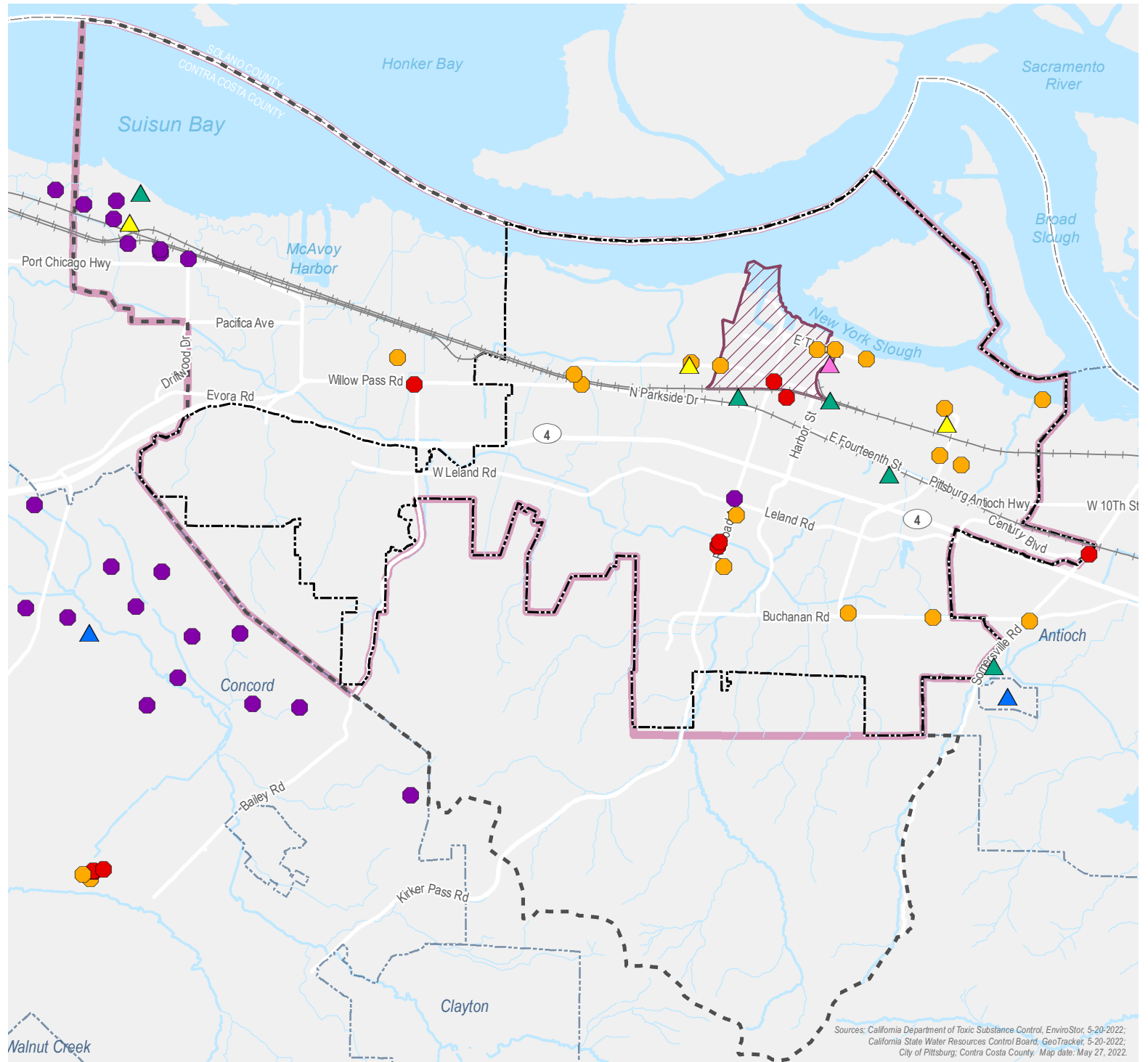
- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Subarea
- Neighboring City

## Hazardous Waste Facilities/Sites with Known Contamination or Sites Requiring Further Investigation (DTSC Envirostor)

- Corrective Action
- Federal Superfund
- State Response
- Voluntary Cleanup

## Sites that Impact or have the Potential to Impact Water Quality (SWRB GeoTracker)

- Cleanup Program Site
- LUST Cleanup Site
- Military Cleanup Site









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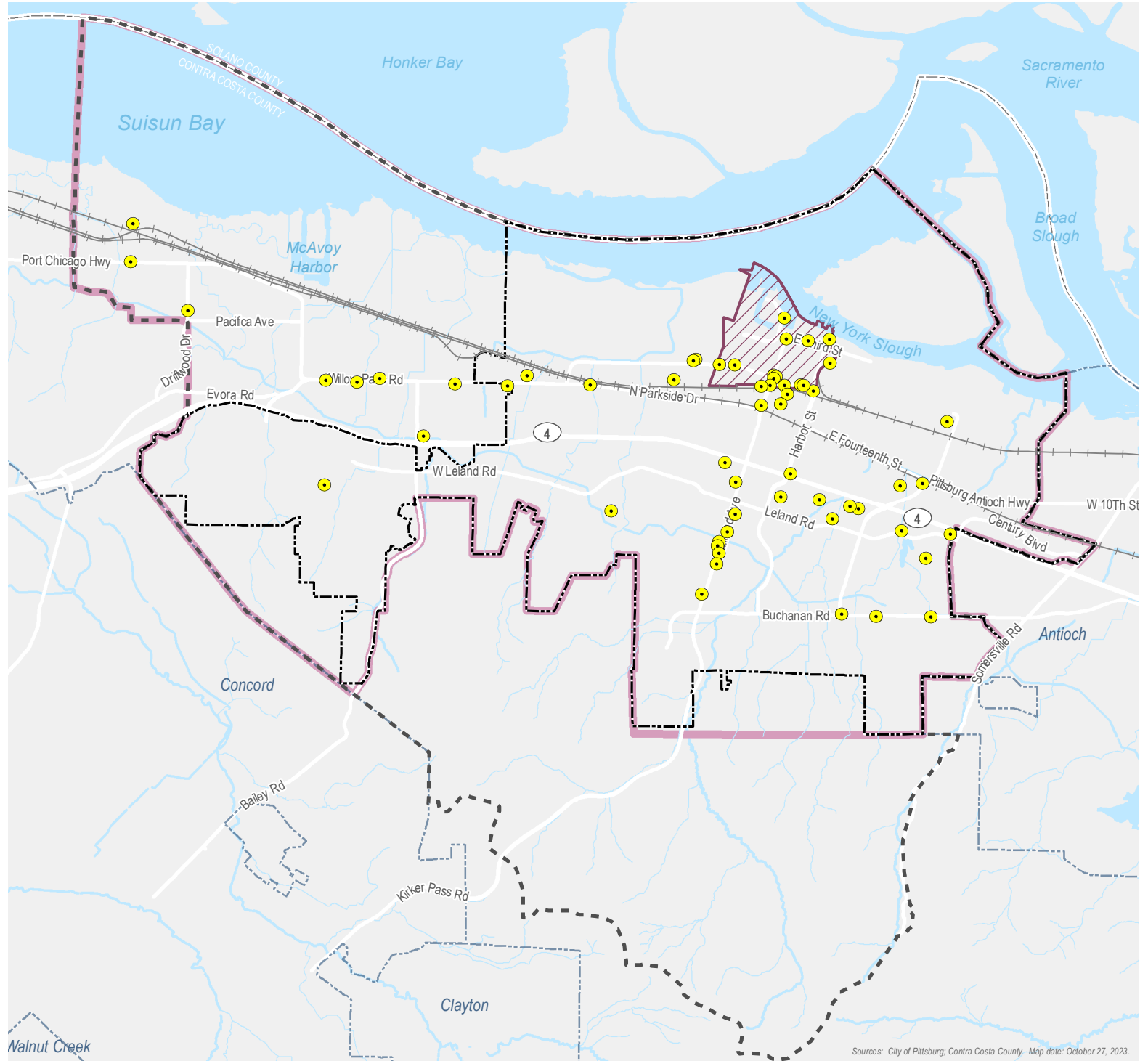


Figure 3.8-2:

# CORTESE LIST SITES

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Sub-Area
-  Neighboring City
-  Cortese List Site



Sources: City of Pittsburg; Contra Costa County. Map date: October 27, 2023.

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This section provides a background discussion of the regional hydrology, flooding, water quality, water purveyors, and water sources in Pittsburg. This section is organized with an existing setting, regulatory setting, and impact analysis.

Comments on this environmental topic received during the NOP comment period include the following: Contra Costa County Flood Control and Water Conservation District (May 12, 2022), Delta Stewardship Council (May 23, 2022), and East Bay Regional Park District (May 20, 2022).

## KEY TERMS

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**AF:** Acre Feet; The volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to approximately 325,851.4 gallons.

**AFY:** Acre Feet per Year

**BGS:** Below Ground Surface

**CFS:** Cubic Feet per Second

**GPD:** Gallons per Day

**GPM:** Gallons per Minute

**Groundwater:** Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

**MG:** Million Gallons

**MGD:** Million Gallons per Day

**Surface water:** Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is naturally replenished through precipitation but is naturally lost through evaporation and seepage into soil.

### 3.9.1 EXISTING SETTING

#### REGIONAL HYDROLOGY

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The Planning Area is located in the Kirker Creek-Frontal Suisun Bay Estuaries, Suisun Bay Estuaries, Suisun Bay Islands, and Markley Canyon-San Joaquin River watersheds. The Planning Area drains into Suisun Bay and New York Slough. Most runoff in the Planning Area is conveyed by natural channels except for storm drains located in developed areas and culverts under SR-4. The existing

## 3.9 HYDROLOGY AND WATER QUALITY

drainage system for runoff into New York Slough is generally composed of open channels fed by a combination of street runoff and underground storm drains.

### CLIMATE

The climate of the region follows a predominantly Mediterranean pattern, with warm dry summers and cool wet winters. The mean annual precipitation is about 15 to 20 inches. Mean annual temperature is about 56 degrees to 60 degrees Fahrenheit. The mean freeze-free period is about 250 to 275 days.

### WATERSHEDS

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the state. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

**TABLE 3.9-1: STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION**

<i>WATERSHED LEVEL</i>	<i>APPROXIMATE SQUARE MILES (ACRES)</i>	<i>DESCRIPTION</i>
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

*SOURCE: CALWATER, CALIFORNIA INTERAGENCY WATERSHED MAPPING COMMITTEE, 2012.*

### Hydrologic Region

The City is located in the San Francisco Bay Hydrologic Region. The San Francisco Bay Hydrologic Region covers approximately 2.88 million acres (4,500 square miles) and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda Counties. Significant geographic features include the Santa Clara, Napa, Sonoma, Petaluma, Suisun-Fairfield, and Livermore Valleys; the Marin and San Francisco Peninsulas; San Francisco, Suisun, and San Pablo Bays; and the Santa Cruz Mountains, Diablo Range, Bolinas Ridge, and Vaca Mountains of the Coast Range.

The San Francisco Bay Hydrologic Region has 28 identified groundwater basins. Despite the tremendous urban development in the region, groundwater use accounts for only about five percent (68,000 acre-feet) of the region's estimated average water supply for agricultural and urban uses, and accounts for less than one percent of statewide groundwater uses. The Sacramento and San Joaquin Rivers flow into the Sacramento-San Joaquin Delta (Delta) and into San Francisco Bay. The Delta is the largest estuary on the West Coast, receiving nearly 40 percent of the state's surface water from the Sierra Nevada and the Central Valley. The interaction between Delta outflow and Pacific Ocean tides determines how far salt water intrudes into the Delta. The resulting salinity distribution influences the distribution of many estuarine fish and invertebrates, as well as the distribution of plants, birds, and animals in wetlands areas.

The north lobe of San Francisco Bay is brackish and is known as San Pablo Bay. It is surrounded by Marin, Sonoma, Napa, and Solano Counties. Suisun Marsh is between San Pablo Bay and the Delta and is the largest contiguous brackish marsh on the West Coast of North America, providing more than 10 percent of California's remaining natural wetlands. The south and central lobes of San Francisco Bay are saltier than San Pablo Bay, as the marine influence dominates.

### **Local Watersheds (Hydrologic Sub-Areas)**

Within the San Francisco Bay Hydrologic Region, the Planning Area is located in the Kirker Creek-Frontal Suisun Bay Estuaries, Suisun Bay Estuaries, Suisun Bay Islands, and Markley Canyon-San Joaquin River watersheds as shown on Figure 3.9-1.

### **LOCAL DRAINAGE**

The City of Pittsburg's existing drainage system is comprised primarily of channelized creeks fed by surface runoff and underground storm drains. The City maintains the system within incorporated areas. Annual rainfall in the area is approximately 13.33 inches with nearly all of the precipitation occurring between November and April, the winter rainy season. The City is responsible for maintaining the flood control system within the incorporated area. In the unincorporated parts of the Planning Area, the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) maintains major channels and creeks over which they hold land rights, while the County Department of Public Works maintains road drainage systems and several detention basins.

The developed portions of the Planning Area are within two major watersheds: the western portion of the Lawlor Creek watershed, which drains into Suisun Bay, and the central and eastern portions of the Kirker Creek watershed, which drains into the New York Slough.

In unincorporated areas, responsibility for storm drain maintenance lies with the CCCFCWCD. Development within the watersheds has the potential to lead to erosion of sediment and increases in surface water run-off entering the City's storm drainage system.

The storm drain facilities under the Contra Costa Canal also have the potential to become impaired, if sedimentation were to occur from new upstream development. Obstruction of storm drains could cause sedimentation and debris to enter the Contra Costa Canal right-of-way and

## 3.9 HYDROLOGY AND WATER QUALITY

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potentially overtop into Contra Costa Canal and/or exert pressure and damage Contra Costa Canal's lining or other facilities. This could result in impacts to Contra Costa Water District's potable water supply.

Pittsburg's creeks are also a key part of the City's open space network. They are valuable physical, aesthetic, recreational, and ecological assets. Protection of creeks not only preserves surface water quality, but also reduces flood risks, preserves biodiversity and habitat, minimizes erosion of stream banks, and prevents downstream siltation.

### GROUNDWATER

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The Planning Area is located in the Clayton Valley and Pittsburg Plain Groundwater Basins. These groundwater basins are not adjudicated. The majority of the City is within the Pittsburg Plain Groundwater Basin. The Pittsburg Plain Groundwater Basin is located in northern Contra Costa County along the south shore of Suisun Bay. The Pittsburg Plain Groundwater Basin is about 40 miles northeast of San Francisco. It is bounded by Suisun Bay on the north, on the east by the Tracy basin, and on the west by the Clayton basin. The southern boundary extends inland from Suisun Bay one to three miles. Hydrographs created from the Department of Water Resources (DWR) well data in the Pittsburg Plain Groundwater Basin indicate that groundwater levels have remained fairly stable over the period of record, with the exception of static water level drops and subsequent recovery associated with the 1976 to 1977 and 1987 to 1992 drought periods.

The Clayton Valley Groundwater Basin is located in northern Contra Costa County along the south shore of Suisun Bay. The basin is about 40 miles northeast of San Francisco. It is bounded by Suisun Bay on the north, Mt Diablo Creek on the east, the Concord Fault and Pittsburg basin on the west, which divides this separates this basin from the Ygnacio Valley groundwater basin, and the foothills of Mount Diablo on the south. Hydrographs created from the DWR well data in the Clayton Valley Groundwater Basin indicate that groundwater levels have shown a slight gradual decline over the period of record. The depth to groundwater is generally greatest in summer months and shallowest in winter months.

The City published the Pittsburg Plain Groundwater Management Plan (GWMP) in October 2012. The GWMP was established to manage and protect groundwater resources within the City and the underlying groundwater basin. The primary objective the GWMP is to provide a long-term strategy to maintain the quality, reliability, and sustainability of groundwater resources within the Pittsburg Plain Groundwater Basin. To accomplish this, the City manages groundwater conjunctively with its surface water resources and supports Basin Management Objectives directed toward the sustainability and optimal use of groundwater supplies.

The Pittsburg Plain Groundwater Basin has not been adjudicated. Hydrographs created from the DWR well data in the Pittsburg Plain Groundwater Basin indicate that groundwater levels have remained fairly stable over the period of record, with the exception of static water level drops and subsequent recovery associated with noted drought periods. According to DWR, and based on present groundwater conditions, it is not expected that overdraft conditions would occur in the

Pittsburg Plain Groundwater Basin. As such, the Pittsburg Plain Groundwater Basin is not listed as a critically overdrafted groundwater basin by DWR.

The City is located within the Contra Costa Water District (CCWD) service area and obtained approximately 83 percent of its water supply wholesale from CCWD during 2020. CCWD provides untreated surface water, pumped from the Delta and delivered through the Contra Costa Canal. The remainder of the City's water supply is obtained from two groundwater wells located within the City boundaries. These relatively shallow wells (approximately 200 feet deep) deliver approximately 600 (Rossmoor) and 1,200 (Bodega) gallons of water per minute (gpm), respectively. The total amount of groundwater pumped by the City from the Pittsburg Plain Groundwater Basin in 2020 was 1,480 acre-feet per year (AFY).

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## FLOODPLAIN MAPPING

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### FEMA Flood Zones

Federal Emergency Management Agency (FEMA) mapping provides important guidance to the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage state and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-2.

Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- **Zone A:** Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- **Zone AE:** Subject to 100-year flooding with base flood elevations determined.
- **Zone AH:** Subject to 100-year flooding with flood depths between one and three feet being areas of ponding with base flood elevations determined.
- **500-year Flood Zone:** Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.

The Planning Area is subject to flooding along the natural creeks and drainages that traverse the area. The primary flood hazards are the creeks that travel north from Mt. Diablo (e.g., Diablo Creek and Kirker Creek) and low-lying areas adjacent to the tidal marsh zone along the northern portion of the Planning Area (including Winter Island and Browns Island). The low-lying areas in the northern portion of the Planning Area are located adjacent to the Delta, which is subject to occasional flooding. The Delta consists of approximately 57 reclaimed islands and tracts, surrounded by 1,100 miles of levees that border 700 miles of waterways.

The 100-year floodplain is largely confined to the northern portion of the City limits and the creeks traveling downslope from Mt. Diablo. Similarly, the 500-year floodplain is located along a section

of Kirker Creek, which travels downslope from Mt. Diablo and along the border with the tidal marsh zone in the northern portion of the City limits.

### **Dam Inundation**

Dam failure can occur under three general conditions: as a result of an earthquake, an isolated incident due to structural instability, or because of intense rain in excess of design capacity. Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area has the potential to be inundated by one dam: the New Melones Dam. The dam inundation area for the Planning Area is shown in Figure 3.9-3. The New Melones Dam, owned and operated by Bureau of Reclamation's Central Valley Project, is utilized for irrigation, power production, and downstream flood control. This earth and rockfill dam is located on the Stanislaus River in southern Mother Lode, off of SR-49. New Melones Dam was completed in 1979 at a height of 625 feet and a storage capacity of 2,400,000 acre-feet. The New Melones Dam is a non-jurisdictional dam.

This New Melones Dam does not have a history of failure; however, it is identified as having the potential to inundate habitable portions of the Planning Area in the unlikely event of dam failure. The New Melones Dam owner/operator, the Bureau of Reclamation, is responsible for the management, monitoring, and improvements to these dams to reduce the risk of dam failure and inundation.

Portions of the 100-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the Planning Area is not specifically defined but would generally coincide with the area delineated as the 100-year floodplain. Overall, the risk of dam failure inundating portions of the Planning Area is considered low.

Section 8589.5 of the California Government Code requires local jurisdictions to adopt emergency procedures for the evacuation of populated inundation areas identified by dam owners. The local Office of Emergency Services has prepared a Dam Failure Plan. The Dam Failure Plan includes a description of dams, direction of floodwaters, responsibilities of local jurisdictions, and evacuation plans.

### **WATER QUALITY**

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Surface water quality is affected by point source and non-point source pollutants. Point source pollutants are those emitted at a specific point, such as a pipe, while non-point source pollutants are typically generated by surface runoff from diffuse sources, such as streets, paved areas, and landscaped areas. Point source pollutants are controlled with pollutant discharge regulations or waste discharge requirements. Non-point source pollutants are more difficult to monitor and control, although they are important contributors to surface water quality in urban areas.

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, and the amount and frequency of rainfall and irrigation practices. Runoff in developed



areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the “first flush.”

Water quality in the City is governed by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Central Valley RWQCB, which sets water quality standards in their Water Quality Control Plans for the respective basins. Basin Plans identifies beneficial uses for surface water and groundwater and establishes water quality objectives to attain those beneficial uses.

The Clean Water Act (CWA) 303(d) list is a register of impaired and threatened waters which the CWA requires all states to submit for U.S. Environmental Protection Agency (USEPA) approval. The list identifies all waters where the required pollution control measures have so far been unsuccessful in reaching or maintaining the required water quality standards. Waters that are listed are known as “impaired.”

Suisun Bay is listed by the San Francisco Bay RWQCB as having limited water quality, as required by CWA Section 303(d). Suisun Bay is listed as containing 27,498 acres of polluted water surface and having water quality issues related to the following compounds and conditions:

- Chlordane;
- Dichlorodiphenyltrichloroethane (DDT);
- Diazinon;
- Dieldrin;
- Dioxin Compounds;
- Exotic Species;
- Furan Compounds;
- Mercury;
- Nickel;
- PCBs (both standard and dioxin-like); and
- Selenium.

Kirker Creek is also listed on the CWA Section 303(d) list for trash, toxicity, and pyretheroids.

### 3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including FEMA, the USEPA, the State Water Resources Control Board (SWRCB), the U.S. Army Corps of Engineers (USACE), and the RWQCB. The following is an overview of the federal, state, and local regulations that are applicable to the proposed project.

### FEDERAL

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#### **Clean Water Act**

The CWA, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. CWA Section 402(p) establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. CWA Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The USACE is the agency responsible for administering the permit process for activities that affect Water of the U.S. The SWRCB is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through RWQCBs. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a Statewide General Permit (Water Quality Order No. 2013-001-DWQ-DWQ).

#### **Federal Emergency Management Agency**

FEMA operates the NFIP, and participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California DWR to insure the proper implementation of FEMA floodplain management regulations.

#### **Flood Control Act**

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Flood Control Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

#### **Flood Disaster Protection Act (FDPA)**

The FDPA of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited federal assistance, including acquisition, construction, and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

### **National Flood Insurance Program (NFIP)**

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes:

- Better indemnify individuals for flood losses through insurance;
- Reduce future flood damages through State and community floodplain management regulations; and
- Reduce Federal expenditures for disaster assistance and flood control.

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

### **National Pollutant Discharge Elimination System (NPDES)**

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the CWA, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the USEPA, subject to review and approval by the EPA Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the CWA and its implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less and are, therefore, to be updated regularly. The

rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the San Francisco Bay Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB. The City is within the jurisdictions of the San Francisco Bay and Central Valley RWQCB.

The SWRCB and RWQCBs enforce California statutes that are equivalent to or more stringent than the federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters. The Cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the Towns of Danville and Moraga, Contra Costa County, and the CCCFCWCD (the Contra Costa Permittees) have joined together to form the Contra Costa Clean Water Program. The Contra Costa Permittees are currently subject to NPDES Permit No. CAS612008, issued by Order No. R2-2009-0074, on October 14, 2009, which pertains to stormwater runoff discharge from storm drains and watercourses within their jurisdictions.

### **Rivers and Harbors Appropriation Act of 1899**

One of the country's first environmental laws, the Rivers and Harbors Appropriation Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

### **Water Pollution Control Act of 1972**

The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States.

## STATE

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### **Assembly Bill 162**

Assembly Bill (AB) 162 requires a general plan's land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by FEMA or the DWR. AB 162 also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. By imposing new duties on local public officials, the bill creates a state-mandated local program.

AB 162l also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.

### **Assembly Bill 70**

AB 70 provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the state's exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped area, as defined, that is protected by a state flood control project, unless the city or county meets specified requirements.

### **Senate Bill 92**

On June 27, 2017, Senate Bill (SB) 92 became effective and added Sections 6160 and 6161 to the Water Code, requiring owners of state-regulated dams, except those classified as low hazard, to prepare emergency action plans (EAPs) containing inundation map(s) for emergency preparedness. An EAP contains a blueprint for emergency response following an incident involving a dam and details various failure scenarios of a dam and its related critical infrastructure. It provides special notification procedures. Dam owners must submit EAPs to the Governor's Office of Emergency Services (Cal OES) for approval by deadlines that are based on the dam's downstream hazard classification. The EAPs, including the inundation map(s), are to be updated every ten years, but if relevant circumstances change, then the update must be made sooner. SB 92 provides the DWR with enforcement tools, including fines and operational restrictions for failure to comply.

### **Coastal Zone Management Act**

The Coastal Zone Management Act (CZMA) was passed in 1972. The CZMA, administered by the National Oceanic and Atmospheric Administration, provides for the management of the nation's coastal resources, including the Great Lakes. The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The CZMA outlines three national programs: the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

### **California Water Code**

The CWA places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the states to follow in developing their programs and allows the USEPA to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality and is the

## 3.9 HYDROLOGY AND WATER QUALITY

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primary vehicle for implementation of California’s responsibilities under the CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region, and the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

- (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:
  - (1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.
  - (2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.
  - (3) A person operating, or proposing to construct, an injection well.
- (b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.
- (c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

### **California Delta Protection Commission**

The Delta Protection Commission was established by the Delta Protection Act of 1992 (Delta Protection Act). In passing the Delta Protection Act, the legislature affirmed “it is the policy of the State to recognize, preserve and protect those resources of the Delta for the use and enjoyment of current and future generations.” Later amendments to the Delta Protection Act introduced the concept of the “co-equal goals” of both Delta ecosystem protection and “providing a more reliable water supply for California”, but insisted that these co-equal goals “be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource and agricultural values of the Delta as an evolving place.” The Delta Protection Commission serves as a forum for Delta residents to provide recommendations and take actions to benefit the Delta. This includes promoting, facilitating, and administering efforts to improve flood protection, agriculture, habitat,

cultural resources and recreation. It also performs an important land use function by adopting a Land Use and Resource Management Plan and ensuring that local government land use decisions are consistent with that plan. In cases where local land use decisions are inconsistent, they are subject to Commission review and may be overturned by Commission action.

### **Delta Stewardship Council**

In November 2009, the California Legislature passed the Delta Reform Act (SBX7 1), one of several special-session bills enacted that year related to water supply reliability, ecosystem health, and the Sacramento-San Joaquin River Delta. Among other things, the Act created the Delta Stewardship Council, effective on February 3, 2010. The Council is made up of seven members. Of the seven members, four are appointed by the Governor, one each by the Senate and Assembly, and the seventh member is the chair of the Delta Protection Commission.

The Council was created to advance the State's coequal goals for the Delta - a more reliable statewide water supply and a healthy and protected ecosystem, both achieved in a manner that protects and enhances the unique characteristics of the Delta as an evolving place.

To do this, the Act required that the Council develop an enforceable long-term sustainable management plan for the Delta to ensure coordinated action at the federal, State, and local levels. The Delta Plan, adopted in 2013, includes both regulatory policies and non-binding recommendations.

### **Water Quality Control Plan for the Sacramento and San Joaquin River Basins**

The Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Sacramento and San Joaquin River Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the CWA.

### **Water Quality Control Plan for the San Francisco Bay Region**

The Water Quality Control Plan for the San Francisco Bay Region (San Francisco Bay Region Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the CWA, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the CWA.

### **Urban Water Management Planning Act**

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An “urban water supplier” is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 AFY. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier’s water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The DWR must receive a copy of an adopted urban water management plan.

### **State Water Resources Control Board Storm Water Strategy**

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the SWRCB’s role in storm water resources management and evolve the Storm Water Program by a) developing guiding principles to serve as the foundation of the storm water program, b) identifying issues that support or inhibit the program from aligning with the guiding principles, and c) proposing and prioritizing projects that the Water Boards could implement to address those issues.

The SWRCB staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives,



projects, timelines, and consideration of the most effective integration of project outcomes into the SWRCB's Storm Water Program.

### **California Fish and Wildlife Code**

The California Department of Fish and Wildlife (CDFW) protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1600 to 1616 of the California Fish and Game Code. The California Fish and Game Code establishes that "an entity may not substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river stream, or lake" (Fish and Game Code Section 1602(a)) without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. The CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

### **California Code of Regulations**

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminants levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

### **California Government Code**

Relevant sections of the California Government Code are identified below.

#### **SECTION 65302**

Revised safety elements must include maps of any 200-year flood plains and levee protection zones within the Planning Area.

#### **SECTION 65584.04**

Any land having inadequate flood protection, as determined by FEMA or DWR, must be excluded from land identified as suitable for urban development within the planning area.

#### **SECTION 8589.4**

California Government Code §8589.4, commonly referred to as the Potential Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the NFIP. NFIP flood zones are areas along streams or coasts where storm flooding is possible from a "100-year flood." In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the Cal OES. Sellers

of real estate within inundation zones are required to disclose this information to prospective buyers.

### **California Department of Health Services**

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for Methyl Tertiary Butyl Ether (MTBE) and other oxygenates.

### **Consumer Confidence Report Requirements**

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

## LOCAL

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### **San Francisco Bay Conservation and Development Commission (BCDC) San Francisco Bay Plan (Bay Plan)**

The San Francisco Bay Conservation and Development Commission (BCDC) is a California state planning and regulatory agency with regional authority over the San Francisco Bay, San Francisco Bay's shoreline band, and the Suisun Marsh. BCDC was created in 1965 and is the nation's oldest coastal zone agency.

Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. State law requires sponsors of projects that propose to fill or extract materials from the Bay to apply for a BCDC permit. In addition to minimizing any fill required for an appropriate project and ensuring that the project is compatible with the conservation of Bay resources, BCDC is tasked with requiring maximum feasible public access within San Francisco Bay's 100-foot shoreline band. Throughout its existence, BCDC has approved projects worth billions of dollars, and BCDC continues to work closely with all applicants – private and public – from a project's initial stages to ensure that they comply with state law. In addition, BCDC leads the San Francisco Bay Area's ongoing multi-agency regional effort to address the impacts of rising sea level on shoreline communities and assets. Its authority is found in the

McAteer-Petris Act, the San Francisco Bay Plan (Bay Plan), and other special area plans and laws and policies.

The Bay Plan was completed and adopted by the BCDC in 1968 and was transmitted to the California Legislature and the Governor in 1969. In those actions, the BCDC completed the original charge given to it in the provisions of the McAteer-Petris Act of 1965. The McAteer-Petris Act created BCDC and mandated its study of San Francisco Bay and the preparation and submittal of a final report to the California Legislature in 1969. This document presents the two essential parts of the Bay Plan: the policies to guide future uses of San Francisco Bay and shoreline, and the maps that apply these policies to the present San Francisco Bay and shoreline. The BCDC's final report, the Bay Plan, covered the following matters as specifically required by the law:

1. The results of the Commission's detailed study of San Francisco Bay;
2. The comprehensive plan adopted by the Commission for the conservation of the water of San Francisco Bay and the development of its shoreline;
3. The Commission's recommendation of the appropriate agency to maintain and carry out the Bay Plan;
4. The Commission's estimate of the approximate amount of money that would be required to maintain and carry out the provisions of the Plan for the San Francisco Bay;

Other information and recommendations the Commission deemed desirable.

### **Regional Landscape Water Conservation Ordinance**

The Contra Costa Water District and local planning agencies worked together to develop a Regional Landscape Water Conservation Ordinance (Regional Ordinance) to comply with the state mandate (AB 1881). The Regional Ordinance is designed to both meet the state's water conservation goals and to be uncomplicated for planning staff to review and administer.

### **Delta Reform Act**

The Delta Reform Act of 2009 established two coequal goals: securing a reliable water supply for California and protecting, restoring, and enhancing the Sacramento-San Joaquin Delta ecosystem and the fish, wildlife, and recreation it supports. The Delta Reform Act recognized the Delta as an "evolving" environment and outlined a state policy of reduced reliance on Delta water exports, opting for a strategy of improved conservation, the development and enhancement of regional supplies, and water use efficiency.

The Delta Reform Act established an independent state agency – the Delta Stewardship Council – to develop and implement a plan that facilitates the declared coequal goals. The act also established the Delta Independent Science Board and authorized it to research, monitor, and assess programs pursued under the Delta Plan, advising the Council of its findings.

Under the authority of the act, a Delta Plan was originally adopted in May 2013 and includes amendments through 2023. The Delta Plan incorporates policies and recommendations regarding the coequal objectives, including reduced reliance on Delta exports; final approval and adoption of the Bay Delta Conservation Plan; enhanced water quality standards; protection of the Delta's

unique ecosystem; mitigation of the multiple stressors affecting the Delta; improvement of emergency preparedness throughout the Delta region; reduction of flood risk; and prioritized state investment in levee maintenance and upgrading.

### **Suisun Marsh Habitat Management, Preservation, and Restoration Plan**

The Suisun Marsh Habitat Management, Preservation, and Restoration Plan (2013) is a 30-year comprehensive plan designed to address the various conflicts regarding use of Marsh resources, with the focus on achieving an acceptable multi-stakeholder approach to the restoration of tidal wetlands and the management of managed wetlands and their functions. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan addresses habitats and ecological process, public and private land use, levee system integrity, and water quality through restoration and managed wetland activities. As such, the Suisun Marsh Habitat Management, Preservation, and Restoration Plan is intended to be a flexible, science-based, management plan for Suisun Marsh (Marsh), consistent with the revised Suisun Marsh Preservation Agreement and CALFED Bay-Delta Program (CALFED). It also is intended to set the regulatory foundation for future actions.

The Suisun Marsh Habitat Management, Preservation, and Restoration Plan is intended to address the full range of issues in the Marsh, which are linked geographically, ecologically, and ideologically. Many of these issues have been recognized in other planning documents such CALFED Record of Decision, and the Revised Suisun Marsh Preservation Agreement. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan incorporates these plans and directives, while meeting the following plan objectives:

- Habitats and Ecological Processes—implement the CALFED Ecosystem Restoration Program Plan restoration target for the Suisun Marsh ecoregion of 5,000 to 7,000 acres of tidal marsh and protection and enhancement of 40,000 to 50,000 acres of managed wetlands.
- Public and Private Land Use—maintain the heritage of waterfowl hunting and other recreational opportunities and increase the surrounding communities’ awareness of the ecological values of Suisun Marsh.
- Levee System Integrity—maintain and improve the Suisun Marsh levee system integrity to protect property, infrastructure, and wildlife habitats from catastrophic flooding.

### **Contra Costa Clean Water Program**

To comply with the CWA, Contra Costa County, its 19 incorporated Cities and the CCCFCWCD have joined together to form the Contra Costa Clean Water Program (CCCWP). The CCCWP strives to eliminate stormwater pollution through public education, inspection and enforcement activities, and industrial outreach. The CCCWP is dedicated to maintaining a healthy environment in Contra Costa’s creeks, rivers, the Delta, and the San Francisco Bay.

### **Contra Costa County Municipal NPDES Permit Waste Discharge Requirements Order R2-2009-0074 NPDES Permit No. CAS612008**

In response to the CWA, the CCCWP regulates waste dischargers under a NPDES Permit administered by the appropriate RWQCB. Specifically, the municipalities are regulated with regard to their jurisdiction and/or maintenance responsibility for municipal storm drain systems and watercourses that they own or operate. The NPDES Permit is concerned primarily with regulating trash, pollutants of concern, and excessive hydrologic runoff which can carry sediment and cause flooding.

### **Contra Costa Clean Water Program Stormwater C.3 Guidebook**

The 8th Edition of the CCCWP Stormwater C.3 Guidebook (2017) helps to ensure that applicable projects comply with the C.3 requirements in the California RWQCBs' Municipal Regional Permit. The Guidebook provides detailed information about how to prepare a Stormwater Control Plan. In addition, there are two Guidebook Addendums, "Contra Costa Clean Water Program Technical Criteria for Non-LID Facilities" and "Preparing a Stormwater Control Plan for a Small Land Development Project".

### **Bay Area Stormwater Management Agencies, Start at the Source: Design Guidance Manual for Stormwater Quality Protection**

This document is intended for use in the planning and design phases of residential, commercial, institutional, and industrial development and redevelopment. It recognizes that one of the best opportunities to reduce the generation of urban runoff or "nonpoint source pollution" from development is through planning and design. This document provides Best Management Practices (BMPs) including principles and techniques for basic siting and design considerations, construction phase strategies, and post construction property management practices.

### **San Francisco Bay Region Municipal Regional Stormwater NPDES Permit Order No. R2-2019-0004 NPDES Permit No. CAS612008**

In response to the CWA, the Contra Costa Clean Water Program regulates waste dischargers under a NPDES Permit administered by the San Francisco RWQCB (Region 2). Specifically, the municipalities are regulated with regard to their jurisdiction over and/or maintenance responsibility for municipal storm drain systems and watercourses that they own or operate. The NPDES Permit is concerned primarily with regulating trash, pollutants of concern, and excessive hydrologic runoff which can carry sediment and cause flooding.

### **City of Pittsburg Municipal Code**

Chapter 13.28, Stormwater Management and Discharge Control, of the City's Municipal Code is intended to protect and enhance the water quality in the City of Pittsburg's watercourses pursuant to, and consistent with, the Porter-Cologne Act (Water Code Section 13000 et seq.) and the CWA (33 USC Section 1251 et seq.). Section 13.28.050 of this Chapter of the Water Code requires a Stormwater Control Plan for every application for a development project, including but not limited to a rezoning, tentative map, parcel map, conditional use permit, variance, site development

permit, design review, or building permit that is subject to the development runoff requirements in the City's NPDES permit. Additionally, Section 13.28.060 outlines prohibited discharges to the City stormwater system. Further, Section 13.28.090 requires, among other requirements, BMPs and standards for any person owning or operating premises that may contribute pollutants to the city's stormwater system.

Chapter 15.80, Floodplain Management, applies to all areas of special flood hazards in the City. Section 15.80.050 includes provisions for flood hazard reduction for construction in special flood hazard areas.

Chapter 15.88, Grading, Erosion and Sediment Control, intends to promote the conservation of natural resources, including the natural beauties of the land, streams and watersheds, hills and vegetation; to protect public health and safety, including the reduction or elimination of the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation and flooding, or other special conditions as described in Government Code Section 54460(b); by minimizing the adverse effects of grading, cut and fill operations, water runoff and soil erosion. Section 15.88.060 outlines erosion and sediment control requirements during grading activities.

### 3.9.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on the environment associated with hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on- or off-site;
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

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## IMPACTS AND MITIGATION

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### **Impact 3.9-1: General Plan implementation could violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality or obstruct implementation of a water quality control plan (Less than Significant)**

#### CONSTRUCTION-RELATED WATER QUALITY IMPACTS

Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

As required by the CWA, each subsequent development project or improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading and preservation of topsoil. A SWPPP is not required if the project will disturb less than one acre. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

Future development project applicants must submit the SWPPP with a Notice of Intent to the RWQCB to obtain a General Permit. The RWQCB is an agency responsible for reviewing the SWPPP with the Notice of Intent, prior to issuance of a General Permit for the discharge of storm water during construction activities. The RWQCB accepts General Permit applications (with the SWPPP and Notice of Intent) after specific projects have been approved by the lead agency. The lead agency for each specific project that is larger than one acre is required to obtain a General Permit for discharge of storm water during construction activities prior to commencing construction (per the CWA).

The 2040 General Plan sets policies and actions for future development in the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future project must include detailed project-specific drainage plans that control storm water runoff and erosion, both during and after construction. The RWQCB will require a project-specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs will include project-specific BMPs that are designed to control drainage and erosion.

#### NEW DEVELOPMENT-RELATED WATER QUALITY IMPACTS

New development and infrastructure improvements projects that would result from implementation of the 2040 General Plan could introduce constituents into the storm water system that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals, such as lead, zinc, and copper.

## 3.9 HYDROLOGY AND WATER QUALITY

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These pollutants tend to build up during the dry months of the year. Precipitation during the early portion of the wet season (generally from November to April) washes away most of these pollutants, resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff is referred to as the “first flush” of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The majority of development allowed under the 2040 General Plan would be within areas currently developed with urban uses, and the amount and type of runoff generated by various future development and infrastructure projects would be similar to existing conditions. However, new development and infrastructure projects accommodated by the 2040 General Plan have the potential to result in increases in the amount of impervious surfaces throughout Pittsburg. Future increases in impervious surfaces would result in increased urban runoff, pollutants, and first flush roadway contaminants, as well as an increase in nutrients and other chemicals from landscaped areas. These constituents could result in water quality impacts to onsite and offsite drainage flows to area waterways.

Waters that are listed under CWA Section 303(d) are known as “impaired.” Suisun Bay is listed by the San Francisco Bay RWQCB as having limited water quality, as required by the CWA Section 303(d).

Suisun Bay is listed as containing 27,498 acres of polluted water surface.

Kirker Creek is also listed on the Section 303(d) list for trash, toxicity, and pyretheroids.

Storm water runoff may play a role in the water quality impairments described above. Runoff that occurs as overland flow across yards, driveways, and public streets is intercepted by the storm water drainage system and conveyed to local drainages before eventually being routed to the Pacific Ocean. This storm water can carry pollutants that can enter the local waterways and result in the types of water quality impairments described above. Common sources of storm water pollution in the City include litter, trash, pet waste, paint residue, organic material (yard waste), fertilizers, pesticides, sediments, construction debris, metals from automobile brake pad dust, air pollutants that settle on the ground or attach to rainwater, cooking grease, illegally dumped motor oil, and other harmful fluids.

Future development and infrastructure projects allowed by the 2040 General Plan could result in an increase in the overall volume of runoff in Pittsburg compared to existing conditions. If the City’s drainage system is not adequately designed, 2040 General Plan buildout could result in localized higher peak flow rates. Localized increases in flow would be significant if increases exceeded system capacity or contributed to bank erosion. This is considered a potentially significant impact, which would be mitigated to a less than significant level through the implementation of the policies and actions listed below, as well as the City’s adopted Municipal Code requirements.

The 2040 General Plan establishes policies and actions for future development and build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis



of potential impacts of such projects is not feasible and would be speculative. However, each future development and infrastructure project is required to prepare a detailed project-specific drainage plan, Water Quality Management Plan, and a SWPPP that will control storm water runoff and erosion, both during and after construction. If a project involves the discharge into surface waters the project proponent will need to acquire a Dewatering permit, NPDES permit, and Waste Discharge permit from the RWQCB and comply with all storm water sewer system (MS4) requirements.

As described above, under the Regulatory Setting, the City is required to implement a range of measures and procedures when reviewing new development and infrastructure projects. These measures include but are not limited to the City's stormwater regulations set forth in the Municipal Code, as well as the requirements set forth in the CCCWP Stormwater C.3 Guidebook.

Chapter 13.28, Stormwater Management and Discharge Control, of the City's Municipal Code is intended to protect and enhance the water quality in the City of Pittsburg's watercourses pursuant to, and consistent with, the Porter-Cologne Act (Water Code Section 13000 et seq.) and the CWA (33 USC Section 1251 et seq.). Section 13.28.050 of this Chapter of the Water Code requires a Stormwater Control Plan for every application for a development project, including but not limited to a rezoning, tentative map, parcel map, conditional use permit, variance, site development permit, design review, or building permit that is subject to the development runoff requirements in the City's NPDES permit. Additionally, Section 13.28.060 outlines prohibited discharges to the City stormwater system. Further, Section 13.28.090 requires, among other requirements, BMPs and standards for any person owning or operating premises that may contribute pollutants to the City's stormwater system.

Chapter 15.88, Grading, Erosion and Sediment Control, intends to promote the conservation of natural resources, including the natural beauties of the land, streams and watersheds, hills and vegetation; to protect public health and safety, including the reduction or elimination of the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation and flooding, or other special conditions as described in Government Code Section 54460(b); by minimizing the adverse effects of grading, cut and fill operations, water runoff and soil erosion. Section 15.88.060 outlines erosion and sediment control requirements during grading activities.

Compliance with existing City, County, and Contra Costa Clean Water Program (i.e., the C.3 Guidebook) construction and stormwater management codes would reduce the potential for impacts related to stormwater quality. In addition, prior to the issuance of grading permits, each site developed under the proposed 2040 General Plan would be required to submit a site-specific drainage study and SWPPP to the City for approval.

While the primary regulatory mechanisms for ensuring that future development and infrastructure projects do not result in adverse water quality impacts are contained in the Pittsburg Municipal Code, the City has developed the 2040 General Plan to include additional policies and actions that, when implemented, will further reduce water pollution from construction, new development, and new infrastructure projects, and protect and enhance natural storm drainage and water quality features. The policies and actions identified below include numerous requirements that would

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reduce the potential for development accommodated by the 2040 General Plan to result in increased water quality impacts. Actions by the City during the development review process require the review of development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure that off-site runoff is not increased beyond pre-development levels during rain and flood events. In addition, compliance with the CWA and regulations enforced by the RWQCB would ensure that construction-related impacts to water quality are minimized and future projects comply with all applicable laws and regulations.

The City is responsible for maintaining the flood control system within the incorporated area. In the unincorporated parts of the Planning Area, the CCCFCWCD maintains major channels and creeks over which they hold land rights, while the County Department of Public Works maintains road drainage systems and several detention basins.

Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. The implementation of the 2040 General Plan policies and actions listed below include policies aimed to enhance stormwater quality and infiltration as well as actions to review development projects to identify potential stormwater and drainage impacts and require development to include measures to ensure off-site runoff is not increased beyond pre-development levels. Existing regulatory requirements that manage water quality include requirements to obtain approval from the RWQCB for NPDES permits, other discharge permits, WQMPs, SWPPPs, and to implement BMPs. These regulatory requirements are intended to ensure that water quality does not degrade to levels that would violate water quality standards.

Additionally, the proposed 2040 General Plan includes policies and actions related to drainage and water quality. As shown below, Policy 12-P-3.5 maintains the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit. Policy 10-P-4.2 aims to protect the water availability and quality of the San Joaquin River Delta for beneficial uses and habitat protection. Policy 10-P-4.3 requires compliance with RWQCB regulations and standards to maintain and improve the quality of both surface water and groundwater resources. Policy 10-P-4.7 requires monitoring of water quality in the local creek and reservoir system to ensure clean supplies for human consumption and ecosystem health. Policy 10-P-4.8 requires protection of water quality by reducing non-point sources of pollution and the dumping of debris in and near creeks, storm stains, and Contra Costa Canal. Further, Action 10-A-4.b requires an assessment of downstream drainage (creeks and channels) and City storm-water facilities impacted by potential project runoff as part of project water quality review and CEQA documentation.

Through implementation of the 2040 General Plan policies and actions listed below, implementation of the Pittsburg Municipal Code requirements identified above, compliance with mandatory federal and state regulations, and compliance with the existing regulations for the Kirker Creek-Frontal Suisun Bay Estuaries, Suisun Bay Estuaries, Suisun Bay Islands, and Markley Canyon-San Joaquin River watersheds, would ensure that impacts to drainage patterns and water quality would be mitigated to a **less than significant level**, and no mitigation is required.

**GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS****POLICIES – COMMUNITY FACILITIES ELEMENT**

12-P-1.6: Consider the effect of incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

12-P-3.5: Maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

**POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-4.1: Implement local conservation efforts that improve the San Joaquin River Delta water supply and quality by supporting the long-term viability of the natural Delta ecosystems and the continuation of Delta heritage through encouraging protection and restoration of the ecosystem.

10-P-4.2: Protect the water availability and quality of the San Joaquin River Delta for beneficial uses and habitat protection.

10-P-4.3: Comply with Regional Water Quality Control Board regulations and standards to maintain and improve the quality of both surface water and groundwater resources.

10--P-4.4: Address soil and groundwater pollution during development, redevelopment, and reuse projects.

10-P-4.5: Reduce sedimentation and erosion of waterways by minimizing site disturbance and vegetation removal.

10-P-4.6: Encourage rehabilitation and revegetation of riparian corridors and wetlands throughout the City to contribute to bioremediation and improved water quality.

10-P-4.7: Monitor water quality in the local creek and reservoir system to ensure clean supplies for human consumption and ecosystem health.

10-P-4.8: Protect water quality by reducing non-point sources of pollution and the dumping of debris in and near creeks, storm stains, and Contra Costa Canal.

10-P-4.9: Continue use and implementation of the City's storm drain marking program in newly developed or redeveloped areas.

10-P-4.10: Encourage groundwater recharge through water management strategies, including reducing urban runoff through low impact development designed to conserve natural resources and facilitate groundwater recharge.

**ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-4.a: Review and regulate new development to ensure consistency with Federal and State flood and floodway requirements, including Sacramento-San Joaquin River Delta Plan policies, the

## 3.9 HYDROLOGY AND WATER QUALITY

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City's Green Stormwater Infrastructure Plan, and the Contra Costa Clean Water Program's Resource Conservation Plan as applicable and as opportunities arise.

10-A-4.b: Require an assessment of downstream drainage (creeks and channels) and City stormwater facilities impacted by potential project runoff as part of project water quality review and CEQA documentation.

10-A-4.c: Continue working with the Regional Water Quality Control Board in the implementation of the National Pollutant Discharge Elimination System (NPDES) permits, with specific requirements established in each NPDES permit.

10-A-4.d: Review and update BMPs as necessary to promote state-of-the-art construction practices to ensure that development projects consider the effects of construction debris and sediment on local water supplies.

10-A-4.e: Monitor land uses discharging into groundwater recharge areas to prevent potential contamination from hazardous or toxic substances.

10-A-4.f: Facilitate monitoring of all underground storage tanks, and support the Environmental Protection Agency's (EPA) requirements to remove all single walled underground storage tanks.

10-A-4.g: Establish regulations as part of the Zoning Code Update to require that:

- (a) Graded areas concurrent with project development are revegetated to minimize erosion
- (b) New developments submit water conservation plans that meet State requirements, including claimed water, and efficient irrigation systems
- (c) Measures such as the use of low flow plumbing fixtures, drought tolerant plantings, reclaimed water, and efficient irrigation systems

10-A-4.h: Prepare and disseminate information about the harmful effects of toxic chemical substances and safe alternative measures.

10-A-4.i: Require new development to use BMPs to minimize creek bank instability, runoff of construction sediment, and flooding.

### **Impact 3.9-2: General Plan implementation could result in the depletion of groundwater supplies or interfere substantially with groundwater recharge or conflict with a groundwater management plan. (Less than Significant)**

The Planning Area is located in the Clayton Valley and Pittsburg Plain Groundwater Basins. These groundwater basins are not adjudicated. The majority of the City is within the Pittsburg Plain Groundwater Basin. The Pittsburg Plain Groundwater Basin is located in northern Contra Costa County along the south shore of Suisun Bay. Hydrographs created from the DWR Resources well data in the Pittsburg Plain Groundwater Basin indicate that groundwater levels have remained

fairly stable over the period of record with the exception of static water level drops and subsequent recovery associated with the 1976 to 1977 and 1987 to 1992 drought periods. Hydrographs created from the DWR well data in the Clayton Valley Groundwater Basin indicate that groundwater levels have shown a slight gradual decline over the period of record. The depth to groundwater is generally greatest in summer months and shallowest in winter months.

As noted previously, the Pittsburg Plain GWMP (published in October 2012) was established to manage and protect groundwater resources within the City and the underlying groundwater basin. The City manages groundwater conjunctively with its surface water resources and supports Basin Management Objectives directed toward the sustainability and optimal use of groundwater supplies.

The Pittsburg Plain Groundwater Basin has not been adjudicated and is not listed as a critically overdrafted groundwater basin by DWR.

The City's potable water supply includes surface water deliveries supplied by the CCWD, which makes up the vast majority of the City's supply, as well as groundwater supplies provided from two groundwater wells. The total amount of groundwater pumped by the City from the Pittsburg Plain Groundwater Basin in 2020 was 1,480 AFY.

The demand projections for the multiple dry years are summarized in Table 3.15-5 in Section 3.15, Utilities and Service Systems. As indicated in Table 3.15-5, deficiencies ranging from 33 AF (fourth year dry year in 2040) to 863 AF (fifth year dry year in 2045) may occur. Under multiple year drought conditions, the City may be required to implement water reduction actions to mitigate potential supply shortfalls. For the analysis, groundwater supply has been assumed to be at the average 1,480 AFY of groundwater extraction between 1993 and 2020. However, the maximum annual extraction in this period was 2,092 AF in 2008, so additional groundwater extraction could be used to account for supply deficits in multiple dry years, as necessary. In addition, the per capita water use used for the demand projections is based on a rebound from drought restrictions and the economic recession, and future projections do not account for potential decreases in demand resulting from increased savings from passive conservation (that is, the future projections do not account for future increases in the use of water-saving appliances). The City and CCWD have demonstrated in recent years that, during extended dry periods, they can address deficits by reducing demand in their service areas.

Subsequent development projects under the 2040 General Plan, such as residential, commercial, industrial, and roadway projects would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. However, the majority of the developable areas within the City are currently developed with urban uses. The majority of open undeveloped lands within the City are designated for parks and open space uses. The 2040 General Plan Land Use Map does not re-designate any areas currently designated for open spaces uses to urban uses. The amount of new pavement and impervious surfaces, and the extent to which they affect infiltration, depends on the site-specific features and soil types of a given project site. Projects located in urban areas would have less of an impact than projects converting open lands and spaces.

## 3.9 HYDROLOGY AND WATER QUALITY

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Given that implementation of and future development accommodated by the proposed 2040 General Plan would not appreciably add to the volume of impervious surfaces in Pittsburg, when compared to the overall size of the regional groundwater basin recharge area. Furthermore, there are adequate water supplies (including groundwater) to serve the projected buildout demand of the 2040 General Plan, this potential impact would be **less than significant**, and no additional mitigation is required.

While mitigation is not required for this less than significant impact, the 2040 General Plan includes policies and actions that address groundwater pollution and quality, encourage groundwater recharge through water management strategies, and require monitoring land use discharging into groundwater recharge areas to prevent potential contamination from hazardous or toxic substances. The 2040 General Plan and development codes are consistent with the Pittsburg Plain Groundwater Management Plan. Implementation of the following 2040 General Plan policies and actions would further ensure that the 2040 General Plan would have a **less than significant** impact relative to this topic.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-4.3: Comply with Regional Water Quality Control Board regulations and standards to maintain and improve the quality of both surface water and groundwater resources.

10-P-4.4: Address soil and groundwater pollution during development, redevelopment, and reuse projects.

10-P-4.10: Encourage groundwater recharge through water management strategies, including reducing urban runoff through low impact development designed to conserve natural resources and facilitate groundwater recharge.

#### **ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-4.a: Review and regulate new development to ensure consistency with Federal and State flood and floodway requirements, including Sacramento-San Joaquin River Delta Plan policies, the City's Green Stormwater Infrastructure Plan, and the Contra Costa Clean Water Program's Resource Conservation Plan as applicable and as opportunities arise.

10-A-4.b: Require an assessment of downstream drainage (creeks and channels) and City stormwater facilities impacted by potential project runoff as part of project water quality review and CEQA documentation.

10-A-4.c: Continue working with the Regional Water Quality Control Board in the implementation of the National Pollutant Discharge Elimination System (NPDES) permits, with specific requirements established in each NPDES permit.

10-A-4.d: Review and update BMPs as necessary to promote state-of-the-art construction practices to ensure that development projects consider the effects of construction debris and sediment on local water supplies.

10-A-4.e: Monitor land uses discharging into groundwater recharge areas to prevent potential contamination from hazardous or toxic substances.

10-A-4.i: Require new development to use BMPs to minimize creek bank instability, runoff of construction sediment, and flooding.

**Impact 3.9-3: General Plan implementation could alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, impeded flows, or polluted runoff (Less than Significant)**

As noted previously, the City of Pittsburg is part of the Contra Costa Clean Water Program. The Contra Costa Permittees are currently subject to NPDES Permit No. CAS612008, issued by Order No. R2-2009-0074 on October 14, 2009, which pertains to stormwater runoff discharge from storm drains and watercourses within their jurisdictions. The municipalities are regulated with regard to their jurisdiction and/or maintenance responsibility for municipal storm drain systems and watercourses that they own or operate. The NPDES Permit is concerned primarily with regulating trash, pollutants of concern, and excessive hydrologic runoff which can carry sediment and cause flooding.

Development and projects accommodated under the 2040 General Plan have the potential to impact the Planning Area's storm drainage system. The potential impacts would be primarily derived from development in what are now underdeveloped and/or underutilized areas.

Construction activities are regulated by the NPDES General Construction Storm Water Permit. Compliance with the storm water permit during construction activities requires the preparation of a SWPPP that contains BMPs to control the discharge of pollutants, including sediment, into local surface water drainages. Additionally, the City, in accordance with the C.3 requirements and Guidebook Addendums, must implement a stormwater control plan, Low Impact Development (LID) site design, and integrated stormwater management practices in new development and redevelopment.

Individual future projects accommodated by the 2040 General Plan would create new impervious surfaces. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. In addition, the increase in impervious surfaces, along with the increase in surface water runoff, could increase the non-point source discharge of pollutants. Anticipated runoff contaminants include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash. Contributions of these contaminants to stormwater and non-stormwater runoff would degrade the quality of receiving waters. During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces, where they can accumulate until the first storm event.

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During this initial storm event, or first flush, the concentrated pollutants would be transported via runoff to stormwater drainage systems. Contaminated runoff waters could flow into the stormwater drainage systems that discharge into rivers, agricultural ditches, sloughs, and channels, and ultimately could degrade the water quality of any of these water bodies. Implementation of the policies and actions listed below, as well as the City's adopted Municipal Code requirements, would ensure that the potential for impacts are reduced.

The 2040 General Plan sets policies and actions for build-out of the City, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. As previously discussed in the Regulatory Setting section of this chapter, future project applicants would be required to obtain permits from the USACE and the CDFW if any work is performed within a waterway. Each future development project must also include detailed project specific floodplain and drainage studies that assess the drainage characteristics and flood risks so that an appropriate storm drainage plan can be prepared to control storm water runoff, both during and after construction. The drainage plan will ultimately include project specific best management measures that are designed to allow for natural recharge and infiltration of stormwater. Construction of storm drainage improvements would occur as part of an overall development or infrastructure project and is considered in the environmental impacts associated with project construction and implementation, as addressed throughout this EIR.

The City is responsible for maintaining the flood control system within the incorporated area. In the unincorporated parts of the Planning Area, the CCCFCWCD maintains major channels and creeks over which they hold land rights, while the County Department of Public Works maintains road drainage systems and several detention basins. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. The City has developed the 2040 General Plan to include policies and actions that, when implemented, would reduce flooding from new development, reduce storm water pollution from new development, and protect and enhance natural storm drainage and water quality features, which will in turn reduce water quality impacts. For example, Action 10-A-2.j aims to establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction. Additionally, Action 10-A-3.a requires evaluation and implementation of appropriate measures as part of development plans for creek bank stabilization as well as necessary BMPs to reduce erosion and sedimentation.

Further, as described previously, existing regulatory requirements, including NPDES and Waste Discharge permits from the RWQCB and implementation of BMPs, manage water quality. Future development consistent with the 2040 General Plan would be subject to the NPDES and other RWQCB requirements.



Through implementation of the 2040 General Plan policies and actions listed below, implementation of the Pittsburg Municipal Code requirements identified above in Impact 3.9-1, compliance with mandatory Federal and State regulations, and compliance with the existing regulations in the C.3 Guidebook and associated Addendums, would ensure that impacts related to increased flooding or water quality impacts associated with increased runoff would be **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-2.17: Work with industrial property-owners along the waterfront to improve urban runoff and water quality levels within the Bay wetlands.

10-P-3.1: Require development to use best management practices (BMPs) to minimize the runoff and erosion caused by earth movement.

#### **ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-2.g: Intermix areas of pavement with naturally vegetated infiltration sites to minimize the concentration of stormwater runoff from pavement and structures.

10-A-2.h: Require an encroachment permit from Contra Costa Water District (CCWD) for any storm drain facility crossing or encroaching onto Contra Costa Canal rights-of-way.

10-A-2.i: Require all crossings to be constructed in accordance with CCWD standards and requirements.

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.k: Establish regulations as part of the Zoning Code Update to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within

creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.

10-A-3.a: Require evaluation and implementation of appropriate measures as part of development plans for creek bank stabilization as well as necessary BMPs to reduce erosion and sedimentation.

10-A-3.b: See also Safety and Resiliency 11-A-4.c: During development review, ensure that new development on unstable slopes is designed to avoid potential soil creep and debris flow hazards. Avoid concentrating runoff within swales and gullies, particularly where cut-and-fill has occurred.

### **Impact 3.9-4: General Plan implementation would not release pollutants due to project inundation by flood hazard, tsunami, or seiche. (Less than Significant)**

#### FLOOD HAZARD

As noted previously, the Planning Area is subject to limited flooding problems along the natural creeks, drainages, and along the Bay in the Planning Area. Specifically, portions of the Planning Area are within the 100-year or 500-year FEMA flood zones or regulatory floodways. The 100-year floodplain is largely confined to the northern portion of the City limits and the creeks traveling downslope from Mt. Diablo. Similarly, the 500-year floodplain is located along a section of Kirker Creek, which travels downslope from Mt. Diablo, and along the border with the tidal marsh zone in the northern portion of the City limits.

The 2040 General Plan would allow development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. As required by the CWA, each subsequent development project or improvement project will require an approved SWPPP that includes best management practices for grading and preservation of topsoil. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

As described previously in the Regulatory Setting, the City of Pittsburg regulates storm water discharge in accordance with the NPDES permit through Chapter 13.28, Stormwater Management and Discharge Control, of the City's Municipal Code. Additionally, Chapter 15.80, Floodplain Management, applies to all areas of special flood hazards in the City. Section 15.80.050 includes provisions for flood hazard reduction for construction in special flood hazard areas.

In addition to complying with the NPDES programs and C.3 Guidebook stormwater requirements, the 2040 General Plan contains policies to reduce impacts associated with stormwater and drainage including policies to maintain storm drainage systems, improve flood management facilities, and other best practices in order to protect the community from flood hazards and minimize the discharge of materials into the storm drain system that are toxic. Implementation of the 2040 General Plan would result in a **less than significant** impact relative to this topic.

## TSUNAMI AND SEICHES

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast).

Pittsburg is located adjacent to Suisun Bay and approximately 36 miles from the Pacific Ocean at an elevation of approximately 18 feet above mean sea level. Based on tsunami inundation maps prepared by the DOC, Cal OES, and California Geological Survey, the City is not identified as being within a tsunami inundation or run-up zone.

Seiches are typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. When the wind stops, the water rebounds to the other side of the enclosed area. The water then continues to oscillate back and forth for hours or even days. In a similar fashion, earthquakes, tsunamis, or severe storms may also cause seiches along ocean shelves and ocean harbors, or other bodies large of water. Any body of water may experience limited oscillation during storm events or following seismic events; however oscillation in small bodies of water is generally limited. In smaller water bodies seiches may have the potential to damage or overtop dams. Generally, in lakes the threat of large-scale damage from seiches comes from downstream flooding that would be caused by large volumes of water overtopping a dam or reservoir.

As described previously, the Planning Area has the potential to be inundated by one dam: the New Melones Dam. The dam inundation area for the Planning Area is shown in Figure 3.9-3. This dam does not have a history of failure; however, it is identified as having the potential to inundate habitable portions of the Planning Area in the unlikely event of dam failure. The New Melones Dam owner/operator, the Bureau of Reclamation, are responsible for the management, monitoring, and improvements to these dams to reduce the risk of dam failure and inundation.

The City of Pittsburg is not within a tsunami hazard area and would not be subject to substantial flooding hazards or impacts from seiche events. Therefore, impacts would **less than significant**, and no mitigation is required.

## GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS

### POLICIES – SAFETY & RESILIENCY ELEMENT

11-P-3.1: Reduce the risk of loss of life, personal injury, and property damage resulting from flooding by properly maintaining storm drainage systems, natural flood control channels, and waterways and regulating runoff from new construction and development projects.

11-P-3.2: Integrate flooding and sea level rise projections into the City's infrastructure planning, disaster preparedness activities, and policies and regulations to inform the public of the future hazard areas, assess and address potential impacts to future development, inform future planning and building requirements, plan for opportunity areas for adaptation, and inform funding and financing decisions about short- and long-term adaptation projects.

## 3.9 HYDROLOGY AND WATER QUALITY

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11-P-3.3: Locate development outside of flood-prone areas unless mitigation of flood risk is assured. All new development within an identified Special Flood Hazard Area shall be built according to Federal Emergency Management Agency standards and comply with the City's Floodplain criteria included in Municipal Code Chapter 15.80 - Floodplain Management.

11-P-3.4: Ensure that development projects mitigate impacts to the City's storm drainage capacity from storm water runoff occurring from the property. Project applicants shall demonstrate that projects implement Best Management Practices (BMPs) and Low Impact Development measures (LID) to treat stormwater before discharge from the site project and that project implementation would not result in increases in the peak flow runoff to adjacent lands or drainage facilities that would exceed the design capacity of the drainage facility or result in an increased potential for off-site flooding.

11-P-3.5: Assure through the Master Drainage Plan and development ordinances that proposed new development adequately provides for on-site and downstream mitigation of potential flood hazards.

11-P-3.6: Encourage the formation of flood control assessment districts for areas within the 100- and 500-year flood plains (as designated in Figure 10-3). Encourage new hillside developments to form flood control assessment districts to accommodate runoff and minimize downstream flooding, if determined to be necessary.

11-P-3.7: Ensure that new developments comply with all applicable requirements of Municipal Code Chapter 15.80 - Floodplain Management, the California Building Code as adopted by the City, and the latest promulgated FEMA standards for development in the flood hazard areas.

11-P-3.8: Encourage and accommodate multipurpose flood control projects that reduce the risk of localized and downstream flooding and incorporate measures that enhance natural drainage features and provide for recreation, resource conservation, preservation of natural riparian habitat, and scenic values of drainages, creeks, and detention ponds, where feasible. Where appropriate and feasible, the City shall encourage the use of water detention facilities for use as groundwater recharge facilities.

11-P-3.9: Support and participate in planning efforts undertaken at the regional, State, and Federal levels to improve flood management facilities throughout Contra Costa County.

### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-3.a: As updates to the HMP and EOP are prepared, include current information regarding sea level rise impacts and projected changes to 100-year flood hazard areas and ensure that these disaster-preparedness plans address flooding and sea level rise risks, including potential exposure to pollutants and hazardous materials associated with sea level rise and its effects on groundwater levels.

11-A-3.b: Continue to implement a comprehensive municipal stormwater pollution-prevention program in compliance with requirements of the Contra Costa County Clean Water Program, and the C.3 Stormwater Handbook.

11-A-3.c: Require development projects located along the shoreline or in areas projected to be inundated under sea level rise scenarios, including 100-year flood events, to identify projected sea

level rise levels in relation to proposed residences, buildings, and important infrastructure and to be designed to address hazards associated with sea level rise, including use of ecologically-based strategies (e.g., creation or adaption of marshlands, wetlands, and natural areas to counteract sea level rise or improve drainage patterns), shoreline hardening, and adaption techniques such as elevated buildings and designing green infrastructure for stormwater runoff.















11-A-3.d: As part of the development review process continue to require new development to prepare hydraulic and storm drainage studies as necessary to define changes in storm water runoff resulting from construction, ensure that off-site runoff is not increased beyond pre-development levels during rain and flood events, address the storm drainage system's short-term and cumulative capacity, and require mitigation to reduce impacts and to ensure that each project addresses it's share of cumulative effects on storm drainage. Drainage and grading plans shall identify BMP protections and include standards established and recommended by the City that shall be incorporated into development.

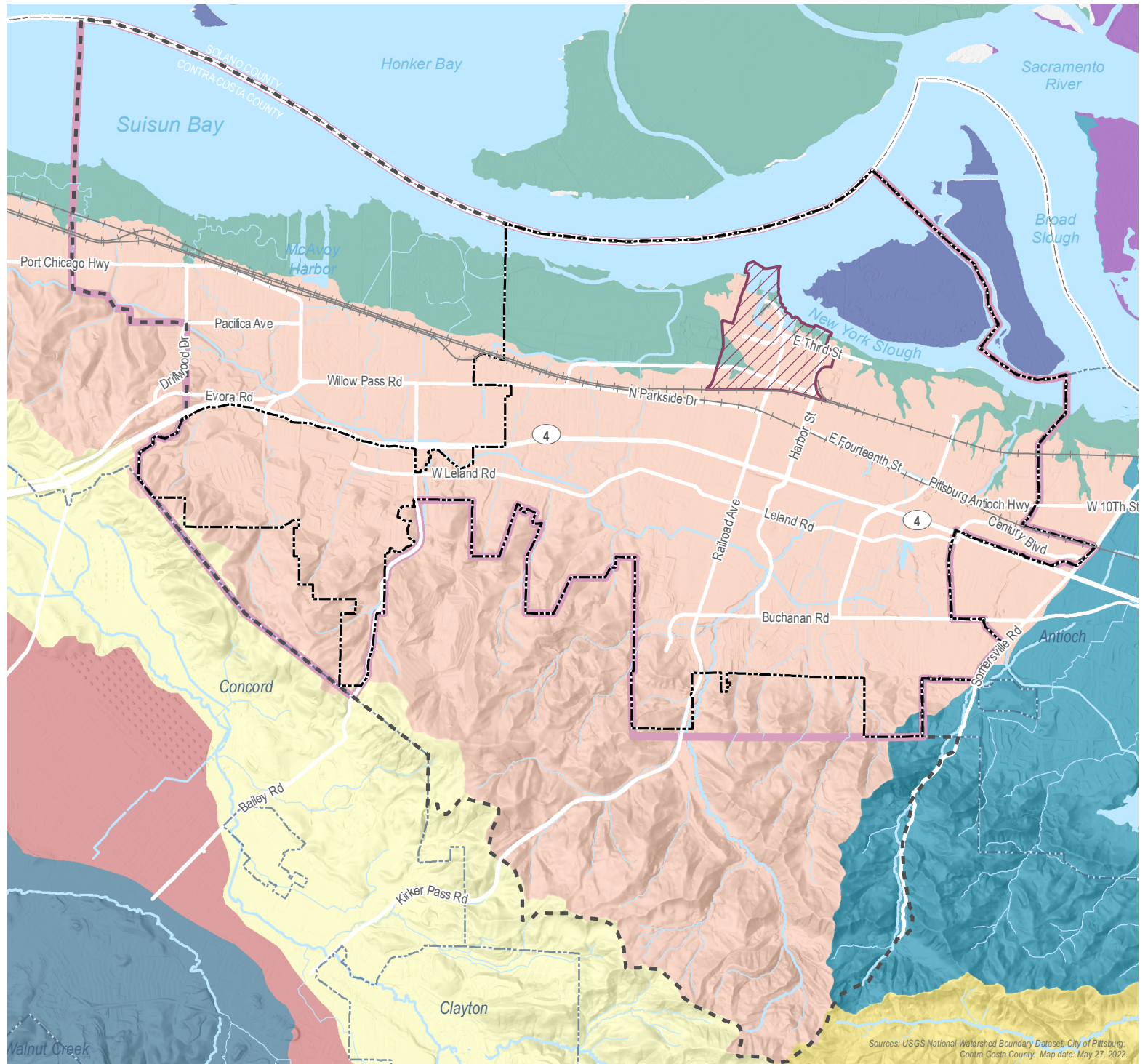
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Figure 3.9-1:

# WATERSHED MAP

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Planning
-  Planning
-  Downtown Subarea
-  Neighboring City
- USGS Watershed (HUC-12)**
-  Kirker Creek-Frontal Suisun Bay Estuaries
-  Lower Marsh Creek
-  Markley Canyon-San Joaquin River
-  Mount Diablo Creek-Frontal Suisun Bay Estuaries
-  Pine Creek
-  Suisun Bay Estuaries
-  Suisun Bay Islands
-  Threemile Slough-Sacramento River
-  Walnut Creek-Frontal Suisun Bay Estuaries



Sources: USGS National Watershed Boundary Dataset; City of Pittsburg; Contra Costa County. Map date: May 27, 2022.

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Figure 3.9-2:

# FEMA FLOOD INSURANCE RATE MAP

## Legend

Pittsburg City Limits

Pittsburg Sphere of

Planning

Downtown

Neighboring City

## Flood Zone

100-yr Flood

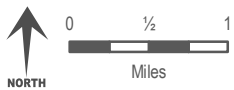
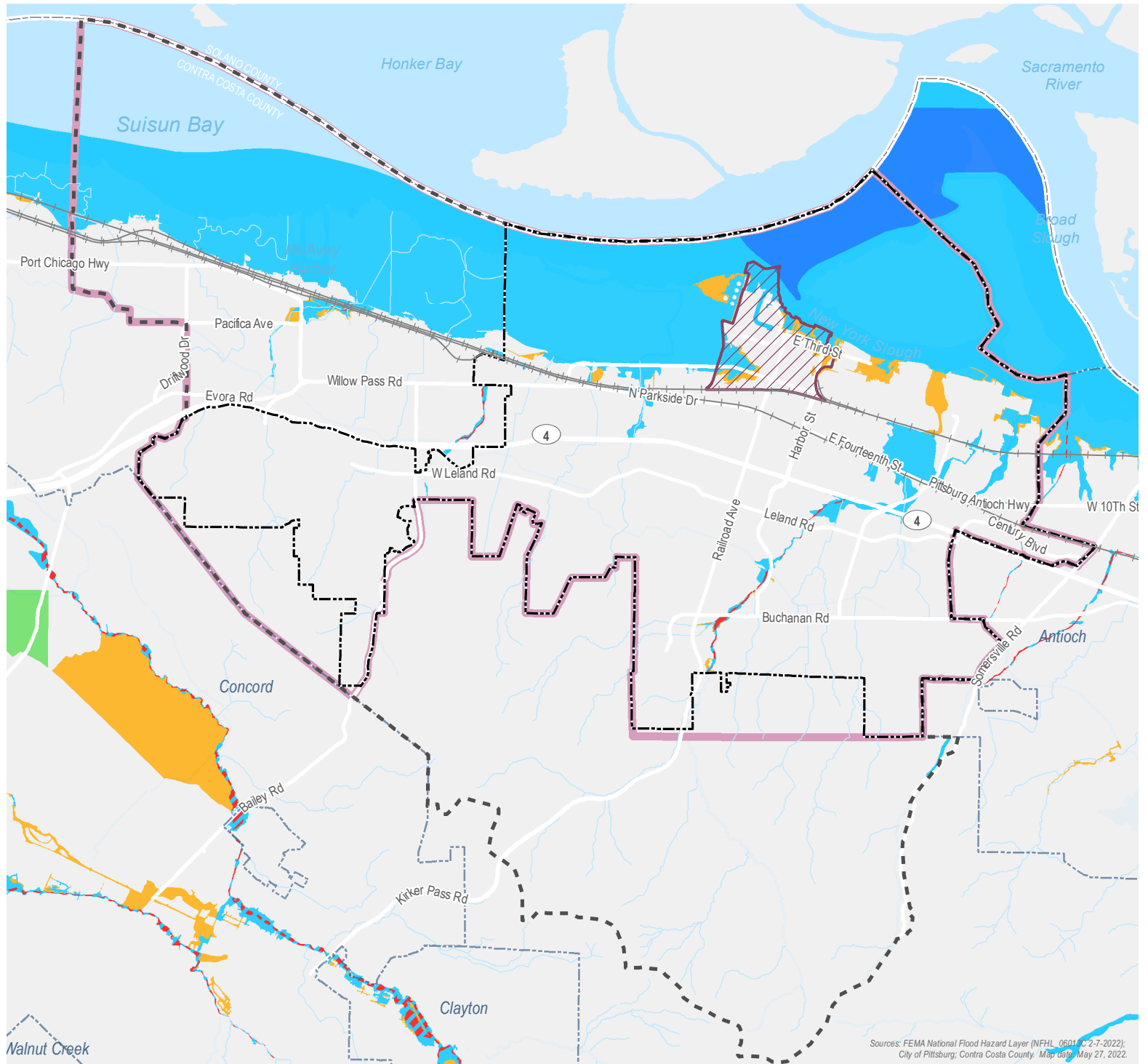
500-yr Flood

Regulatory Floodway

Area of Minimal Flood Hazard

Possible but Undetermined Flood Hazard

Open Water






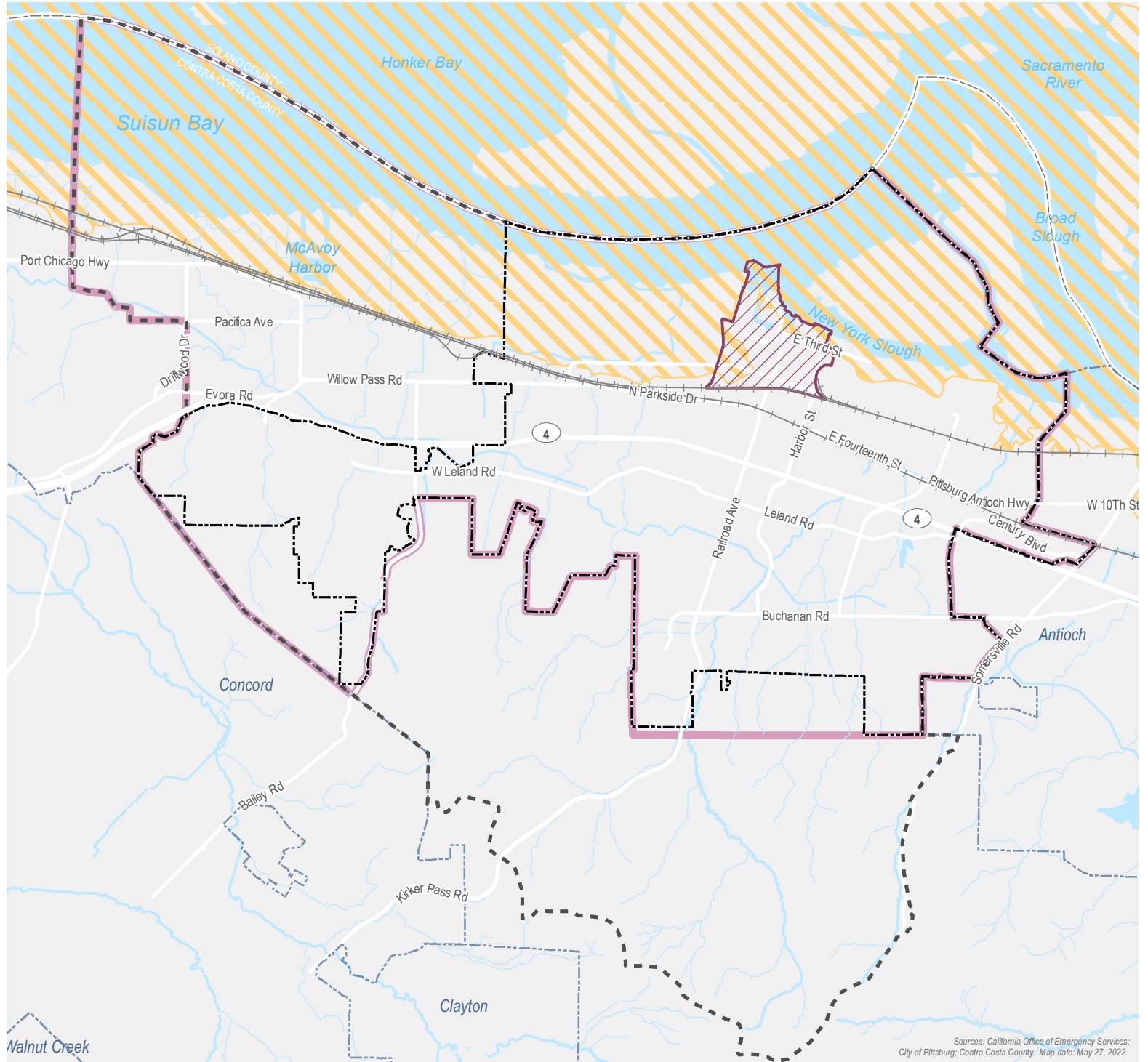
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Figure 3.9-3:

# DAM INUNDATION MAP

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning
-  Downtown Subarea
-  Neighboring City
-  New Melones Dam Inundation Area



Sources: California Office of Emergency Services; City of Pittsburg; Contra Costa County. Map date: May 27, 2022.

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This section identifies the existing land use conditions, discusses population and housing trends and projections, analyzes the project's consistency with relevant planning documents and policies adopted for the purpose of avoiding or mitigating an environmental effect, and recommends mitigation measures to avoid or minimize the significance of potential environmental impacts. General Plan policies associated with other specific environmental topics are discussed in the relevant sections of this EIR.

The following comments on this environmental topic were received during the NOP comment period: Delta Stewardship Council (May 23, 2022), Cox, Castle & Nicholson LLP (May 20, 2022), Contra Costa County Flood Control & Water Conservation District (May 12, 2022), Mt. Diablo Unified School District (May 4, 2022), San Francisco Bay Area Rapid Transit District (May 20, 2022), and U.S. Department of Transportation, Federal Aviation Administration (June 22, 2022). Full comments are included in Appendix A.

### 3.10.1 ENVIRONMENTAL SETTING

#### EXISTING CONDITIONS

The City of Pittsburg is in eastern Contra Costa County and is bordered by Suisun Bay to the north and Solano County to the north, the City of Antioch and unincorporated Contra Costa County to the east, the City of Concord to the west, and unincorporated Contra Costa County to the south. See Figure 2.0-1, Regional Location Map, in Chapter 2.0, Project Description.

Pittsburg is well-connected within the Bay Area region with access to all modes of transportation, from regional rail services, airports, state routes and more, including Pittsburg/Bay Point Bay Area Rapid Transit (BART) and the extension of the East Contra Costa County BART services (known as "eBART"). SR-4 provides regional motor vehicle access to the other major cities and towns in the Bay Area. This part of the region is characterized by rolling hills and proximity to the San Francisco Bay and Sacramento River Delta.

Pittsburg's early growth centered around industrial development. The growth of the Bay Area has brought many changes to the Pittsburg region, including residential, commercial development and marina development. Pittsburg has grown outward from the downtown area since the 1990s. Residential development continues in the southwestern portion of the City, generally south of Leland Road. Infill commercial development continues to occur along SR-4. The expansion of BART to serve Pittsburg, with the Bay Point Station opening in 1996 and the Pittsburg Center station opening in 2018, has encouraged transit-oriented development, including new retail, commercial offices, restaurants, and residential uses around the stations.

In addition to the lands within the City boundaries, state law requires that a municipality adopt a General Plan that addresses "any land outside its boundaries which in the planning agency's judgment bears relation to its planning (California Government Code §65300)." The City's Planning Area is the extent of the area addressed by the General Plan. The Planning Area includes lands within the City, the City's SOI, and lands outside of the SOI. The Planning Area includes the unincorporated community of Bay Point to the northwest, west and a much larger area south of

## 3.10 LAND USE PLANNING AND POPULATION/HOUSING

the City that predominantly includes open space uses. See Figure 2.0-2, Planning Areas, in Chapter 2.0, Project Description.

### Land Use Patterns

When discussing land use, it is important to distinguish between planned land uses and existing land uses. The General Plan land use designations identify the long-term planned use of land but do not present a complete picture of existing land uses. The Contra Costa County Assessor's office maintains a database of existing land uses on individual parcels, which is used as the basis for property tax assessments. The acreages for each assessed land use within the City, SOI, and Planning Area are summarized in Table 3.10-1 and depicted on Figure 3.10-2.

**TABLE 3.10-1: ASSESSED LAND USES BY ACREAGE— CITY OF PITTSBURG**

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
<i>COMMERCIAL</i>				
Commercial stores, not supermarkets	35.29	12.23	--	47.52
Small grocery stores	0.42	0.96	--	1.38
Office buildings	9.08	0.90	--	9.98
Medical/Dental	5.73	--	--	5.73
Service station, car wash	8.79	4.48	--	13.28
Auto repair	13.76	1.90	--	15.65
Community facility, recreational	5.14	--	--	5.14
Boat harbors	--	51.54	--	51.54
Shopping centers, including future shopping centers	156.22	3.81	--	160.03
Financial buildings	3.17	--	--	3.17
Motels, hotels, mobile home parks	91.44	82.96	--	174.40
Theaters	1.06	--	--	1.06
Drive through restaurants	9.61	1.75	--	11.36
Restaurants, inside service only	6.99	--	--	6.99
Multiple and commercial, misc. improvement	8.88	5.02	--	13.91
Auto Agency	30.81	--	--	30.81
<i>Subtotal</i>	<i>386.39</i>	<i>165.54</i>	<i>--</i>	<i>551.93</i>
<i>INDUSTRIAL</i>				
Industrial park, with structures	95.14	30.59	--	125.73
Research and development	1.28	--	--	1.28
Light industrial	229.29	18.04	--	247.33
Heavy industrial	697.58	69.63	--	767.21
Mini-warehouse, public storage	37.63	--	--	37.63
Misc. improvements	15.13	19.76	595.71	630.59
<i>Subtotal</i>	<i>1,076.04</i>	<i>138.02</i>	<i>595.71</i>	<i>1,809.77</i>
<i>INSTITUTIONAL</i>				
Intermediate care facility, rehabilitation center	4.82	--	--	4.82
Churches	62.82	20.14	--	82.96
Schools	333.21	84.41	--	417.62
Cemetery, mortuary	2.27	--	--	2.27

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
Fraternal/service orgs	9.13	--	--	9.13
Parks and playgrounds	35.64	4.47	534.82	574.93
Government-owned with/without buildings	1,672.00	753.83	2,033.55	4,459.38
<i>Subtotal</i>	<i>2,119.90</i>	<i>862.85</i>	<i>2,568.38</i>	<i>5,551.12</i>
<i>MULTIPLE-FAMILY RESIDENTIAL</i>				
Duplex	30.30	5.53	--	35.82
Triplex	1.24	0.72	--	1.96
Fourplex	12.09	3.30	--	15.39
Combinations	3.80	6.82	--	10.62
Apartments, 5-12 units	9.39	7.45	--	16.84
Apartments, 13-24 units	5.08	4.90	--	9.98
Apartments, 25-59 units	3.11	5.67	--	8.77
Apartments, 60+ units	233.79	32.96	--	266.75
Condominiums, Cooperatives	7.96	2.04	--	10.00
<i>Subtotal</i>	<i>306.76</i>	<i>69.41</i>	<i>--</i>	<i>376.14</i>
<i>SINGLE-FAMILY RESIDENTIAL</i>				
Single-family residential, 1 residence on 1 site	2,255.51	467.19	--	2,722.70
Single-family residential, 1 residence on 2/+ sites	3.81	23.16	3.13	30.11
Single-family residential, 2/+ residence on 1/+ sites	11.07	22.64	--	33.71
Single-family residential, on non-single family land	99.97	79.02	--	178.98
Misc. improvement, including trees/vines	27.42	1.24	--	28.66
Single-family residential, attached residential/condo/duet	56.93	26.73	--	83.65
Single-family residential, detached with common area	99.93	26.50	--	126.43
<i>Subtotal</i>	<i>2,554.63</i>	<i>646.49</i>	<i>3.13</i>	<i>3,204.24</i>
<i>RURAL AND AGRICULTURAL LAND</i>				
Rural res, improved, 1-10 ac	--	5.79	10.05	15.84
Rural res, w/wo misc. structures, 1-10 ac	25.81	40.41	26.65	92.86
Urban acreage, 10-40 ac	126.92	64.59	--	191.51
Urban acreage, 40+ ac	398.92	613.53	--	1,012.44
Dry farming, farming, grazing, pasture, 10-40 ac	22.86	15.30	14.75	52.91
Dry farming, farming, grazing, pasture, 40+ ac	236.20	--	1,283.28	1,519.48
Agricultural preserve	--	482.81	1,892.79	2,375.60
<i>Subtotal</i>	<i>810.70</i>	<i>1,222.42</i>	<i>3,227.52</i>	<i>5,260.64</i>
<i>VACANT</i>				
Vacant - Commercial	971.24	111.94	--	1,083.18
Vacant - Industrial	354.48	203.62	831.93	1,390.02
Vacant - Multiple Family Residential	117.00	20.57	--	137.57
Vacant, Unbuildable – Single-Family Residential	51.81	1.12	--	52.93
Vacant - Residential, 1 site	111.99	6.76	--	118.76
Vacant - Residential, 2/+ sites	58.80	356.06	--	414.86
<i>Subtotal</i>	<i>1,665.32</i>	<i>700.07</i>	<i>831.93</i>	<i>2,114.14</i>

## 3.10 LAND USE PLANNING AND POPULATION/HOUSING

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
<i>NON-TAXABLE / MISCELLANEOUS</i>				
Private Road	8.19	0.52	--	8.71
Pipelines, canals	7.08	2.08	--	9.16
State board assessed parcels	376.02	937.38	158.19	1,471.58
Public and private parking	2.54	0.26	--	2.80
Taxable, municipally-owned property (Sec. 11)	147.28	33.62	4.59	185.50
Common area parcels in PUDs	124.06	68.55	--	192.61
<i>Subtotal</i>	<i>665.17</i>	<i>1,042.41</i>	<i>162.78</i>	<i>1,870.36</i>
<i>NO USE CODE / UNCATEGORIZED</i>				
No Use Code in the Assessor Data	137.13	121.44	--	258.57
<i>Subtotal</i>	<i>137.13</i>	<i>121.44</i>	<i>--</i>	<i>258.57</i>
<b><i>Grand Total</i></b>	<b><i>9,722.03</i></b>	<b><i>4,968.63</i></b>	<b><i>7,389.44</i></b>	<b><i>22,080.09</i></b>

SOURCE: CONTRA COSTA COUNTY ASSESSOR'S OFFICE, 2019; DE NOVO PLANNING GROUP, 2019.

Existing land uses refers to the existing built environment, which may be different from the land use or zoning designations applied to land in the City for planning purposes. Existing land uses are based on data provided by the County Assessor and are described below.

### COMMERCIAL

Commercial uses, as identified by the County Assessor, are varied. The predominant type of commercial land use, based on the percent of total acres, is vacant commercial land, which accounts for approximately 1,083.2 acres (including the City limits, SOI, and Planning Area). Motels, hotels, and mobile home parks (174.4 acres), shopping centers (including future shopping centers) (160.0 acres), boat harbors (51.5 acres), and commercial stores (not supermarkets) (47.5 acres) also represent a large portion of the commercial uses within the City limits and SOI. Other commercial uses include auto repair, multiple commercial uses, service stations and car washes, office buildings, and restaurants. As shown on Figure 3.10-2, many of the City's commercial uses are located in and around the downtown and waterfront areas, and along SR-4, Willow Pass Road, Leland Road, and Railroad Avenue.

### INDUSTRIAL

Industrial uses make up approximately 3,199.8 acres (including the City limits, SOI, and Planning Area). The predominant type of industrial land use, based on the percent of total acres, is vacant industrial land, which accounts for 1,390.0 acres (including the City limits, Planning Area and SOI). Heavy industrial uses (767.21 acres), miscellaneous industrial improvements (including light and heavy industrial) (630.6 acres), and industrial parks (125.7 acres) also represent a large portion of the industrial uses in the City limits, SOI, and Planning Area. Other industrial uses include research and development and mini ware-house or public storage. As shown on Figure 3.10-2, most of the industrial uses in the City limits, SOI, and Planning Area are located in and around the waterfront area, in the southwestern foothill area, and near SR-4 generally in the eastern portion of the SOI.



### INSTITUTIONAL

Institutional uses include intermediate care facilities, rehabilitation centers, churches, schools, cemeteries, mortuaries, fraternal service organizations (such as the Masonic Center and Elks Lodge), parks and playgrounds, and government-owned facilities. The majority of non-residential development in the City limits, SOI, and Planning Area is institutional, consisting of approximately 5,551.1 acres. Institutional uses represent the second largest category of development. Government-owned facilities (4,459.4 acres), parks and playgrounds (574.9 acres), and schools (417.6 acres) represent a large portion of the institutional uses in the City limits, SOI, and Planning Area. Institutional uses are located throughout the Planning Area as shown on Figure 3.10-2.

### RESIDENTIAL

Residential uses in Pittsburg include single-family and multiple-family developments.

Single-family residential refers to parcels that contain one housing unit per parcel. Single-family residential accounts for 14.5 percent of the Planning Area (3,204.2 acres total, including the City limits, SOI, and Planning Area). Single family residential land uses are generally located throughout the City, as shown on Figure 3.10-2. The majority of single-family residential units are typical single-family residences, with one residence located on one parcel.

Multiple-family residential refers to parcels that contain more than one housing unit, including duplexes, triplexes, fourplexes, condominiums, townhomes, and apartment buildings. Multifamily residential accounts for 1.7 percent of the Planning Area (376.1 acres total, including the City limits, SOI, and Planning Area). The predominate type of multifamily development are apartment complexes with 60 or more units, which account for 266.75 acres. Multifamily uses are generally located near major roadways and arterials (such as SR-4, Willow Pass Road, Leland Road, and Railroad Avenue), as shown on Figure 3.10-2.

### RURAL AND AGRICULTURAL LAND

The rural and agricultural land category includes rural residential uses, urban land, dry farming, farming, grazing, pasture, and agricultural preserves. This category accounts for approximately 23.8 percent of the land area in the Planning Area. Most of this rural and agricultural land is agricultural preserve land (2,375.6 acres), followed by dry farming, farming, grazing, and pasture uses over 40 acres in size (1,519.5 acres). Rural and agricultural uses are primarily located in the southern portion of the Planning Area within the SOI, south of the City limits, and south of the SOI, as shown on Figure 3.10-2. Rural and agricultural uses represent the second largest category of development, after institutional.

### VACANT

The vacant land category includes vacant commercial, industrial, and residential land. The City limits, SOI, and Planning Area contain approximately 2,114.1 acres of vacant uses.

## 3.10 LAND USE PLANNING AND POPULATION/HOUSING

### NON-TAXABLE / MISCELLANEOUS

The non-taxable category includes non-taxable public-owned land, private roads, pipelines, canals, public and private parking, etc. The City limits, SOI, and Planning Area contain approximately 1,870 acres of non-taxable uses.

### NO USE CODE / UNCATEGORIZED

The no use code category identifies land without a use code assigned. The City, SOI, and Planning Area contain 258.57 acres without a use code assignment.

### Pending, Approved, Under Construction, and Completed Projects

Table 3.10-2 lists recently completed, approved and pending residential development projects and Table 3.10-3 lists recently completed, approved and pending commercial/institutional and industrial development projects in the City.

As shown in 3.10-2, there are 9,765 to 9,771 approved, pending, under construction, and recently completed residential units in the City, including 1,781 to 1,787 multi-family units and 7,984 single-family units. Of the 1,781 to 1,787 multi-family units, 65 are under construction, 392 to 398 are closed/completed, incomplete or built, and 1,324 are approved. Of the 7,984 single-family units, 1,342 are under construction, 1,907 are approved, 160 are incomplete or closed/completed, 3,075 are submitted applications pending approval, and 1,500 are proposed outside of the City limits and are pending annexation and design review.

**TABLE 3.10-2: PENDING, APPROVED, UNDER CONSTRUCTION, AND COMPLETED RESIDENTIAL PROJECTS**

PROJECT NAME	NUMBER OF LOTS / UNITS	STATUS
<i>MULTI-FAMILY</i>		
Alturas Triplexes	15	Closed/Completed
Beacon Villas	67	Under Construction
Burlessas Building Rehabilitation	8	Approved
Civic Station Subdivision	81	Approved
Commerce Place Apartments	108-114	Closed/Completed
Edgewater Apartments	62	Under Construction
Galloway Multiplex	12	Approved
Green Builders, LLC	9	Incomplete
Los Medanos (Veteran's Square Housing)	30	Built
Esperanza at San Marco	318	Approved
San Marco Villas III	270	Approved
Sante Fe Triplex	3	Under Construction
Stoneman Apartments	230	Closed/Completed
The Atchison Mixed-Use Development	202	Under Construction
Tuscany Meadows - Multi Family Portion	366	Approved
<i>Subtotal</i>	<i>1,700-1,706</i>	--
<i>SINGLE-FAMILY</i>		
70 and 78 Alturas Avenue	6	Approved

<i>PROJECT NAME</i>	<i>NUMBER OF LOTS / UNITS</i>	<i>STATUS</i>
Alves Ranch (2018)	346	Under Construction
Bancroft Gardens II	28	Incomplete
Bay Walk	2,500	Pending
East Street Estates	8	Pending
Faria/Southwest Hills Annexation and Master Plan	1,500 (maximum)	Approved
Harbor View	225	Pending
Liberty Phase II - Subdivision 9550	17	Approved
Liberty Residential Subdivision	57	Under Construction
Liberty Subdivision - Phase II	18	Closed/Completed
Positano at San Marco	233	Under Construction
San Marco - Single Family (Village E) Capri Revised Model Homes	114	Closed/Completed
San Marco - Single Family (Villages E, F, J, K, L, N)	706	Under Construction
Montreux	351	Approved
Siena at San Marco	201	Approved
Sky Ranch II	415	Approved
Stoneman Park Subdivision	342	Pending
Tuscany Meadows	917	Approved
<i>Subtotal</i>	<i>7,984</i>	--
<b><i>Grand Total</i></b>	<b><i>9,765-9,771</i></b>	--

SOURCE: CITY OF PITTSBURG, 2023.

As shown in Table 3.10-3, there are approximately 5,828,492 square feet of approved, pending, under construction, and recently completed commercial, institutional, and industrial development projects in the City, including 5,014,172 square feet of commercial/institutional development and 814,320 square feet of industrial development. Of the 5,014,172 square feet of commercial/institutional development, 11,225 square feet are under construction, 4,505,000 square feet are pending approval, and 382,589 square feet are approved. All of the 814,320 square feet of industrial development is approved.

**TABLE 3.10-3: PENDING, APPROVED, UNDER CONSTRUCTION, AND COMPLETED COMMERCIAL/INSTITUTIONAL AND INDUSTRIAL PROJECTS**

<i>PROJECT NAME</i>	<i>SIZE / SQUARE FOOTAGE</i>	<i>STATUS</i>
<i>COMMERCIAL/INSTITUTION</i>		
Commercial Shell Building at 1611 Railroad Avenue	7,920 SF	Approved
Commercial Shell Building 2108 Railroad Avenue	3,000 SF	Built
635 Railroad Facade Remodel	7916 SF	Approved
All-N-1 Auto Body	5,280 SF	Closed/Completed
Blue Wave Car Wash	3,600 SF	Approved
Bldv Moving 1	4,774 SF	Incomplete
Century Plaza Shopping Center Pad 7 Remodel	8,000 SF	Approved
Courtyard by Marriott	68,821 SF	Approved

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<i>PROJECT NAME</i>	<i>SIZE / SQUARE FOOTAGE</i>	<i>STATUS</i>
Discovery Homes Dream Courts	40,697 SF	Approved
East Bay Auto Sales/Used Cars	1,374 SF	Approved
Embarc	8,700 SF	Incomplete
Family Harvest Farm	3,600 SF	Built
Fernandes Towing	4,000 SF	Approved
Fishermen's Catch	8,807 SF	Approved
GHF Enterprises Used Cars	3,904 SF	Approved
Gondwana Flora Inc. & Waltzing Matilija LLC	1,454 SF	Closed/Completed
Grace Bible Fellowship Church Sign Exception	12,000 SF	Closed/Completed
Harbor Food Mart	1,087 SF	Approved
LMK Petro	3,850 SF convenience store, 4,253 SF fuel canopy, 2,800 SF car wash	Approved
Marriot Pad (Drive Thru Starbucks)	2,000 SF	Approved
Matador Fitness	22,000 SF	Approved
Mobile Office Trailer 895 E. 3rd	2,160 SF	Approved
Pittsburg Renal Center	11,225 SF	Under Construction
Pittsburg RV & Boat Storage	1,500 SF	Approved
Pittsburg Technology Park	Up to 4,500,000 SF	Pending
Public Storage (1275 California)	39,750 SF	Built
Public Storage (525 California)	150,000 SF	Approved
Rege Ministorage and Trucking Yard	390 storage units	Approved
San Marco Commercial Center	35,406 SF	Approved
Shryne Retail Cannabis Permit	5,000 SF	Pending
Solomon Temple Baptist Church Addition	32,000 SF	Incomplete
The Network Event Space	1,800 SF	Closed/Completed
Valero C-Store	1,600 SF convenience store, 1,400 SF fuel canopy	Approved
Wendy's Restaurant Facelift	2,494 SF	Approved
<i>Subtotal – Net Commercial Development</i>	<i>5,014,172 SF, 390 storage units</i>	--
<i>INDUSTRIAL</i>		
Diablo Energy Storage, LLC	186,000 SF (max.)	Approved
68 Garcia Warehouse	640 SF	Approved
Los Medanos Industrial Park	109,900 SF	Approved
Marine Express Site Improvements	168 SF	Approved
Mt. Diablo Resource Recovery Park - 2021 Use Permit Amendment	505,600 SF	Approved
Paint Yard Grit Blasting Building	1,224 SF	Approved
Praxair Cylinder Storage Yard	400 SF	Approved

PROJECT NAME	SIZE / SQUARE FOOTAGE	STATUS
Ramar Foods Cold Storage Expansion	9,545 SF addition	Approved
Tortilleria El Molino	843 SF	Approved
<i>Subtotal – Net Industrial Development</i>	<i>814,320 SF</i>	--
<b>Grand Total</b>	<b>5,828,492 SF, 390 storage units</b>	--

SOURCE: CITY OF PITTSBURG, 2023.

### Population and Households

Table 3.10-4 summarizes the population and household data for Pittsburg and Contra Costa County from 1980 through 2019.

**TABLE 3.10-4: POPULATION AND HOUSEHOLD GROWTH**

	1980	1990	2000	2010	2019	1980-2000 CHANGE	2000-2019 CHANGE	AVG. ANNUAL CHANGE
<i>PITTSBURG</i>								
Population	33,034	48,276	56,820	61,723	71,422	72%	26%	3.0%
Households	11,087	15,852	17,741	19,785	21,357	60%	20%	2.4%
Persons per household	2.97	3.02	3.17	3.20	3.33	7%	5%	0.3%
<i>CONTRA COSTA COUNTY</i>								
Population	656,380	803,732	948,816	1,049,025	1,155,879	45%	22%	1.9%
Households	241,418	300,288	344,129	375,364	394,769	43%	15%	1.6%
Persons per household	2.69	2.64	2.72	2.77	2.87	1.1%	5.5%	0.2%

SOURCE: BAY AREA CENSUS; U.S. CENSUS QUICKFACTS; CALIFORNIA DOF, REPORT E-5, 2019; PITTSBURG GENERAL PLAN DRAFT EIR.

The City was officially incorporated in June 1903 and by 1910, the US Census Bureau recorded the population at 2,372 persons. After a dramatic population increase from post-World War I prosperity, the City’s population reached 9,610 persons by 1930. World War II brought new industry and population inflow to Pittsburg. By 1950, the City’s population grew to 12,763 persons.

From 1980 to 2000, the City’s population increased by 72 percent from 33,034 to 56,769 persons. During the 2000s and 2010s, Pittsburg experienced population growth increasing by approximately three percent per year from 56,769 in 2000 to 72,541 persons in 2019. Similarly, Contra Costa County’s total population increased by approximately 22 percent during the 2000s and 2010s. Between 1980 and 2019, Pittsburg’s population growth rate averages 3.1 percent per year, while that of Contra Costa County is an average of 1.9 percent per year.

Households have increased at a rate slower than Pittsburg’s population. Households increased by 60 percent between 1980 and 2000 (compared to 72 percent for the population) and by 19 percent between 2000 and 2019 (compared to 28 percent for the population). Over the years, the

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average household size has fluctuated slightly with a high of 3.14 persons per household in 2019 and a low of 2.97 persons per household in 1980. In recent years, household size has increased slightly with an average of 3.2 persons per household in 2010 and 3.42 persons per household in 2019.

### Housing Units

As shown in Table 3.10-5, the number of housing units in Pittsburg has increased at rates lower than the population. In 2019, there were 23,126 housing units in the City. From 1990 to 2000, housing units increased from 16,857 to 18,000, a nine percent increase.

**TABLE 3.10-5: HOUSING UNITS**

	1990	2000	2010	2019	1990- 2000 CHANGE	2000- 2019 CHANGE	AVERAGE ANNUAL CHANGE
Pittsburg	16,857	18,300	21,060	23,126	9%	26%	1.2%
Contra Costa County	316,170	354,577	400,263	416,062	12%	17%	1.0%

SOURCE: BAY AREA CENSUS; U.S. DOF, REPORT E-5; PITTSBURG GENERAL PLAN DRAFT EIR.

The majority of the housing are single family detached, which accounts for 70.0 percent of housing units. The remaining housing types include single family attached (6.0 percent), multi-family duplexes through fourplexes (5.0 percent), multi-family apartments with five or more units (16.0 percent), and mobile homes (3.0 percent).

In Contra Costa County, the majority of the housing are single family detached, which accounts for 81 percent of housing units. The remaining housing types include single family attached (9.0 percent), multi-family duplexes through fourplexes (2.0 percent), multi-family apartments with five or more units (5.0 percent), and mobile homes (2.0 percent). The housing types in Contra Costa County are similar to those found in the City, although the amount of single family housing makes up a greater share of the housing stock in the County than in the City. Additionally, the City has a larger share of multifamily housing compared to the County.

### 3.10.2 REGULATORY SETTING

#### FEDERAL

There are no federal regulations for the land use planning, population, and housing topics applicable to the 2040 General Plan.

#### STATE

##### California General Plan Law

The General Plan is a set of goals, objectives, policies, implementation measures and maps that form a blueprint for physical development in the unincorporated County. Government Code Section 65300 requires that each county and city adopt a General Plan, as described in Section 1.1. The General Plan shall address each of the elements specified in Government Code Section 65302

to the extent that the subject of the element exists in the planning area. The plan addresses important community issues such as new growth, housing needs and environmental protection. Its policies are instrumental in planning infrastructure to accommodate future growth. State law requires that all California Counties and Cities adopt General Plans which include seven mandatory elements (chapters): Land Use, Circulation, Housing, Conservation, Open Space, Noise and Safety. Additionally, State law also mandates that if Disadvantaged Communities are present, a jurisdiction must also address Environmental Justice within the General Plan.

Housing Element law (Government Code Sections 65580 through 65589.8) requires local governments to adopt a Housing Element that addresses existing and projected housing needs, including their share of the regional housing need. A Housing Element must include an analysis of existing and projected housing needs, identification of governmental and non-governmental constraints to the provision of housing, an inventory of sites appropriate to accommodate the City's housing needs, identification of resources available to assist with meeting housing needs, a review of the effectiveness of the previous Housing Element, and a plan to address the identified housing needs and constraints.

### **Delta Reform Act**

The Delta Reform Act of 2009 established two coequal goals: securing a reliable water supply for California and protecting, restoring, and enhancing the Sacramento-San Joaquin Delta ecosystem and the fish, wildlife, and recreation it supports. The Delta Reform Act recognized the Delta as an "evolving" environment and outlined a state policy of reduced reliance on Delta water exports, opting for a strategy of improved conservation, the development and enhancement of regional supplies, and water use efficiency.

The Delta Reform Act established an independent state agency – the Delta Stewardship Council – to develop and implement a plan that facilitates the declared coequal goals. The act also established the Delta Independent Science Board and authorized it to research, monitor, and assess programs pursued under the Delta Plan, advising the Council of its findings.

### **Delta Stewardship Council**

In November 2009, the California Legislature passed the Delta Reform Act (SBX7 1), one of several special-session bills enacted that year related to water supply reliability, ecosystem health, and the Sacramento-San Joaquin River Delta. Among other things, the Act created the Delta Stewardship Council, effective on February 3, 2010. The Council is made up of seven members. Of the seven members, four are appointed by the Governor, one each by the Senate and Assembly, and the seventh member is the chair of the Delta Protection Commission.

The Council was created to advance the State's coequal goals for the Delta - a more reliable statewide water supply and a healthy and protected ecosystem, both achieved in a manner that protects and enhances the unique characteristics of the Delta as an evolving place.

To do this, the Act required that the Council develop an enforceable long-term sustainable management plan for the Delta to ensure coordinated action at the federal, State, and local levels. The Delta Plan, adopted in 2013, includes both regulatory policies and non-binding recommendations.

### **California Zoning Law**

Chapter 4 of Title 7, Planning and Land Use, Division 1, Planning and Zoning, outlines the State zoning law requirements. Pursuant to Government Code Section 65850, the legislative body of any county or city may adopt ordinances that do any of the following:

- (a) Regulate the use of buildings, structures, and land as between industry, business, residences, open space, including agriculture, recreation, enjoyment of scenic beauty, use of natural resources, and other purposes.
- (b) Regulate signs and billboards.
- (c) Regulate all of the following:
  - (1) The location, height, bulk, number of stories, and size of buildings and structures.
  - (2) The size and use of lots, yards, courts, and other open spaces.
  - (3) The percentage of a lot which may be occupied by a building or structure.
  - (4) The intensity of land use.
- (d) Establish requirements for offstreet parking and loading.
- (e) Establish and maintain building setback lines.
- (f) Create civic districts around civic centers, public parks, public buildings, or public grounds, and establish regulations for those civic districts.
- (g) Require, as a condition of the development of residential rental units, that the development include a certain percentage of residential rental units affordable to, and occupied by, households with incomes that do not exceed the limits for moderate-income, lower income, very low income, or extremely low income households specified in Sections 50079.5, 50093, 50105, and 50106 of the Health and Safety Code. The ordinance shall provide alternative means of compliance that may include, but are not limited to, in-lieu fees, land dedication, off-site construction, or acquisition and rehabilitation of existing units.

### **California Relocation Assistance Act**

The California Relocation Assistance Act (Government Code Section 7260 et seq.) establishes uniform policies to provide for the fair and equitable treatment of people displaced from their homes or businesses as a direct result of state and/or local government projects or programs. The California Relocation Assistance Act requires that comparable replacement housing be made available to displaced persons within a reasonable period of time prior to the displacement. Displaced persons or businesses are assured payment for their acquired property at fair market value. Relocation assistance in the form of advisory assistance and financial benefits would be provided at the local level. This includes aid in finding a new home location, payments to help cover moving costs, and additional payments for certain other costs.

### **California Environmental Quality Act**

CEQA was developed to protect the quality of the environment and the health and safety of persons from adverse environmental effects. Discretionary projects are required to be reviewed consistent with the requirements of CEQA to determine if there is potential for the project to cause a significant adverse effect on the environment. Depending on the type of project and its



potential effects, technical traffic, noise, air quality, biological resources, and geotechnical reports may be needed. If potential adverse effects can be mitigated to less than significant levels, a mitigated negative declaration may be adopted. If potentially adverse effects cannot be mitigated to less than significant levels, an environmental impact report is required. These documents have mandated content requirements and public review times. Preparation of CEQA documents can be costly and time-consuming, potentially extending the processing time of a project by a year or longer.

### **Senate Bill 10**

California Senate Bill (SB) 10 provides that local agencies may adopt an ordinance to allow up to 10 dwelling units on any parcel, at a height specified in the ordinance, if the parcel is within a transit-rich area or urban infill site. Under SB 10, cities can choose to authorize construction of up to ten units on a single parcel without requiring an environmental review (otherwise mandated under CEQA).

### **Subdivision Code**

A subdivision is any division of land for the purpose of sale, lease or finance. The California Subdivision Map Act (Government Code § 66410) regulates subdivisions throughout the state. The goals of the Subdivision Map Act are as follows:

- To encourage orderly community development by providing for the regulation and control of the design and improvement of a subdivision with proper consideration of its relationship to adjoining areas.
- To ensure that areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community.
- To protect the public and individual transferees from fraud and exploitation.

The Subdivision Map Act allows cities flexibility in the processing of subdivisions. Pittsburg controls this process through the subdivision regulations in the Municipal Code Title 7 (referred to as the Pittsburg Subdivision Code). These regulations ensure that minimum requirements are adopted for the protection of public health, safety and welfare and that the subdivision includes adequate community improvements, municipal services, and other public facilities.

## **LOCAL**

### **San Francisco Bay Plan**

The San Francisco Bay Plan, originally adopted by the California Legislature in 1969, contains the policies that the San Francisco Bay Conservation and Development Commission (BCDC) uses to determine whether permit applications can be approved for projects within the Commission's jurisdiction—consisting of the San Francisco Bay, salt ponds, managed wetlands, certain waterways, and land within 100 feet of the Bay. On October 6, 2011, the BCDC unanimously approved an amendment to the Plan to update the 22-year-old sea level rise findings and policies and more broadly address climate change adaptation.

## 3.10 LAND USE PLANNING AND POPULATION/HOUSING

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Plan Map 3 of the San Francisco Bay Plan shows the Suisun Bay and Marsh area. Browns Island and portions of the City's western waterfront, both within the City's Planning Area, are within the jurisdictional boundary for the Plan.

Major policies of the Bay Plan are shown below:

1. To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.
2. Native species, including candidate, threatened, and endangered species; species that the California Department of Fish and Wildlife, the National Marine Fisheries Service, and/or the U.S. Fish and Wildlife Service have listed under the California or Federal Endangered Species Act; and any species that provides substantial public benefits, as well as specific habitats that are needed to conserve, increase, or prevent the extinction of these species, should be protected, whether in the Bay or behind dikes. Protection of fish, other aquatic organisms, and wildlife and their habitats may entail placement of fill to enhance the Bay's ecological function in the near-term and to ensure that they persist into the future with sea level rise.
3. In reviewing or approving habitat restoration projects or programs the Commission should be guided by the best available science, including regional goals, and should, where appropriate, provide for a diversity of habitats for associated native aquatic and terrestrial plant and animal species.
4. The Commission should:
  - a. Consult with the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species;
  - b. Not authorize projects that would result in the "taking" of any plant, fish, other aquatic organism or wildlife species listed as endangered or threatened pursuant to the state or federal Endangered Species Acts, or the federal Marine Mammal Protection Act, or species that are candidates for listing under these acts, unless the project applicant has obtained the appropriate "take" authorization from the U.S. Fish and Wildlife Service, National Marine Fisheries Service or the California Department of Fish and Wildlife; and
  - c. Give appropriate consideration to the recommendations of the California Department of Fish and Wildlife, the National Marine Fisheries Service or the U.S. Fish and Wildlife Service in order to avoid possible adverse effects of a proposed project on fish, other aquatic organisms and wildlife habitat.
5. The Commission may permit fill or a minimum amount of dredging in wildlife refuges necessary to enhance or restore fish, other aquatic organisms and wildlife habitat, or to provide appropriately located public facilities for wildlife observation, interpretation and education.
6. Allowable fill for habitat projects in the Bay should (a) minimize near term adverse impacts to and loss of existing Bay habitat and native species; (b) provide substantial net benefits

for Bay habitats and native species; and (c) be scaled appropriately for the project and necessary sea level rise adaptation measures in accordance with the best available science. The timing, frequency, and volume of fill should be determined in accordance with these criteria.

7. Sediment placement for habitat adaptation should be prioritized in (1) subsided diked baylands, tidal marshes, and tidal flats, as these areas are particularly vulnerable to loss and degradation due to sea level rise and lack of necessary sediment supply, and/or in (2) intertidal and shallow subtidal areas to support tidal marsh, tidal flat, and eelgrass bed adaptation. In some cases, sediment placement for a habitat project in deep subtidal areas may be authorized if substantial ecological benefits will be provided and the project aligns with current regional sediment availability and needs.

### **Delta Plan**

Under the authority of the Delta Reform Act, a Delta Plan was originally adopted in May 2013. It incorporated 14 regulatory policies and 73 non-regulatory recommendations that contributed to the realization of the coequal objectives, including reduced reliance on Delta exports; final approval and adoption of the Bay Delta Conservation Plan; enhanced water quality standards; protection of the Delta's unique ecosystem; mitigation of the multiple stressors affecting the Delta; improvement of emergency preparedness throughout the Delta region; reduction of flood risk; and prioritized state investment in levee maintenance and upgrading.

Since the original adoption date (2013), to ensure that the Delta Plan evolves appropriately with time, the Delta Reform Act requires that the Council review the comprehensive management plan at least once every five years and revise it as the Council deems appropriate.

In 2018, the Council began our initial review of the Delta Plan with three objectives in mind: (1) to reflect on the successes and challenges of implementation efforts across agencies; (2) to focus and prioritize the Council's near-term implementation efforts; and (3) to identify planning topics and emerging issues that may inform future updates. To summarize findings, in 2019, the Council published a detailed report summarizing these objectives alongside a highlights companion piece. Portions of the Delta Plan were amended in 2023.

### **BART TOD Guidelines and Procedures**

BART's Transit-Oriented Development (TOD) Guidelines are intended to provide greater clarity around BART's expectations for TOD, both on its property and within the larger station area. The Guidelines have been written with many different audiences in mind. The purpose of this document is to:

- Disseminate information about BART's updated TOD program to developers, local governments and BART staff.
- Provide greater transparency in the BART development process by identifying the roles and responsibilities of the BART Board of Directors, the General Manager and BART staff, local governments, developers and the community.
- Increase predictability by laying out a road map for defining, offering, evaluating, refining, and selecting and constructing TOD projects.

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- Delineate what BART requires and encourages in TOD projects, such as building and street design, financial performance, partnerships and blending with the community.
- Offer guidance to cities and developers in creating transit-supportive station area plans for the areas surrounding BART stations, TOD projects and approvals within the station area.
- Provide a checklist to facilitate discussion about BART’s expectations in the planning and design of individual TOD projects.
- Advance implementation of BART’s Strategic Plan framework, which calls for BART to “connect and create great places” through TOD, station access, art and placemaking.

There are two BART stations in the City’s Planning Area: Pittsburg/Bay Point and Pittsburg Center.

### Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA) and is based on a Regional Housing Needs Plan (RHNP) developed by councils of government. The Association of Bay Area Governments (ABAG) is the lead agency for developing the RHNP for the nine-county Bay Area. Pittsburg’s fair share allocation of the adopted RHNA for 2023-2031 is summarized in Table 3.10-6.

The City is not required to ensure that adequate development to accommodate the RHNA occurs; however, the City must facilitate housing production by ensuring that land is available and that unnecessary development constraints have been removed. The City’s General Plan Housing Element, adopted in 2023, provides for the accommodation of the 2015-2023 RHNA that has been allocated to the City of Pittsburg.

**TABLE 3.10-6: REGIONAL HOUSING NEEDS ALLOCATION**

<i>EXTREMELY LOW INCOME</i>	<i>VERY LOW INCOME</i>	<i>LOW INCOME</i>	<i>MODERATE INCOME</i>	<i>ABOVE MODERATE INCOME</i>	<i>TOTAL</i>
<i>2023 - 2031</i>					
258	258	296	346	894	2,052

*SOURCE: PITTSBURG HOUSING ELEMENT, TABLE 41.*

### CITY OF PITTSBURG GENERAL PLAN HOUSING ELEMENT

The Housing Element establishes the following five goals related to the development of housing in Pittsburg:

- H-1: Foster development of a variety of housing types, densities, and prices to balance the City’s housing stock and to meet Pittsburg’s regional fair share housing needs for people of all income levels, including lower income and special needs households.
- H-2: Improve and preserve the existing housing stock including affordable housing units where feasible and appropriate, and ensure that new residential development is consistent with Pittsburg’s town character and neighborhood quality.
- H-3: Reduce governmental constraints under the City’s control on the maintenance, improvement, and development of housing while maintaining community character..

- H-4: Promote equal and fair housing opportunities for all residents, including Pittsburg's special needs populations and all classes protected under Federal and State fair housing laws, so that safe and decent housing is available to all persons and all income levels throughout the community and residents and can reside in the housing of their choice.
- H-5: Promote building design and construction techniques that reduce emissions of criteria pollutants and greenhouse gases, while protecting public health and contributing to a more sustainable environment.

### **Regional Transportation Plan and Sustainable Communities Strategy**

ABAG approved its most-recent Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), known as Plan Bay Area 2050, in October 2021, which outlines the long-range vision and the region's transportation system investments through 2050. Plan Bay Area 2050 coordinates future land uses with the long-term transportation investments so that the region can grow smartly and sustainably. Plan Bay Area 2050 was prepared through a collaborative and comprehensive process. Key stakeholders also included the region's 101 cities and nine counties; regional agencies, the Bay Conservation and Development Commission and the BAAQMD; community-based organizations and advocacy groups, and some three dozen regional transportation partners. In addition, there were multiple rounds of engagement with the Bay Area's Native American tribes.

Plan Bay Area 2050 is the Bay Area's regional long-range plan adopted by Metropolitan Transportation Commission (MTC) and ABAG. Thirty-five strategies make up the heart of the plan to improve housing, the economy, transportation and the environment across the Bay Area's nine counties. A major goal of this Plan is to make the Bay Area more equitable for all residents and more resilient to unexpected challenges. Each strategy in Plan Bay Area 2050 has been crafted to advance equity, with particular attention paid to the needs of people living in Equity Priority Communities.

As defined by Plan Bay Area 2050, Priority Development Areas (PDAs) are areas generally near existing job centers or frequent transit that are locally identified (i.e., identified by towns, cities or counties) for housing and job growth. There are five PDAs in the Planning Area, including: Pittsburg Bay Point Connected Community PDA, Pittsburg Bay Point Transit Rich PDA, Pittsburg/Bay Point BART Station, Downtown, and Railroad Avenue eBART Station.

As defined by Plan Bay Area 2050, Priority Production Areas (PPAs) are locally identified places for job growth in middle-wage industries like manufacturing, logistics or other trades. An area must be zoned for industrial use or have a predominantly industrial use to be a PPA. There are two PPAs in the Planning Area, including: Northern Waterfront and Baypoint Industrial Sector

### **Measure J**

Measure J, approved by Contra Costa County voters in November 2004, provides for the continuation of a half-cent transportation sales tax until 2034. The funds generated from the tax will be used for projects and programs as set forth in the voter-approved Expenditure Plan.

## 3.10 LAND USE PLANNING AND POPULATION/HOUSING

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Measure J requires each jurisdiction in Contra Costa County to comply with all of the following components of its Growth Management Program:

- Adopt a Growth Management Element;
- Adopt a Development Mitigation Program;
- Participate in a Cooperative, Multi-Jurisdictional Planning Process to Reduce Cumulative Regional Traffic Impacts of Development;
- Address Housing Options;
- Develop a Five-Year Capital Improvement Program;
- Adopt a Transportation Systems Management Ordinance or Resolution; and
- Adopt an Urban Limit Line (ULL). Cities that do not adopt a ULL default to the voter-approved Countywide ULL, adopted under Measure C in 1990. Note: The City adopted the ULL.

### City of Pittsburg General Plan

The City's current General Plan was last comprehensively updated in 2001, and an update to the Housing Element was completed in 2015. The General Plan Diagram embodies several ideas and principles, including:

- *Compact urban form.* All growth, with the exception of the Bay Point unincorporated community and a small amount of clustered low-density residential hillside development, is contiguous to existing City limits.
- *Promotion of Downtown as a focus of activity.* Plan policies seek to increase Downtown population, as well as non-residential activity, to enhance vitality and provide a market for commercial uses. Policies that promote development standards that build on Downtown's traditional urban pattern are identified.
- *Modulated development intensities that reflect accessibility.* Development intensities are modulated to reflect accessibility to transit and services. The General Plan designates highest intensities in Downtown and around the Pittsburg/Bay Point BART Station, and lowest intensities in the constrained hillside areas.
- *Promotion of infill development.* In order to minimize encroachment into the hillsides, reverse and prevent blight, promote economic development, and efficiently provide services, the Plan encourages use and revitalization of vacant and underutilized sites. These include areas in and around Downtown (West Tenth Street and Harbor Street), around Railroad Avenue and East Leland Road, the Pittsburg/Bay Point BART Station, and complementary and viable uses on vacant sites in existing neighborhoods.
- *Increased connectivity between and within neighborhoods.* Major arterial streets are designated to result in increased connectivity between neighborhoods in different subareas. In addition, policies for locating local streets are included to ensure neighborhood-level connections while providing flexibility to project developers.
- *Designation of mixed-use and pedestrian-oriented activity centers.* New neighborhood centers are envisioned in the form of mixed-use pedestrian-oriented centers. Designated centers include the area surrounding the West Leland Road/San Marco Boulevard

intersection. In addition, mixed-use or multi-use development is encouraged surrounding the Pittsburg Center BART Station, between East Leland Road and State Route 4.

- *Increased diversity in housing types.* The General Plan seeks to expand the range of housing types currently available in Pittsburg through designation of sites for low-density hillside development, as well as higher-density residential development in selected locations. This allows for a diverse range of housing opportunities for residents of different social/economic sectors. Plan policies also provide for increased flexibility in single-family development by encouraging small-lot (Downtown and arterial corridors) or executive-style and custom/estate (Southern Hills) housing design.
- *Protection of ridgelines and creeks, and expansion of the trail and park network.* The General Plan identifies major and minor ridgelines, and establishes development guidelines to protect them. Additionally, the Plan identifies a network of open space along creeks in new growth areas that will be realized over time. These open space areas will also facilitate development of a network of bikeways and pedestrian trails.
- *Flexibility and mixed-use areas.* To provide flexibility and encourage mixed-use development, the use and intensity regulations provide variable development standards and incentives for mixed-use development in locations such as Downtown and neighborhood centers.

Land uses in Pittsburg have been developed based on the Land Use Map, goals, and policies established by the City's General Plan. The City's General Plan includes broad goals that guide land use and planning decisions within the City.

### **Railroad Avenue Specific Plan**

The Railroad Avenue Specific Plan (RASP) was adopted by the City Council in 2009 to implement the goals for the Railroad subarea of the General Plan. The RASP envisions a vibrant, walkable, mixed-use, and transit-oriented activity center around the Pittsburg Center BART Station complete with housing options, neighborhood retail, public amenities, open space, and strong employment uses.

### **Pittsburg/Bay Point Master Plan**

The Pittsburg/Bay Point Master Plan was adopted in October 2011. The Plan guides the future development of approximately 50.6 acres adjacent to the Pittsburg/Bay Point BART Station over the course of 20 years. This Master Plan describes allowed land uses and densities, transportation and circulation improvements, pedestrian pathways and improvements, urban design guidelines and standards, infrastructure development and financing, and phasing and implementation strategies and guidelines. The Master Plan establishes the nature, character, and intensity of development in order to create a successful transit-oriented community, integrated with the existing neighborhood context.

### **Pittsburg Sustainability Plan**

The Pittsburg Sustainability Plan was adopted on November 6, 2023. The Sustainability Plan is a living document that has been designed to engage, excite, and empower our community to take

incremental steps towards a healthier, more sustainable future. This plan will serve as a first step towards reducing greenhouse gas (GHG) emissions in the City and establishes practices the community can implement that are practical and result in real, positive change. As such, the primary focus of this plan is to create a more sustainable, equitable, and healthy Pittsburg, while maintaining a strong economy and reducing emissions to support California's Climate goals.

### **Pittsburg Moves Active Transportation Plan**

The Pittsburg Moves Active Transportation Plan was adopted by the City of Pittsburg in February 2021 and aims to make the City pedestrian and bike friendly. The plan outlines plans to create a network of pedestrian and bike infrastructure within the City limits and to implement education and evaluation programs to raise awareness of pedestrians and bikes by the City's residents.

The program established a list of projects, including but not limited to:

- Delta de Anza Regional Trail,
- California Delta Trail,
- Los Medanos to the Pittsburg Center BART Trail,
- The PG&E Corridor,
- Delta Waterfront Access Trail, and
- Railroad Avenue Greenway.

### **Old Town Pittsburg Design Guidelines and Principles**

The Old Town Pittsburg Design Guidelines and Principles apply to the area on Railroad Avenue between 3<sup>rd</sup> and 10<sup>th</sup> streets bound by Cumberland and Black Diamond as outlined in General Plan Figure 5-1, page 5-6. 1. The following types of improvements to properties in Old Town are subject to review and approval or denial by the City Planner/Zoning Administrator:

- New Signage. New sign must be consistent with these adopted Old Town Design Guidelines and architecturally compatible with the associated building.
- Minor storefront remodels, including building colors, awnings, fenestration and finishes.
- Replacement of existing landscaping with new landscaping.
- Additions to existing buildings. Addition must be less than 2,500 square feet and be designed to complement existing building architecture.
- Changes in building color.

### **Pittsburg Trust Lands Use Plan**

The City of Pittsburg is trustee for approximately 185.4 acres of Trust Lands that run along the City's northern residential, industrial, commercial, and park-zoned shoreline. Whether through state taxes, goods and services created, or opportunities for recreation, each of these slivers provide benefits to Californians. The City of Pittsburg prepared the Trust Lands Use Plan in 2017 and updated the plan in 2022. As a statewide resource, the City aims to foster access, preservation, and integration of the Trust Lands so that all Californians may enjoy natural views, store and launch watercraft, fish, learn, benefit from the goods produced on the City's waterfront,



and more. The Plan establishes the City's long-term vision for its Trust Lands and contains the following sections:

1. General Description of Trust Land Uses
2. Leaseholders and Permits Granted in the Trust Lands
  - Industrial Uses
  - Public and Commercial Uses
  - Private Docks

### **City of Pittsburg Zoning Ordinance**

Title 18 of the Pittsburg Municipal Code is the City's Zoning Ordinance. The Zoning Ordinance carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. The purpose of the Zoning Ordinance is to protect and promote public health, safety, and general welfare, and to implement the policies of the City's General Plan. More specifically, the Zoning Ordinance is intended to:

- A. Provide a precise guide for the physical development of the city in order to:
  1. Preserve the character and quality of residential neighborhoods,
  2. Foster convenient, harmonious and workable relationships among land uses, and
  3. Achieve the arrangement of land uses described in the general plan;
- B. Promote economic stability of existing land uses that are consistent with the General Plan and protect them from intrusions by inharmonious or harmful land uses;
- C. Prevent excessive population densities and overcrowding of land or buildings;
- D. Ensure the provision of adequate open space for light, air and fire safety;
- E. Permit the development of office, commercial, industrial, and related land uses that are consistent with the General Plan, in order to strengthen the city's economic base;
- F. Conserve and enhance the city's architectural and cultural resources;
- G. Conserve and enhance key visual features of Pittsburg's setting, including the riverfront and major ridgelines, consistent with the general plan;
- H. Require adequate off-street parking and loading facilities, and promote a safe, effective traffic circulation system;
- I. Ensure that service demands of new development will not exceed the capacities of streets, water and utilities, and other public services;
- J. Encourage a built environment of the highest design and architectural quality.

Division III of the Zoning Ordinance outlines the base district regulations, Division IV outlines the overlay district regulations, and Division V outlines the general land use regulations.

### **Local Agency Formation Commission of Contra Costa County**

In 1963, the State Legislature created a LAFCO for each county, with the authority to regulate local agency boundary changes. Subsequently, the state has expanded LAFCO authority. The goals of a LAFCO include preserving agricultural and open space land resources and providing for efficient delivery of services. In 1963, the California legislature created a LAFCO for each county, with the authority to regulate local agency boundary changes. Subsequently, the state has expanded the

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authority of a LAFCO. The goals of a LAFCO include preserving agricultural and open space land resources and providing for efficient delivery of services. The Contra Costa County LAFCO has authority over land use decisions in Contra Costa County affecting local agency boundaries. Its authority extends to the incorporated cities, including annexation of County lands into a city, and special districts within Contra Costa County. LAFCO has the authority to review and approve or disapprove the following:

- Annexations to or detachments from cities or districts;
- Formation or dissolution of districts;
- Incorporation or disincorporation of cities;
- Consolidation or reorganization of cities or districts;
- Extensions of service beyond an agency's jurisdictional boundaries;
- Development of, and amendments to, the SOI. The SOI is the probable physical boundary and service area of each local government agency. This may extend beyond the current service area of the agency; and
- Provision of new or different services by districts.

In addition, LAFCO conducts Municipal Service Reviews (MSRs) for services within its jurisdiction. An MSR typically includes a review of existing municipal services provided by a local agency and its infrastructure needs and deficiencies. It also evaluates financing constraints and opportunities, management efficiencies, opportunities for rate restructuring and shared facilities, local accountability and governance, and other issues.

Legislation, including Assembly Bill 1555 and Senate Bill 244, has been enacted to encourage the identification and annexation of islands, which are unincorporated areas substantially surrounded by a city or cities. There are currently no unincorporated islands within the City's corporate boundaries.

### **Contra Costa County Airport Land Use Commission**

The purpose of an Airport Land Use Commission (ALUC) is to conduct airport land use compatibility planning. ALUCs protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses. The statutes governing ALUCs are set forth in Division 9, Part 1, Chapter 4, Article 3.5, Sections 21670 – 21679.5 of the California Public Utilities Code (PUC).

The Contra Costa County Airport Land Use Compatibility Plan (ALUCP) prepared in December 2000 establishes the airport influence areas and associated safety zones for Buchanan Field Airport and Byron Airport, as well as compatible land uses within the safety zones of each airport. The City of Pittsburg and the 2040 General Plan Planning Area are located outside of the airport influence area and airspace protection surfaces of Buchanan Field Airport, as shown on Figures 3A and 3D, and outside of the airport layout diagram, including safety zones, of the Byron Airport as shown on Figure 6B of the ALUCP.

### **Contra Costa County General Plan**

Contra Costa County adopted its General Plan in January 2005. Contra Costa County's General Plan provides a comprehensive set of goals, policies, and implementation measures to guide growth through the year 2020. It is noted that the County is currently (as of October 2023) in the process of updating their General Plan. The Notice of Preparation for the Draft EIR for the Contra Costa County 2045 General Plan was released to the public on September 20, 2023.

The County's General Plan establishes allowed land uses within the City's SOI, the Planning Area, and the unincorporated areas surrounding the City, SOI, and Planning Area. While the City's General Plan Land Use Map identifies planned land uses within the SOI, Contra Costa County has ultimate land use planning and project approval authority within the SOI unless the lands are annexed to the City.

### **Suisun Marsh Habitat Management, Preservation, and Restoration Plan**

The Suisun Marsh Habitat Management, Preservation, and Restoration Plan (SMHMPR Plan) prepared in 2013 is a 30-year comprehensive plan designed to address the various conflicts regarding use of Marsh resources, with the focus on achieving an acceptable multi-stakeholder approach to the restoration of tidal wetlands and the management of managed wetlands and their functions. The SMHMPR Plan addresses habitats and ecological process, public and private land use, levee system integrity, and water quality through restoration and managed wetland activities. and is intended to be consistent with the revised Suisun Marsh Preservation Agreement and CALFED Bay-Delta Program (CALFED). It also is intended to set the regulatory foundation for future actions. The City of Pittsburg and Planning Area are located outside of the jurisdictional boundary of the SMHMPR Plan as shown on Figure 2, Suisun Marsh Regions, of the Plan.

### **East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan**

The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) is intended to provide regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for endangered species and wetland regulations. The HCP/NCCP was developed by a team of scientists and planners with input from independent panels of science reviewers and stakeholders. Within the 174,018-acre inventory area, the HCP/NCCP will provide permits for between 8,670 and 11,853 acres of development and will permit impacts on an additional 1,126 acres from rural infrastructure projects.

The heart of the conservation strategy is a system of new preserves linked to existing protected lands to form a network of protected land outside the area where new urban growth will be covered under the HCP/NCCP. The conservation strategy is designed to create a preserve system that will:

- Preserve approximately 23,800 acres of land under the initial urban development area or approximately 30,300 acres of land under the maximum urban development area for the

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benefit of covered species, natural communities, biological diversity, and ecosystem function.

- Preserve major habitat connections linking existing protected lands. East Contra Costa County Habitat Conservation Plan Association
- Enable management of habitats to enhance populations of covered species and maintain ecosystem processes.

The Plan describes a detailed but flexible process to assemble the Preserve System using acquisition of fee title or conservation easements, and partnerships with other conservation organizations already active in the region. Assembly of the Preserve System will be based on the availability of willing sellers. However, preserve assembly will be required to stay ahead of the impacts of covered activities.

The Preserve System to be acquired under the HCP/NCCP will encompass 23,800 to 30,300 acres of land that will be managed for the benefit of 28 species as well as the natural communities that they, and hundreds of other species, depend upon. By proactively addressing the long-term conservation needs, the HCP/NCCP strengthens local control over land use and provides greater flexibility in meeting other needs such as housing, transportation, and economic growth in the area.

### 3.10.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on land use and population/housing if it will:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

#### IMPACTS AND MITIGATION MEASURES

##### **Impact 3.10-1: General Plan implementation would not physically divide an established community (Less than Significant)**

The 2040 General Plan establishes the City's vision for future growth and development and does not propose any development, in and of itself. Goal LU-1 of the 2040 General Plan aims to "Maintain a compact urban form within the City's projected municipal boundary." The land uses allowed under the proposed General Plan (Figure 2.0-3) provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas of the city, as well as new growth adjacent to existing urbanized areas; however, this would not create physical division within the community.

New development and redevelopment projects would be designed to complement the character of existing communities and neighborhoods and provide connectivity between existing development and new development. The 2040 General Plan Land Use Map designates sites for a range of urban and rural developed uses as well as open space. The proposed General Plan does not include any new areas designated for urbanization or new roadways, infrastructure, or other features that would divide existing communities. The 2040 General Plan would have a **less than significant** impact associated with the physical division of an established community, and no mitigation is required. The policies listed below would ensure that future development is compatible with adjacent communities and land issues.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – LAND USE ELEMENT**

2-P-1.2: Promote land use compatibility through development standards, use restrictions, environmental review, and design considerations.

2-P-1.3: Ensure consistency and compatibility between the Land Use Map, land use designations, and implementing plans, ordinances, and regulations.

2-P-1.4: To maintain balanced growth and to manage the City's investment in infrastructure, facilities, and services for growth areas, encourage infill development, redevelopment, and rehabilitation projects within the City, prioritizing investments in underserved neighborhoods, and growth that is contiguous with existing development and/or the boundary of the City.

2-P-1.5: Discourage development at urban densities or intensities in areas on the periphery of the City boundary.

2-P-1.6: Oppose land uses proposed in areas outside of the City limits that would be incompatible with existing or planned land uses within the City, or do not serve the best interests of the City.

#### **ACTIONS – LAND USE ELEMENT**

2-A-1.a: Update the City's Zoning Ordinance and Subdivision Regulations to be consistent with the General Plan, including the General Plan Land Use Diagram.

2-A-1.b: Review the City's Sphere of Influence every five years and pursue necessary annexation and Sphere of Influence changes through coordination with the County and Local Agency Formation Commission. Consider:

- Appropriate timing of annexation or development expansion into the hillsides by considering market forces, the status of agricultural preserve (Williamson Act) contracts, and the availability of urban services.
- Amendments along the eastern and western edges of the City, to take advantage of providing City services for the development of adjacent vacant lands.

2-A-1.c: Establish an infill incentive program that:

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- Develops and publicizes the availability of an inclusive list of potential infill parcels, including mixed use and brownfields.
- Reduces permit fees and expedites permit processing for development types prioritized in targeted areas.

### **Impact 3.10-2: General Plan implementation would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (Less than Significant)**

#### STATE PLANS

The proposed General Plan was prepared in conformance with state laws and regulations associated with the preparation of general plans, including requirements for environmental protection. Discussion of the proposed General Plan's consistency with state regulations, plans, and policies associated with specific environmental issues (e.g., air quality, traffic, water quality, etc.) is provided in the relevant chapters of this Draft EIR. The state would continue to have authority over any state-owned lands in the vicinity of the City and the proposed General Plan would not conflict with continued application of state land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

#### EAST CONTRA COSTA COUNTY HCP/NCCP

As discussed in Section 3.4, Biological Resources, of this EIR, the East Contra Costa County HCP/NCCP is intended to provide regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for endangered species and wetland regulations. The HCP/NCCP was developed by a team of scientists and planners with input from independent panels of science reviewers and stakeholders.

The 2040 General Plan Land Use Map does not re-designate any land currently designated for open space or habitat protection. As such, the proposed General Plan and the Land Use Map are consistent with the adopted HCP/NCCP in terms of land uses and habitat protection. Implementation of the General Plan would not conflict with the provisions of an adopted HCP/NCCP, or other approved local, regional, or State habitat conservation plan.

Policy 10-P-2.12 requires the continued support and implementation of the East Contra Costa HCP/NCCP. Action 9-A-1.b from the Resources Conservation & Open Space Element of the General Plan requires projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes, and to comply with the requirements of the HCP/NCCP to ensure that potentially significant impacts to special-status species and sensitive resources are adequately addressed.

#### PLAN BAY AREA 2050

As noted previously, Plan Bay Area 2050 outlines the long-range vision and the region's transportation system investments through 2050. Plan Bay Area 2050 coordinates future land uses

with the long-term transportation investments so that the region can grow smartly and sustainably. The proposed Land Use Plan is intended to accommodate and build on the land uses anticipated under Plan Bay Area 2050. The Land Use Plan also includes adequate sites to accommodate the City's RHNA. The proposed 2040 General Plan does not conflict with Plan Bay Area 2050.

#### DELTA PLAN

As noted previously, the Delta Plan was originally adopted in May 2013 and incorporated 14 regulatory policies and 73 non-regulatory recommendations that contributed to the realization of the coequal objectives, including reduced reliance on Delta exports; final approval and adoption of the Bay Delta Conservation Plan; enhanced water quality standards; protection of the Delta's unique ecosystem; mitigation of the multiple stressors affecting the Delta; improvement of emergency preparedness throughout the Delta region; reduction of flood risk; and prioritized state investment in levee maintenance and upgrading.

The proposed 2040 General Plan includes actions which address consistency and compliance with the Delta Plan. Specifically, Action 10-A-2.d requires review of all projects located within or adjacent to the Delta Primary Zone and other priority habitat restoration areas to ensure consistency with the criteria and policies of the Delta Stewardship Council's Delta Plan. Additionally, as noted above, the proposed 2040 General Plan includes Action 10-A-2.e, which states: "As applicable, provide opportunities for review of and comment by the California Department of Fish and Wildlife, Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, SWRCB, and San Francisco Bay Conservation and Development Commission (BCDC) during project review, and consult with the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on primary habitat restoration areas as described in the Bay Plan and the Delta Plan." Further, Action 10-A-4.a requires review and regulation of new development to ensure consistency with Federal and State flood and floodway requirements, including Sacramento-San Joaquin River Delta Plan policies, the City's Green Stormwater Infrastructure Plan, and the Contra Costa Clean Water Program's Resource Conservation Plan as applicable and as opportunities arise. The proposed 2040 General Plan does not conflict with the Delta Plan.

#### CITY PLANS

As set forth by state law, the General Plan serves as the primary planning document for the City and subordinate documents and plans would be updated to be consistent with the General Plan. Similar to the existing General Plan, the 2040 General Plan focuses on a balanced land use pattern, creating a community where new development blends with existing neighborhoods, and promoting the City as a desirable place to live and work. The 2040 General Plan carries forward and enhances policies and measures from the City's existing General Plan that were intended for environmental protection and would not remove or conflict with City plans, policies, or regulations adopted for environmental protection. The 2040 General Plan would require modifications to the City's Zoning Ordinance to provide consistency between the General Plan and zoning; however, these modifications will not remove or adversely modify portions of the Pittsburg Municipal Code that were adopted to mitigate an environmental effect. For example, the 2040 General Plan

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includes Action 2-A-1.a which requires an update to the City's Zoning Ordinance and Subdivision Regulations to be consistent with the General Plan, including the General Plan Diagram.

### CONCLUSION

Subsequent development and infrastructure projects accommodated by the 2040 General Plan would be required to be consistent with all applicable policies, standards, and regulations, including those land use plans, policies, and regulations adopted to mitigate environmental effects by the City as well as those adopted by agencies with jurisdiction over components of future development projects. Any potential environmental impact associated with conflicts with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect would be **less than significant**. The policies and actions listed below would ensure that the 2040 General Plan does not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

### GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS

#### POLICIES – LAND USE ELEMENT

2-P-2.6: Permit development of residential uses in transition areas where real estate interest in industrial land adjacent to existing or planned residential areas has diminished while ensuring project design avoids potential conflicts with adjoining or nearby intense uses.

2-P-3.8: Encourage rebuilding and reuse of commercial space in a manner that minimizes conflict with adjacent residential uses.

#### ACTIONS – LAND USE ELEMENT

2-A-1.a: Update the City's Zoning Ordinance and Subdivision Regulations to be consistent with the General Plan, including the General Plan Diagram.

2-A-1.b: Review the City's Sphere of Influence every five years and pursue necessary annexation and Sphere of Influence changes through coordination with the County and Local Agency Formation Commission. Consider:

- Appropriate timing of annexation or development expansion into the hillsides by considering market forces, the status of agricultural preserve (Williamson Act) contracts, and the availability of urban services.
- Amendments along the eastern and western edges of the City, to take advantage of providing City services for the development of adjacent vacant lands.

2-A-16.b: Work with adjacent jurisdictions and relevant agencies to determine appropriate future land uses for the portion of Concord Naval Weapons Station (CNWS) within the Pittsburg Sphere of Influence, if CNWS were to be decommissioned.



## POLICY – RESOURCE CONSERVATION &amp; OPEN SPACE ELEMENT

10-P-2.12: Continue to support and implement the East Contra Costa County Habitat Conservation Plan (Eastern County HCP).

## ACTIONS – RESOURCE CONSERVATION &amp; OPEN SPACE ELEMENT

10-A-1.b: Continue to require projects to comply with the requirements of the Eastern County HCP when reviewing proposed public and private land use changes.

10-A-2.d: Review all projects located within or adjacent to the Delta Primary Zone and other priority habitat restoration areas to ensure consistency with the criteria and policies of the Delta Stewardship Council's Delta Plan.

10-A-2.e: As applicable, provide opportunities for review of and comment by the California Department of Fish and Wildlife, Reclamation Districts, the Delta Stewardship Council, Delta Protection Commission, SWRCB, and San Francisco Bay Conservation and Development Commission (BCDC) during project review, and consult with the California Department of Fish and Wildlife to ensure that any impacts do not have a significant effect on primary habitat restoration areas as described in the Bay Plan and the Delta Plan.

10-A-4.a: Review and regulate new development to ensure consistency with Federal and State flood and floodway requirements, including Sacramento-San Joaquin River Delta Plan policies, the City's Green Stormwater Infrastructure Plan, and the Contra Costa Clean Water Program's Resource Conservation Plan as applicable and as opportunities arise.

**Impact 3.10-3: General Plan implementation would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) (Less than Significant)**

The 2040 General Plan accommodates future growth in Pittsburg, including new businesses, expansion of existing businesses, and new residential uses, but it does not propose any development projects, in and of itself. Infrastructure and services would need to be extended to accommodate future growth. At full buildout, approximately 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions. This new growth would result in a population increase of approximately 20,470 persons, assuming 3.34 persons per household based on U.S. Census 2016-2020 American Community Survey household size data, and approximately 24,659 new jobs, based on U.S. Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey data, released March 18, 2016.

The current and future population, housing, and jobs forecasts are shown in Table 3.10-6. As shown, the 2040 General Plan would result in a 28.2 percent increase in population, 67.4 percent increase in housing units, and 212.4 percent increase in jobs compared to the current condition. It

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is noted that population, housing, and employment would continue to grow in Pittsburg under the existing General Plan, regardless of the proposed project.

**TABLE 3.10-6: CURRENT AND FUTURE POPULATION, HOUSING, AND JOBS FORECASTS**

	<i>POPULATION</i>	<i>HOUSING</i>	<i>JOBS</i>
Current (2019)	72,541	23,126	11,611
Future (2040)	93,011	38,702	36,270
% Change	+28.2	+67.4	+212.4

*SOURCE: US CENSUS ONTHEMAP; BAY AREA CENSUS; U.S. CENSUS QUICKFACTS; CALIFORNIA DOF, REPORT E-5, 2019.*

According to the City’s Economic Development Strategic Plan (January 2022), by the year 2040, the City’s population is projected to grow to over 100,000, and the number of employed residents is expected to grow to nearly 40,000. The growth that could be accommodated by the proposed General Plan is consistent with these projections. The proposed General Plan has been designed to accommodate incremental growth in the City.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable and would occur regardless of whether or not the General Plan is implemented. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country’s immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Pittsburg during the planning period of the 2040 General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the 2040 General Plan, new roads, infrastructure, and services would be necessary to serve new development, and this infrastructure would accommodate planned growth. The 2040 General Plan establishes adequate sites to accommodate the City’s fair share of regional housing needs, which are allocated by the ABAG, as well as housing and employment growth anticipated in Plan Bay Area 2050.

The 2040 General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. Chapters 3.1 through 3.16 and 4.0 of this EIR provide a discussion of environmental effects associated with development allowed under the proposed General Plan. Each of these EIR chapters include relevant policies and action items that would mitigate potential environmental impacts associated with growth, to the greatest extent feasible.

With implementation of 2040 General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds, beyond those disclosed and analyzed throughout this EIR. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact, as there are no additional potential environmental impacts, beyond those analyzed and

disclosed in this EIR, that would result from growth accommodated by the proposed project. No additional mitigation is required.

**Impact 3.10-4: General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (Less than Significant)**

The majority of developed land in the Planning Area is comprised of residential uses, which are not anticipated to undergo significant land use changes under the proposed project. The proposed project focuses infill development opportunities in vacant and underutilized areas in Pittsburg, as well as areas currently developed with commercial uses which may transition to mixed uses in the future. The 2040 General Plan Land Use Map was developed to preserve existing neighborhoods throughout the City. Throughout the Planning Area, the 2040 General Plan is projected to increase the overall number of dwelling units and provide housing to serve the diverse needs of the community at various socioeconomic levels. While the 2040 General Plan accommodates growth, the General Plan does not entitle any development projects and does not require the removal or replacement of existing housing.

Therefore, impacts of the 2040 General Plan on the displacement of people or housing are considered **less than significant**, and no mitigation is required. The programs listed below would further ensure that a range of housing types are provided in the City, and that housing conditions are evaluated as the housing supply ages.

**HOUSING ELEMENT PROGRAMS THAT REDUCE THE POTENTIAL FOR IMPACTS**

**PROGRAM 9: HOME IMPROVEMENT PROGRAM**

The City can assist with housing maintenance and improvement through housing rehabilitation, emergency repair, weatherization, energy-efficiency, and water-efficiency programs.

The City provides Successor Agency-funded below-market rate rehabilitation loans to single-family and multifamily homeowners that are very low, low, or moderate income as well as owners of rental properties where at least half of the tenants are low-income households for the purpose of improving their property. The City also provides resources to encourage the efficient use of energy and water in development in the Pittsburg.

The Code Enforcement Program is operated through the City's Community Development Department. Code Enforcement staff respond to complaints related to substandard housing, property maintenance, overgrown vegetation, trash and debris, improper occupancy, and other nuisance and municipal code violations and complaints.

*Responsible Department/Agency:*                      *Housing Authority/Housing Successor Agency/in partnership with Contra Costa County*

*Funding Sources:*                                      *CDBG/revolving loan fund/public and private grants*

2023-2031 Objectives and  
Timeframe:

- *Ensure that the HACP includes \$100,000 of the Housing Successor Agency funds, when available, for housing rehabilitation programs targeted to low and moderate income households that remediate various health and safety improvements, property maintenance, functional obsolescence, energy efficiency, or removal of architectural barriers for the disabled.*
- *Review funding programs annually to identify resources to expand City programs to assist homeowners, property owners, and tenants with emergency repair, weatherization, energy-efficiency, and accessibility improvements, including grants for minor repairs and accessibility modifications for very low income households.*
- *Coordinate with regional agencies annually to identify potential sources of funding and other opportunities to expand housing rehabilitation assistance, to identify service and volunteer programs that assist homeowners with physical or financial constraints, and to identify methods to prioritize areas with higher rates of housing rehabilitation needs and areas with higher potential of displacement.*
- *Continue to investigate complaints on an ongoing basis and take appropriate action involving building and housing code violations in single-family and multi-family rental housing.*
- *Review code enforcement records on an annual basis to identify areas that need special attention. If areas with less stable housing conditions are identified (e.g., code violations, significant deferred maintenance, illegal occupancy), perform targeted outreach within six months to the neighborhood and areas to ensure property owners and residents are aware of available housing rehabilitation and improvement programs.*
- *Advertise the loan program through flyers, online materials, and outreach at City Hall, libraries, the senior center, and the HACP by December 1, 2023.*
- *Identify any areas of the Pittsburg with concentrations of housing in need of repair, including dilapidated units, as well as individual multi-family developments that are in need of significant repair or rehabilitation. Coordinate connecting owners of such housing with federal, State, and regional resources for housing rehabilitation by December 1, 2024.*

#### PROGRAM 12: PRESERVATION OF EXISTING AFFORDABLE HOUSING

Potential conversion of affordable housing to market-rate housing is an ongoing and critical statewide problem. Federal, state, and local governments have invested in the development of more than 500,000 affordable rental homes in California over the last few decades.

The City shall monitor rent-restricted units at risk of conversion to market rate and meet with property owners to explore possible options/incentives to retain the units in the affordable housing stock. Facilitating preservation of at-risk units, including through cooperative partnerships with nonprofit housing provider(s), protects vulnerable populations from displacement and furthers fair housing practices.

*Responsible Department/Agency:* *Housing Authority/Housing Successor Agency*

*Funding Sources:* *General Fund/HOME/Section 8 Project Based Certificates/public and private funds*

- 2023-2031 Objectives and Timeframe:*
- *Annually monitor the City’s affordable housing stock to ensure that deed-restricted units are preserved, including the at-risk units in Lido Square I (162 units), Presidio Village Senior Housing (104 units), and Stoneman Village II (375 units).*
  - *Work with property owners, interest groups, and the State and federal governments to ensure compliance with State law and implement the following:*
    - *Monitor At-Risk Units: Contact property owners at least 18 months and again within one year prior to the affordability expiration date to discuss City’s desire to preserve as affordable housing.*
    - *Tenant Education: Hold public hearings upon receipt of any Notice of Intent to Sell or Notice of Intent to Convert to Market Rate Housing, pursuant to Section 65863.10 of the Government Code and provide tenant education on housing rights.*
    - *Noticing: Ensure property owners provide noticing to tenants in compliance with Government Code Section 65863.10, including notices to tenants at least 12 months and at least 6 months prior to termination, .*
    - *Technical Assistance: Provide technical assistance where feasible to public and non-profit agencies interested in purchasing and/or managing units at risk.*
    - *Preservation Programs: Provide information to owners of at-risk properties regarding rehabilitation assistance and/or mortgage financing in exchange for extending affordability restrictions.*
  - *Retain all assisted affordable housing, including the 2,113 assisted multifamily units identified in Table 39 of the Background Report.*

## 3.10 LAND USE PLANNING AND POPULATION/HOUSING

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### PROGRAM 23: REPLACEMENT HOUSING

Government Code Section 65583.2(g)(3) requires the replacement of units affordable to the same or lower income level as a condition of any development on a nonvacant site identified in the Housing Element consistent with those requirements set forth in Government Code Section 65915(c)(3). Replacement requirements shall be applied for sites identified in the residential sites inventory (Appendix A) that currently have residential uses, or within the previous five years have had residential uses that have been vacated or demolished, and:

- Were subject to a recorded covenant, ordinance, or law that restricts rents to levels affordable to persons and families of low or very low-income; or
- Subject to any other form of rent or price control through a public entity’s valid exercise of its police power; or
- Occupied by low or very low-income households.

For the purpose of this program, “previous five years” is based on the date the application for development was submitted.

Pursuant to Government Code Section 66300(d) (Chapter 654, Statutes of 2019 (SB 330)), Pittsburg shall not approve a housing development project that will require the demolition of residential dwelling units regardless of whether the parcel was listed in the inventory unless: a) the project will create at least as many residential dwelling units as will be demolished, and b) certain affordability criteria are met.

*Responsible Agencies:*                      *Planning Department*

*Funding Sources:*                              *General Fund; replacement costs to be borne by developer of any such site*

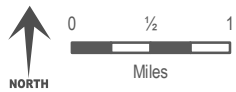
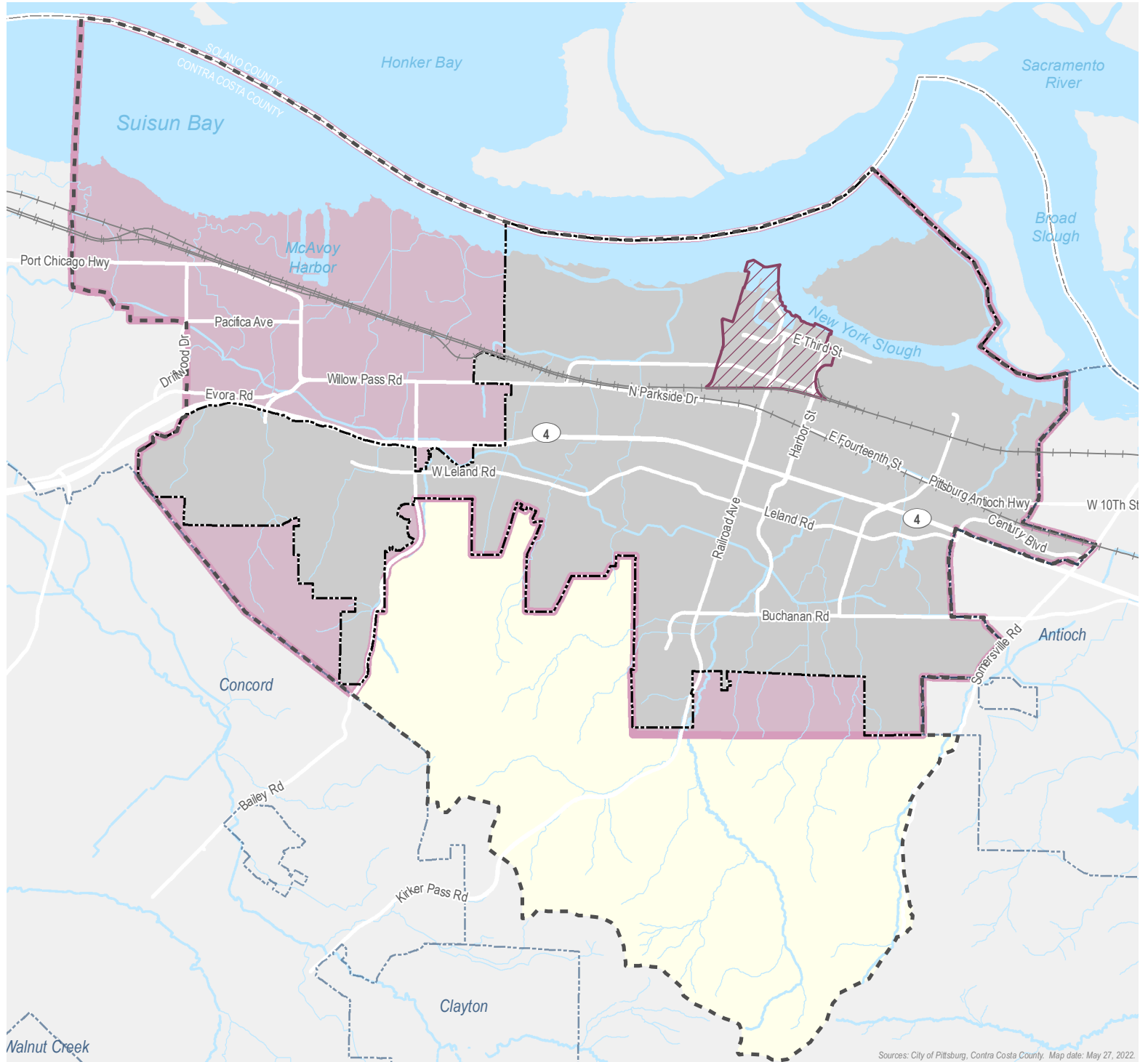
*2023-2031 Objectives and Timeframe:*                      *For all project applications, identify need for replacement of housing units and ensure replacement, if required, on an ongoing basis.*

Figure 3.10-1:

# PLANNING AREA

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Subarea
- Neighboring City



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Figure 3.10-2:

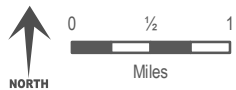
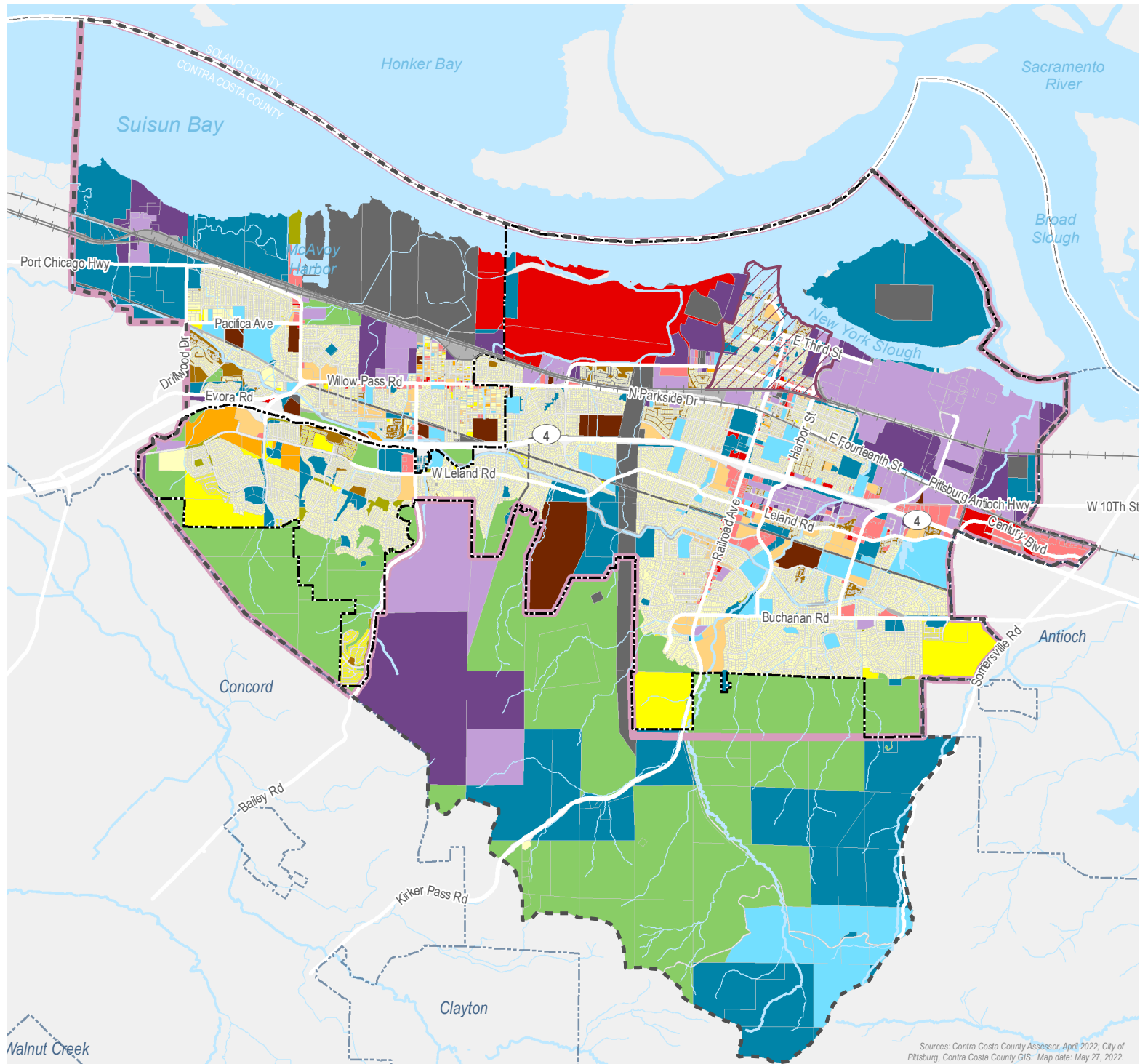
# ASSESSED LAND USES

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning
- Downtown Subarea
- Neighboring City

## Assessed

- Residential
- Residential - Vacant
- Residential - Vacant (Unbuildable)
- Multi-Family
- Multi-Family - Vacant
- Common Areas in Planned Developments & Condos
- Manufactured Homes in Park
- Commercial
- Commercial - Vacant
- Industrial
- Industrial - Vacant
- Institutional
- Institutional - Government-Owned
- Land
- Miscellaneous
- No Use Code



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Figure 3.10-3:

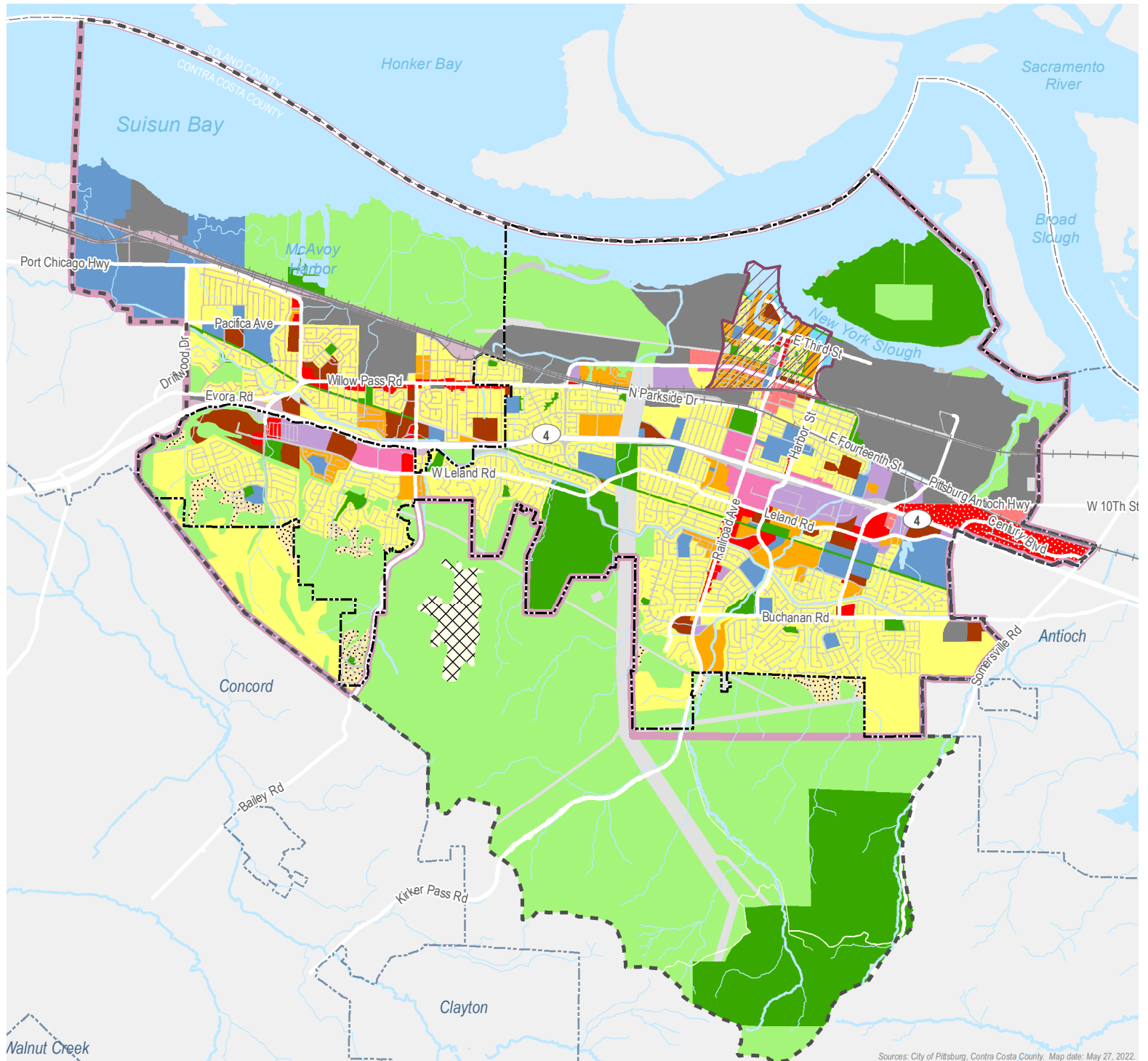
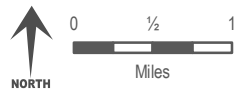
# CURRENT GENERAL PLAN

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Subarea
- Neighboring City

## General Plan Land Use Designation

- Hillside Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Business Commercial
- Community Commercial
- Service Commercial
- Regional Commercial
- Marine Commercial
- Industrial
- Landfill
- Mixed Use
- Open Space
- Park
- Public/Institutional
- Utility/ROW
- Downtown Low Density Residential
- Downtown Med Density Residential
- Downtown High Density Residential
- Downtown Commercial
- Water








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















Figure 3.10-4:

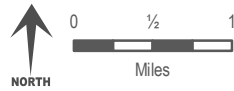
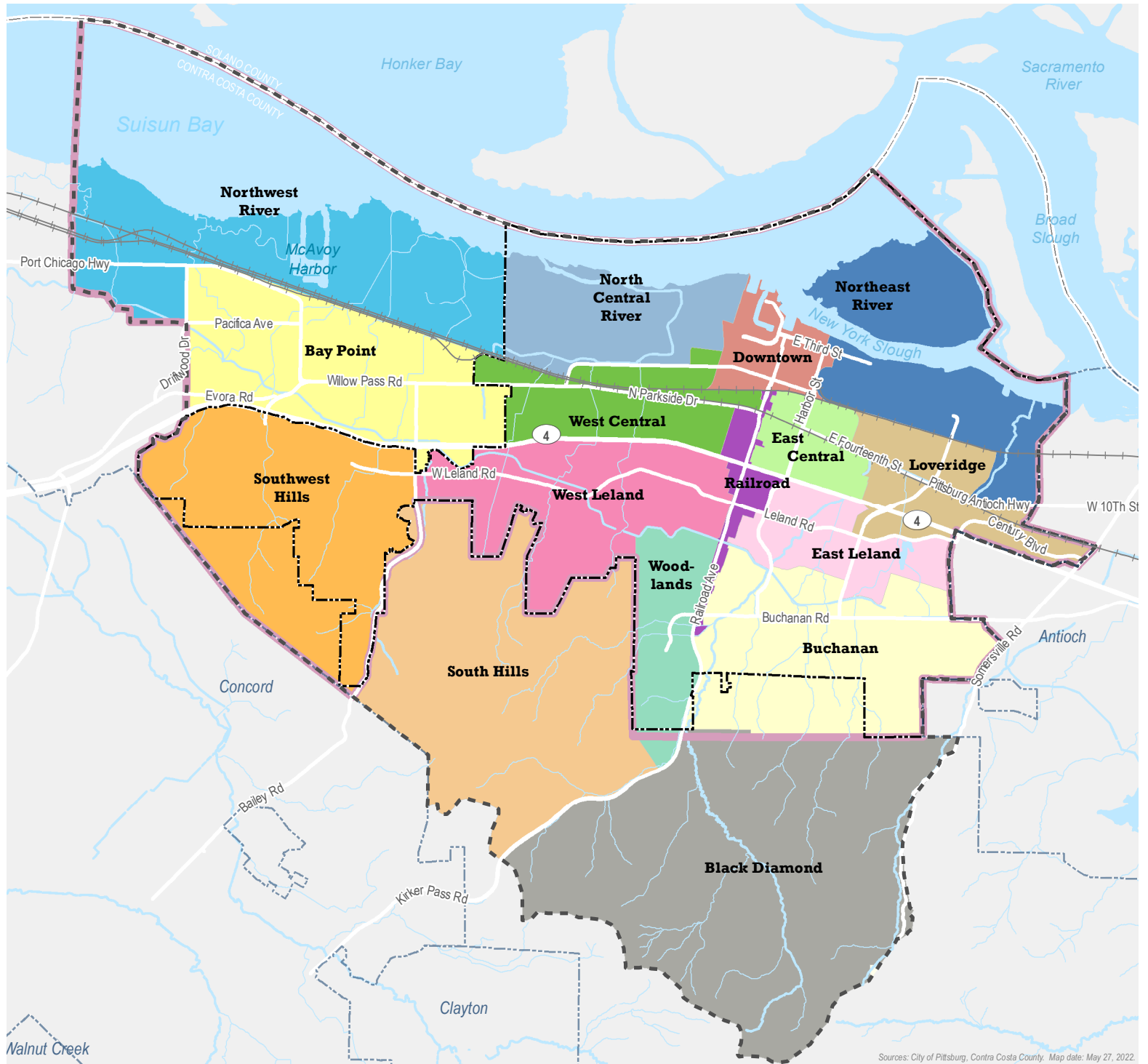
# PLANNED SUBAREAS

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Sub-Area
-  Neighboring City

## Subareas

-  Bay Point
-  Black Diamond
-  Buchanan
-  Downtown
-  East Central
-  East Leland
-  Loveridge
-  North Central River
-  Northeast River
-  Northwest River
-  Railroad
-  South Hills
-  Southwest Hills
-  West Central
-  West Leland
-  Woodlands



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This section provides a background discussion and analysis of mineral and energy resources in Pittsburg. This section is organized with an environmental setting, regulatory setting, and impact analysis.

No comments were received on this environmental topic during the NOP comment period.

### 3.11.1 ENVIRONMENTAL SETTING

#### STATEWIDE RESOURCES

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In 2012, the California Geological Survey (CGS) identified that approximately 4 billion tons of permitted aggregate reserves lie within the 31 aggregate study areas in California. These permitted aggregate reserves have been determined to be acceptable for commercial use, exist within properties owned or leased by aggregate producing companies, and have permits allowing mining of aggregate material. Sand, gravel, and crushed stones are construction materials that are collectively referred to as construction aggregate. These materials provide the bulk and strength to Portland cement concrete (PCC), asphaltic concrete (AC), plaster, and stucco. Other uses include road base, subbase, railroad ballast, and fill.

From 1981 to 2010, California consumed an average of about 180 million tons of construction aggregate (all grades) per year (CGS, 2012).

#### REGIONAL SETTING

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The most important mineral resources that are currently mined in the County include crushed rock near Mt. Zion, on the north side of Mt. Diablo, in the Concord area; shale in the Port Costa area; and sand and sandstone deposits, mined from several locations, but focused in the Byron area of southeast County.

An additional area in the County which has a long history of mineral resource production is located near Port Costa. Mining in this area began at the turn of the century to support a brick manufacturing operation which is unique in the County, and one of only a few in the entire state. Mining and brick production have been continuous from 1905 to the present, under several different ownerships.

#### MINERAL RESOURCE CLASSIFICATION

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Pursuant to Surface Mining and Reclamation Act (SMARA), the California State Mining and Geology Board oversees the mineral resource zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources. The four classifications are described in Table 3.11-1.

## 3.11 MINERAL RESOURCES

**TABLE 3.11-1: MINERAL RESOURCE CLASSIFICATION SYSTEM**

CLASSIFICATION	DESCRIPTION
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY, 2002.

### MINERAL RESOURCES

The Planning Area contains one of the only two places in the San Francisco Bay Area where coal was mined. The discovery of coal in the 1850s led to construction of Black Diamond Mines, the first source of fossil fuel in California. Sand mining was also conducted starting in the late 1920s. Due to competition from other energy sources, the mines closed in 1949. Historical remnants of Black Diamond's mining operations, as well as the former mining towns of Nortonville and Somersville, can still be found in the southern hills. While coal mining no longer takes place, livestock still graze in the hills.

According to the City's current General Plan, there are no significant mineral deposits or active mining operations in the City's Planning Area. The hills south of City limits may contain mineral deposits, though their significance is not known. Figure 3.11-1 shows mineral resource zones within and near the Planning Area. As shown on Figure 3.11-1, the majority of the northern portion of the Planning Area is designated MRZ-1 indicating areas where no significant mineral deposits are present or there is little likelihood for their presence. The City also contains areas designated MRZ-3 and MRZ-4. These areas are located mainly in the southern portion of the Planning Area near the hillsides.

### 3.11.2 REGULATORY SETTING

#### STATE

#### **Surface Mining and Reclamation Act of 1975**

The California Department of Conservation Surface Mining and Reclamation Act of 1975 (§ 2710), also known as SMARA, provides a comprehensive surface mining and reclamation policy that permits the continued mining of minerals, as well as the protection and subsequent beneficial use of the mined and reclaimed land. The purpose of SMARA is to ensure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition and readily adaptable for alternative land uses. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, wildlife, range and forage, as well as aesthetic enjoyment. Residual hazards to public health and safety are eliminated. These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.



If a use is proposed that might threaten the potential recovery of minerals from an area that has been classified mineral resource zone 2 (MRZ-2), SMARA would require the jurisdiction to prepare a statement specifying its reasons for permitting the proposed use, provide public notice of these reasons, and forward a copy of the statement to the State Geologist and the State Mining and Geology Board (Cal. Pub. Res. Code Section 2762). Lands classified MRZ-2 are areas that contain identified mineral resources.

### **Warren-Alquist Act**

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as CEC. The Warren-Alquist Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

### **Division of Mines and Geology**

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

### **Division of Mine Reclamation**

The California Division of Mine Reclamation (DMR) operates within the Department of Conservation. In 1991, the DMR was created to provide a measure of oversight for local governments as they administer the Surface Mining and Reclamation Act (SMARA) within their respective jurisdictions. While the primary focus is on existing mining operations and the return of those mined lands to a usable and safe condition, issues relating to abandoned legacy mines are addressed through the Abandoned Mine Lands Unit.

### **State Geological Survey**

Similar to the DMG, the CGS is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

### **Public Resources Code**

Public Resources Code Section 2762(d) and 2763 requires a lead agency to prepare a statement specifying its reasons for permitting a use that would threaten the potential to extract mineral resources either 1) in an area that has been designated in its general plan as having important minerals to be protected, or 2) if the use is proposed in an area with significant resources pursuant to Section 2761(b)(2) and the lead agency has not yet acted on the State's designation. Public Resources Code Section 2763 requires that lead agency land use decisions involving areas designated as being of regional significance shall be in accordance with the lead agency's mineral resource management policies and shall also, in balancing mineral values against alternative land uses, consider the importance of these minerals to their market region as a whole and not just their importance to the lead agency's area of jurisdiction.

### LOCAL

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There are no local regulations pertaining to mineral resources.

### 3.11.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project may have a significant impact on the environment associated with mineral resources if it would:

1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

#### IMPACTS AND MITIGATION MEASURES

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##### **Impact 3.11-1: General Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (Less than Significant)**

As noted previously, according to the City's current General Plan, there are no significant mineral deposits or active mining operations in the City's Planning Area. The hills south of City limits may contain mineral deposits, though their significance is not known. Figure 3.11-1 shows mineral resource zones within and near the Planning Area. As shown on Figure 3.11-1, the majority of the northern portion of the Planning Area is designated MRZ-1 indicating areas where no significant mineral deposits are present or there is little likelihood for their presence. The City also contains areas designated MRZ-3 and MRZ-4. These areas are located mainly in the southern portion of the Planning Area near the hillsides.

The areas of the City designated MRZ-3 and MRZ-4 are largely developed with residential or park uses. As such, these currently developed areas are no longer available for mining. Portions of the MRZ-4 designated land in the southern portion of the Planning Area and SOI are designated for Open Space uses by the proposed Land Use Map.

There are no other known mineral deposits or resources within Pittsburg that are of significant value to the region or the state. As such, implementation of the proposed General Plan would have a **less than significant** impact on this environmental topic, and no mitigation is required.

**Impact 3.11-2: General Plan implementation would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan (Less than Significant)**

As noted previously, according to the City's current General Plan, there are no significant mineral deposits or active mining operations in the City's Planning Area. The hills south of City limits may contain mineral deposits, though their significance is not known. As shown on Figure 3.11-1, the majority of the northern portion of the Planning Area is designated MRZ-1 indicating areas where no significant mineral deposits are present or there is little likelihood for their presence. The City also contains areas designated MRZ-3 and MRZ-4. These areas are located mainly in the southern portion of the Planning Area near the hillsides. The areas designated MRZ-3 are designated Park, Open Space, Hillside Low Density Residential, Low Density Residential, Medium Density Residential, Public, Institutional, Mixed Use, Employment Center Industrial, and Industrial by the proposed Land Use Map. Portions of the MRZ-4 designated land in the southern portion of the Planning Area and SOI are designated for Open Space uses by the proposed Land Use Map.






The Planning Area does not contain a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed project would not result in loss of a mineral resource. Therefore, this impact is considered **less than significant**, and no mitigation is necessary.

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Figure 3.11-1:

# MINERAL RESOURCE ZONES

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning
-  Downtown Subarea
-  Neighboring City

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists



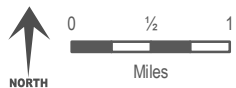
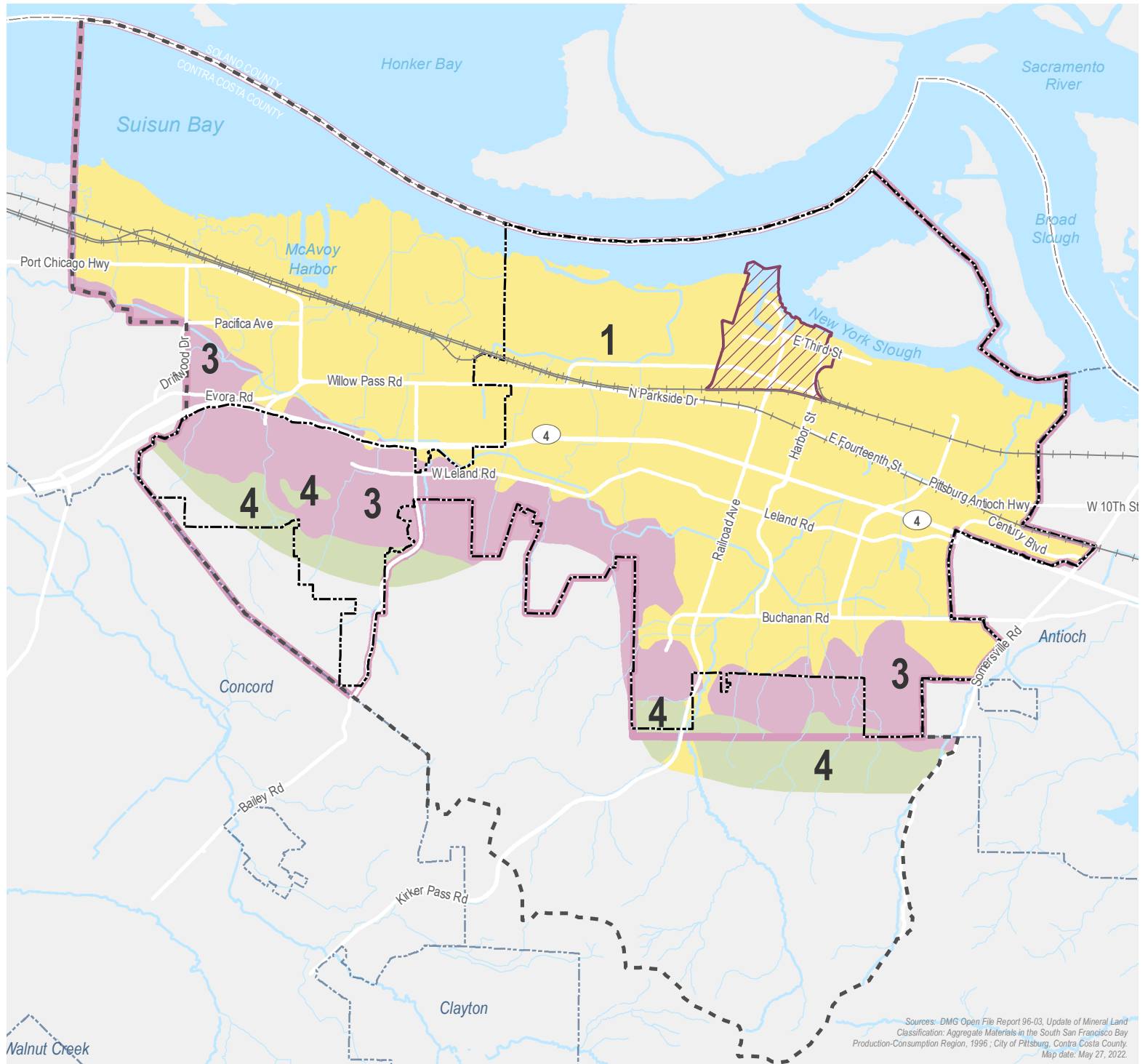
MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence (none within the Pittsburg Planning Area)



MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.



MRZ-4: Areas where available information is inadequate for assignment to any other MRZ zone



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This section provides a discussion of the regulatory setting and a general description of existing noise sources in the City of Pittsburg. The analysis of potential noise-related impacts in this section was prepared with assistance from Saxelby Acoustics.

### 3.12.1 ENVIRONMENTAL SETTING

#### KEY TERMS

<b>Acoustics</b>	The science of sound.
<b>Ambient Noise</b>	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
<b>Attenuation</b>	The reduction of noise.
<b>A-Weighting</b>	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
<b>Decibel or dB</b>	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. All dB levels used in this section are A-weighted values, unless otherwise stated.
<b>CNEL</b>	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by + 5 dB and nighttime hours weighted by +10 dB. Typically, 1 dB higher than $L_{dn}$ for transportation noise sources.
<b>Frequency</b>	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
<b>Impulsive</b>	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
$L_{dn}$	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
$L_{eq}$	Equivalent or energy-averaged sound level.
$L_{max}$	The highest root-mean-square (RMS) sound level measured over a given period of time.
<b>L(n)</b>	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
<b>Loudness</b>	A subjective term for the sensation of the magnitude of sound.
<b>Noise</b>	Unwanted sound.
<b>SEL</b>	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event

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## FUNDAMENTALS OF ACOUSTICS

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Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore, be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale (dB) was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in decibel levels correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ( $L_{eq}$ ), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The day/night average level ( $L_{dn}$ ) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because  $L_{dn}$  represents a 24-hour average, it tends to disguise short-term variations in the noise environment. The  $L_{eq}$  is the foundation of the composite noise descriptor,  $L_{dn}$ , and shows very good correlation with community response to noise. CNEL is similar to  $L_{dn}$  but



includes a +3-dB penalty for evening noise. Table 3.12-1 lists several examples of the noise levels associated with common situations.

**TABLE 3.12-1: TYPICAL NOISE LEVELS**

<i>COMMON OUTDOOR ACTIVITIES</i>	<i>NOISE LEVEL (DBA)</i>	<i>COMMON INDOOR ACTIVITIES</i>
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

NOTES: FT = FEET. M = METERS

## EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

## 3.12 NOISE

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

### EXISTING NOISE LEVELS

#### Traffic Noise Levels

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop  $L_{dn}$  (24-hour average) noise contours for all highways and major roadways in the Planning Area. The model is based upon the California Vehicle Noise (CALVENO) noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA model predicts hourly  $L_{eq}$  values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 dB. To predict  $L_{dn}$  values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the Planning Area. Day/night traffic distributions were based upon continuous hourly noise measurement data and Saxelby Acoustics file data for similar roadways. The California Department of Transportation (Caltrans) vehicle truck counts were obtained for SR-4. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.12-2 shows the results of this analysis.

**TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS**

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (dB, $L_{DN}$ ) <sup>1</sup>	DISTANCES TO TRAFFIC NOISE CONTOURS, $L_{DN}$ (FEET)		
			70 dB	65 dB	60 dB
SR-4	W/O Bailey Road	63	471	1014	2185
SR-4	W/O Railroad Ave	66	451	972	2094
SR-4	E/O Railroad Ave	66	420	905	1949
SR-4	E/O Loveridge Ave	67	407	876	1887
Bailey Road	N/O Leland Ave	56	27	59	127
West Leland Road	E/O Range Rd	60	35	75	161

ROADWAY	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, L <sub>DN</sub> ) <sup>1</sup>	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
			70 DB	65 DB	60 DB
East Leland Road	E/O Harbor Street	62	43	92	198
Railroad Avenue	N/O Buchanan Road	63	25	54	117
Railroad Avenue	N/O California Avenue	64	49	106	229
California Avenue	E/O Railroad Avenue	69	40	86	186
W 10 <sup>th</sup> Street	W/O Herb White Way	66	20	44	94
10 <sup>th</sup> Street	E/O Railroad Avenue	60	16	35	76
Willow Pass Road	W/O Bailey Road	58	23	50	108
Willow Pass Road	W/O Range Road	60	39	84	181
Harbor Street	S/O SR-4	62	25	54	117
Harbor Street	N/O Buchanan Road	63	24	53	113
Atlantic Avenue	E/O Railroad Avenue	66	27	58	124
Loveridge Road	N/O California Avenue	43	38	81	175
Loveridge Road	N/O Buchanan Road	65	28	60	130
Buchanan Road	E/O Harbor Street	57	28	61	131
Pittsburg Antioch Highway	E/O Loveridge Avenue	45	38	81	176
E 14 <sup>th</sup> Street	W/O Pittsburg Antioch Highway	60	10	22	48
Kirker Pass Road	S/O Buchanan Rd	65	59	127	274
Somersville Road	N/O Century Boulevard	51	24	52	113
Solari Street	S/O E 10 <sup>th</sup> Street	57	6	14	30
Evora Road	W/O Willow Pass Road	31	36	77	165
E 3rd Street	E/O Railroad Avenue	56	5	12	25
N Parkside Drive	E/O Range Road	60	27	59	127

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.

<sup>1</sup> TRAFFIC NOISE LEVELS ARE PREDICTED AT THE CLOSEST SENSITIVE RECEPTORS OR AT A DISTANCE OF 100 FEET IN COMMERCIAL/RETAIL AREAS.

SOURCE: TJKM, CALTRANS, SAXELBY ACOUSTICS (2023).

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Planning Area roadway segment. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the Planning Area roadway segments analyzed in this section.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated

roadways, or elevated receivers. The distances reported in Table 3.12-2 are generally considered to be conservative estimates of noise exposure along roadways in the City of Pittsburg.

### Railroad Noise Levels

In order to quantify noise exposure from existing train operations, continuous (24-hour) noise level measurement surveys were conducted along the Union Pacific Railroad (UPRR) lines which run along the north side of the City. In addition to freight, the line also carries Amtrak commuter trains.

The purpose of the noise level measurements was to determine typical sound exposure levels (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns and other factors which may affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train events so that the typical number of train operations could be determined.

Table 3.12-3 shows a summary of the continuous noise measurement results for railroad activity within the City.

**TABLE 3.12-3: RAILROAD NOISE MEASUREMENT RESULTS**

MEASUREMENT LOCATION	RAILROAD TRACK	GRADE CROSSING / WARNING HORN	TRAIN EVENTS PER 24-HOUR PERIOD	AVERAGE SEL AT 165 FEET
LT-1	U.P. and Amtrak	Yes	24	97 dBA

SOURCE: SAXELBY ACOUSTICS, 2019.

Noise measurement equipment consisted of Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the day/night average ( $L_{dn}$ ) railroad contours, it is necessary to calculate the  $L_{dn}$  for typical train operations. This was done using the SEL values and above-described number and distribution of daily train operations. The  $L_{dn}$  may be calculated as follows:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean Sound Exposure Level of the event,  $N_{eq}$  is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day, plus 10 times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the  $L_{dn}$  value for railroad line operations have been calculated, and the distances to the  $L_{dn}$  noise level contours are shown in Table 3.12-4.

**TABLE 3.12-4: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS**

EXTERIOR NOISE LEVEL AT 100 FEET, <i>L</i> <sub>DN</sub>	DISTANCE TO EXTERIOR NOISE LEVEL CONTOURS, FEET		
	60 dB <i>L</i> <sub>DN</sub>	65 dB <i>L</i> <sub>DN</sub>	70 dB <i>L</i> <sub>DN</sub>
U.P. AND A.C.E LINE WITH WARNING HORNS			
70 dB	461'	214'	99'

SOURCE: SAXELBY ACOUSTICS, 2019.

### Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have the potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

In the City, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (heating ventilation and air conditioning [HVAC], exhaust fans, etc.)

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified music and voice

## 3.12 NOISE

The types of uses which may typically produce the noise sources described above, include, but are not limited to wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields. Typical noise levels associated with various types of stationary noise sources are shown in Table 3.12-5.

**TABLE 3.12-5: TYPICAL STATIONARY SOURCE NOISE LEVELS**

USE	NOISE LEVEL AT 100 FEET, $L_{EQ}^1$	DISTANCE TO NOISE CONTOURS, FEET			
		50 DB $L_{EQ}$ (NO SHIELDING)	45 DB $L_{EQ}$ (NO SHIELDING)	50 DB $L_{EQ}$ (WITH 5 DB SHIELDING)	45 DB $L_{EQ}$ (WITH 5 DB SHIELDING)
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

NOTE: <sup>1</sup> ANALYSIS ASSUMES A SOURCE-RECEIVER DISTANCE OF APPROXIMATELY 100 FEET, NO SHIELDING, AND FLAT TOPOGRAPHY. ACTUAL NOISE LEVELS WILL VARY DEPENDING ON SITE CONDITIONS AND INTENSITY OF THE USE. THIS INFORMATION IS INTENDED AS A GENERAL RULE ONLY AND IS NOT SUITABLE FOR FINAL SITE-SPECIFIC NOISE STUDIES.

SOURCE: SAXELBY ACOUSTICS 2023.

### COMMUNITY NOISE SURVEY

A community noise survey was conducted to document ambient noise levels at various locations throughout the city. Short-term noise measurements were conducted at six locations throughout the City on June 24 and 26, 2019. In addition, three continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends. The data collected included the hourly average ( $L_{eq}$ ), median ( $L_{50}$ ), and the maximum level ( $L_{max}$ ) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.12-6 and Table 3.12-7. Figure 3.12-1 shows the locations of the noise monitoring sites.

**TABLE 3.12-6: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS**

SITE	LOCATION	LDN (DBA)	MEASURED HOURLY NOISE LEVELS, DBA LOW-HIGH (AVERAGE)					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM - 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
LT-1	Americana Park 50 ft. from centerline of North Parkside Dr.	70	67	63	83	63	56	79
LT-2	Ambrose Park 250 ft. from median of CA-4 / BART	75	70	70	82	68	66	79
LT-3	Los Medanos College 40 ft. from median of East Leland Rd.	70	69	64	87	61	56	78
LT-4	Kirker Pass Rd. at Castlewood Dr., 60 feet from centerline of Kirker Pass Rd. (collected 06/25/2019)	68	65	62	83	61	54	78

SOURCE: SAXELBY ACOUSTICS, 2019.

**TABLE 3.12-7: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS**

SITE	LOCATION	TIME <sup>1</sup>	MEASURED SOUND LEVEL, DB			NOTES
			L <sub>EQ</sub>	L <sub>50</sub>	L <sub>MAX</sub>	
ST-1	Larry Lasater Park	3:30 p.m.	47	45	60	Primary noise source is traffic on Rancho Bernado Dr. Secondary noise source is activity from neighboring schools.
ST-2	Lynbrook Park	3:50 p.m.	55	50	74	Primary noise source is traffic on Kevin Dr. Secondary noise source is activity from park-goers.
ST-3	California Seasons Park	10:47 a.m.	55	50	74	Primary noise source is train horn from adjacent railway. Secondary noise source is activity from traffic on Winter Way and park-goers.
ST-4	Columbia Linear Park	11:37 a.m.	52	50	58	Primary noise source is traffic on Winter Way. Secondary noise source is traffic on Pittsburg Antioch Hwy.
ST-5	Buchanan Park	8:08 a.m.	50	48	65	Primary noise source is traffic on Yosemite Drive and Harbor Street. Secondary sources include park-goers and wildlife.
ST-6	Highlands Ranch Park	8:31 a.m.	48	48	57	Primary source of noise is traffic on Rangewood Drive. Secondary sources include park-goers and traffic on Buchanan Road.
ST-7	Markley Creek Park	1:05 p.m.	45	44	52	Primary source of noise is traffic on Summit Way. Secondary noise source is construction in adjacent vacant field north of park boundary.

NOTE: <sup>1</sup> ALL COMMUNITY NOISE MEASUREMENT SITES HAVE TEST DURATIONS OF 10:00 MINUTES.

SOURCE: SAXELBY ACOUSTICS, 2019.

Community noise monitoring equipment included LDL Model 812, 820, and 831 precision integrating sound level meters equipped with LDL half-inch microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

The results of the community noise survey shown in Tables 3.12-6 and 3.12-7 indicate that existing transportation noise sources were the major contributor of noise observed during daytime hours, especially during vehicle passbys.

### 3.12.2 REGULATORY SETTING

#### FEDERAL

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##### **Federal Highway Administration (FHWA)**

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

##### **Environmental Protection Agency (USEPA)**

The USEPA has identified the relationship between noise levels and human response. The USEPA has determined that over a 24-hour period, a  $L_{eq}$  of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at a  $L_{eq}$  of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The USEPA has set 55 dBA  $L_{dn}$  as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA  $L_{dn}$ , have generally agreed on the 65 dBA  $L_{dn}$  level as being appropriate for residential uses. At 65 dBA  $L_{dn}$  activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA  $L_{dn}$  or less: an acceptable zone where all projects could be approved.



- Exceeding 65 dBA  $L_{dn}$  but not exceeding 75 dBA  $L_{dn}$ : a normally unacceptable zone where mitigation measures would be required, and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA  $L_{dn}$  area and 10 dBA of attenuation in a 70 to 75 dBA  $L_{dn}$  area.
- Exceeding 75 dBA  $L_{dn}$ : an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA  $L_{dn}$  is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA  $L_{dn}$  or less, the interior level will be 45 dBA  $L_{dn}$  or less. Thus, structural attenuation is assumed at 20 dBA. However, HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

## STATE

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### **California Department of Transportation**

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

### **Governor's Office of Planning and Research (OPR)**

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2003). The guidelines include land use compatibility guidelines for noise exposure.

## LOCAL

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### **Pittsburg Municipal Code**

Chapter 9.44, Noise, of the City's Municipal Code outlines the following noise prohibitions:

It is unlawful for any person to make, continue or cause to be made or continued any noise which either unreasonably annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of others, within the limits of the city. The following acts, among others, are declared to be unreasonably loud, disturbing and endangering noises in violation of this chapter, but the enumeration shall not be deemed to be exclusive, namely:

- A. Horns and Signaling Devices. The sounding of any horn or signaling device on any automobile, motorcycle or other vehicle on any street or public place of the city, except as a danger warning; the creation by means of any such signaling device of any unreasonably loud or harsh sound; and the sounding of any such device for an unnecessary and unreasonable period of time;
- B. Radios, Television Sets and Mechanical Devices. The using, operating, or permitting to be played, used or operated of any radio receiving set, television set, jukebox, musical instrument, phonograph or other machine or device for the producing or reproducing of sound in such manner as to disturb the peace, quiet and comfort of the neighboring inhabitants or at any time with louder volume than is necessary for convenient hearing for the person or persons who are in the room, vehicle or chamber in which such machine or device is operated and who are voluntary listeners thereto. The operation of any such set, instrument, phonograph, machine or device between the hours of 11:30 p.m. and 7:00 a.m. in such a manner as to be plainly audible at a distance of 50 feet from the building, structure or vehicle in which it is located shall be prima facie evidence of a violation of this section;
- C. Loudspeakers and Amplifiers for Advertising. The playing, using, operating, or permitting to be played, used, or operated, of any radio receiving set, television, musical instrument, phonograph, loudspeaker, sound amplifier, drum or other machine or device for the producing or reproducing of sound which is cast upon the public streets for the purpose of commercial advertising;
- D. Yelling or Shouting on a Public Street. Yelling, shouting, hooting, whistling or singing on the public streets, particularly between the hours of 11:30 p.m. and 7:00 a.m. or at any time or place so as to annoy or disturb the quiet, comfort or repose of persons in any office, or dwelling, hotel or other type of residence, or of any persons in the vicinity;
- E. Yelling or Shouting in a Building or Structure. Yelling, shouting, hooting, whistling or singing in a private residence or building of public assembly between the hours of 11:30 p.m. and 7:00 a.m. in such a manner as to disturb the peace, quiet and comfort of the neighboring inhabitants. Such yelling, shouting, hooting, whistling or singing plainly audible at a distance of 50 feet from the building or structure in which such yelling, shouting, hooting, whistling or singing is conducted shall be prima facie evidence of a violation of this section;
- F. Animals and Birds. The keeping of any animal or bird which, by causing frequent or long-continued noise, disturbs the comfort or repose of any persons in the vicinity;
- G. Steam Whistles. The blowing of any locomotive, steam or air whistle or steam whistle attached to any stationary boiler, except to give notice of the time to begin or stop work or as a warning of fire or danger, or upon request of proper city authorities;
- H. Exhausts. The discharge into the open air of the exhaust of any steam engine, motorboat, stationary internal combustion engine or motor vehicle, except through a

muffler or other device which will effectively prevent loud or explosive noises therefrom;

- I. Schools, Courts, Churches and Hospitals. The creation of any excessive noise on any street adjacent to any school, institution of learning, church or court while the same is in use, or adjacent to any hospital, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets indicating that the same is a school, hospital, church or court street;
- J. Pile Drivers, Hammers and Similar Equipment. The operation between the hours of 10:00 p.m. and 7:00 a.m. of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other appliance, the use of which is attended by loud or unusual noise, except in case of emergency;
- K. Blowers. The operation of any noise-creating blower or power fan or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler device sufficient to deaden such noise; and
- L. Motor Vehicle Acceleration. The operation of any motor vehicle, and particularly the rapid acceleration thereof, so as to cause loud screeching of tires or excessive motor noises; or the operation of any vehicle motor in a fixed location at, or continually accelerating to, very high speeds, so as to annoy or disturb the quiet, comfort or repose of persons in any office, hotel, dwelling, school, store or public recreation facility. [Ord. 668 C.S. § 12, 1974; 1937 Code § 554.]

### 3.12.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generate excessive groundborne vibration or groundborne noise levels; or
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project

criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions.

TRANSPORTATION NOISE INCREASE CRITERIA

Table 3.12-8 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the  $L_{dn}$ .

**TABLE 3.12-8: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE**

<i>AMBIENT NOISE LEVEL WITHOUT PROJECT, <math>L_{DN}</math></i>	<i>INCREASE REQUIRED FOR SIGNIFICANT IMPACT</i>
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

*SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)*

Based on the Table 3.12-8 data, an increase in the traffic noise level of 1.5 dB or more would be significant where the pre-project noise level exceeds 65 dB  $L_{dn}$ . Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 75 dB  $L_{dn}$ . The rationale for the Table 3.12-8 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

These transportation noise thresholds of significance shown in Table 3.12-8 are established by the proposed General Plan via Policy 13-A-1f.

NON-TRANSPORTATION NOISE INCREASE CRITERIA

Stationary and Non-Transportation Noise Sources - A significant impact will occur if the project results in an exceedance of the noise level standards contained in Table N-3 of the General Plan Noise Element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater.

**Vibration Standards**

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person’s perception of vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.12-9 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v).

**TABLE 3.12-9: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS**

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of “architectural” damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of “architectural” damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize “architectural” damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic but would cause “architectural” damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBOEN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

Construction activities may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams, pile drivers) are used. Construction activities often include demolition of existing structures, excavation, site preparation work, foundation work, and new building framing and finishing.

## 3.12 NOISE

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards.

Table 3.12-10 presents typical vibration levels that could be expected from construction equipment at a distance of 25 to 100 feet. The highest levels of vibration typically occur from pile driving operations. Pile driving vibrations are typically below 0.5 in/sec, PPV at distances of 50 feet or more.

**TABLE 3.12-10: VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT**

<i>TYPE OF EQUIPMENT</i>	<i>P.P.V. @ 25 FEET (INCHES/SECOND)</i>	<i>P.P.V. @ 50 FEET (INCHES/SECOND)</i>	<i>P.P.V. @ 75 FEET (INCHES/SECOND)</i>	<i>P.P.V. @ 100 FEET (INCHES/SECOND)</i>
Pile Drive (Impact)	0.644	0.226	0.124	0.080
Pile Drive (Sonic)	0.170	0.060	0.033	0.021
Large Bulldozer	0.089	0.031	0.017	0.011
Loaded Trucks	0.076	0.027	0.015	0.010
Small Bulldozer	0.003	0.001	0.000	0.000
Auger/Drill Rigs	0.089	0.031	0.017	0.011
Jackhammer	0.035	0.012	0.006	0.004
Vibratory Hammer	0.070	0.025	0.0135	0.009
Vibratory Compactor/Roller	0.210	0.074	0.040	0.026

*SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006*

## IMPACTS AND MITIGATION MEASURES

### **Impact 3.12-1: General Plan implementation may result in exposure to significant traffic noise sources (Less Significant)**

Existing (2022) volumes and proposed 2040 General Plan buildout volumes were obtained from the traffic modeling performed for the Planning Area. Day/night traffic distributions were based upon continuous hourly noise measurement data and Saxelby Acoustics file data for similar roadways. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated using the FHWA model for existing conditions.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this section. The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers.

Table 3.12-11 shows the future noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed 2040 General Plan, versus the existing (Baseline 2022) conditions.

**TABLE 3.12-11: EXISTING (2022) VS. PROPOSED 2040 GENERAL PLAN**

ROADWAY	SEGMENT	NOISE LEVELS ( $L_{DN}$ , dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING (2022)	PROPOSED GP	CHANGE	CRITERIA <sup>1</sup>	SIGNIFICANT?
SR-4	W/O Bailey Road	62.7	63.3	0.6	+3.0 dB	No
SR-4	W/O Railroad Avenue	66.3	66.8	0.5	+1.5 dB	No
SR-4	E/O Railroad Avenue	65.8	66.2	0.4	+1.5 dB	No
SR-4	E/O Loveridge Avenue	66.8	67.3	0.5	+1.5 dB	No
Bailey Road	N/O Leland Avenue	55.6	56.5	0.9	+5.0 dB	No
West Leland Road	E/O Range Road	60.4	61.3	0.9	+3.0 dB	No
East Leland Road	E/O Harbor Street	61.8	62.5	0.7	+3.0 dB	No
Railroad Avenue	N/O Buchanan Road	63.4	64.3	0.9	+3.0 dB	No
Railroad Avenue	N/O California Avenue	63.7	65.1	1.4	+3.0 dB	No
California Avenue	E/O Railroad Avenue	68.5	69.2	0.7	+1.5 dB	No
W 10 <sup>th</sup> Street	W/O Herb White Way	65.6	68.8	3.2	+1.5 dB	<b>Yes</b>
10 <sup>th</sup> Street	E/O Railroad Avenue	59.7	62.9	3.2	+5.0 dB	No
Willow Pass Road	W/O Bailey Road	57.9	59.8	1.9	+5.0 dB	No
Willow Pass Road	W/O Range Road	60.3	62.7	2.4	+3.0 dB	No
Harbor Street	S/O SR-4	62.5	63.5	1.0	+3.0 dB	No
Harbor Street	N/O Buchanan Road	63.1	64.2	1.1	+3.0 dB	No
Atlantic Avenue	E/O Railroad Avenue	65.9	67.0	1.1	+1.5 dB	No
Loveridge Road	N/O California Avenue	43.1	43.5	0.4	+5.0 dB	No
Loveridge Road	N/O Buchanan Road	65.0	65.3	0.3	+3.0 dB	No
Buchanan Road	E/O Harbor Street	56.8	57.5	0.7	+5.0 dB	No
Pittsburg Antioch Highway	E/O Loveridge Avenue	44.8	45.3	0.5	+5.0 dB	No
E 14 <sup>th</sup> Street	W/O Pittsburg Antioch Highway	59.7	60.6	0.9	+5.0 dB	No
Kirker Pass Road	S/O Buchanan Road	64.9	65.7	0.8	+3.0 dB	No
Somersville Road	N/O Century Boulevard	51.0	51.0	0.0	+5.0 dB	No
Solari Street	S/O E 10 <sup>th</sup> Street	56.7	60.3	3.6	+5.0 dB	No
Evora Road	W/O Willow Pass Road	31.0	32.6	1.6	+5.0 dB	No
E 3rd Street	E/O Railroad Avenue	55.6	58.4	2.8	+5.0 dB	No
N Parkside Drive	E/O Range Road	59.9	60.9	1.0	+5.0 dB	No

NOTE: <sup>1</sup> WHERE EXISTING NOISE LEVELS ARE LESS THAN 60 DB AN INCREASE OF 5 DB WOULD BE A SIGNIFICANT INCREASE. WHERE EXISTING NOISE LEVELS EXCEED 60 DB BUT ARE LESS THAN 65 DB, AN INCREASE OF 3 DB OR MORE WOULD BE SIGNIFICANT. ADDITIONALLY, ANY INCREASE CAUSING NOISE LEVELS TO EXCEED THE CITY'S NORMALLY ACCEPTABLE 60 DB  $L_{DN}$  NOISE LEVEL STANDARD AT AN EXISTING OUTDOOR ACTIVITY AREA OF A RESIDENTIAL USE WOULD ALSO BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 65 DB, AN INCREASE OF 1.5 DB OR MORE WOULD BE SIGNIFICANT.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS TRANSPORTATION CONSULTANTS, CALTRANS, AND SAXELBY ACOUSTICS 2023.

Buildout of the 2040 General Plan may contribute to an exceedance of the City's transportation noise standards and/or result in significant increases in traffic noise levels at existing sensitive receptors. As indicated by Tables 3.12-11, the related traffic noise level increases with a circulation

system buildout of the proposed 2040 General Plan are predicted to increase between 0.1 to 3.6 dB versus the existing (2022) conditions.

2040 General Plan Policies 13-P-1.1 through 13-P-1.12, and Actions 13-A-1.a through 13-A-1.e, identified below, are intended to minimize exposure to excessive noise, including noise associated with traffic. Specifically, Policies 13-P-1.1 through 13-P-1.5 and Policy 13-P-1.7 support noise-compatible land uses in the vicinity of traffic noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Tables 13-1 and 13-2. The proposed General Plan standards required under Action 13-A-1.e, for exposure to traffic noise meet or exceed the noise level standards of the adopted General Plan.

As shown in Table 3.12-11, the traffic noise increases associated with the proposed 2040 General Plan exceed the applicable test of significance. According to Tables 3.12-11, the noise level increase due to Proposed General Plan Buildout (2040) traffic is predicted to be up to 3.6 dBA  $L_{dn}$ . For the segment of West 10<sup>th</sup> Street, the existing traffic noise level at the nearest sensitive receptor is approximately 65.6 dBA. Therefore, an increase of +1.5 dB would be required to be considered a significant impact. The proposed 2040 General Plan buildout would result in an increase of 3.2 dBA, therefore, would be considered significant under this scenario. All other roadway segments analyzed in the traffic study do not result in significant impacts under the proposed 2040 General Plan Buildout.

In order to reduce the traffic noise levels in areas where levels of significance are exceeded, quiet pavements would be required. Quiet pavements are typically assumed to provide a 3 to 5 dBA reduction. Assuming a minimum reduction of 3 dBA, quiet pavement placed along sensitive receptor areas on West 10th Street between Beacon Street and Herb White Way would reduce this increase to approximately 0.2 dBA. Resulting noise levels would be expected to be in the range of 65.8 dBA  $L_{dn}$ . Approximately 620 feet of quiet pavement would be required. See Figure 3.12-2 for approximate required pavement locations. The use of quiet pavement in the distances and at the locations discussed above is required by Policy 13-P-1.10 of the proposed General Plan.

Therefore, with implementation of Policy 13-P-1.10, traffic noise impacts would be ***less than significant***, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – NOISE ELEMENT**

13-P-1.1: Areas within Pittsburg exposed to existing or projected exterior noise levels from mobile noise sources exceeding the performance standards in Table 13-1 shall be designated as noise-impacted areas. Figure 13-1 identifies noise contours anticipated at General Plan buildout.



**Table 13-1: Maximum Allowable Noise Exposure from Mobile Noise Sources**

Land Use or Project Type <sup>1</sup>	Outdoor Activity Areas <sup>2,3</sup>	Interior Spaces	
		Ldn/CNEL, dBA	Leq, dBA <sup>4</sup>
Residential	60	45	-
Motels/Hotels	65	45	-
Mixed-Use	65	45	-
Hospitals, Nursing Homes	60	45	-
Theaters, Auditoriums	-	-	35
Churches	60	-	40
Office Buildings	65	-	45
Schools, Libraries, Museums	70	-	45
Playgrounds, Neighborhood Parks	70	-	-
Industrial	75	-	45
Golf Courses, Water Recreation	70	-	-

<sup>1</sup>Where a proposed use is not specifically listed, the use shall comply with the standards for the most similar use as determined by the City.

<sup>2</sup>Outdoor activity areas for residential development are considered to be the back yard patios or decks of single family units and the common areas where people generally congregate for multi-family developments. Where common outdoor activity areas for multi-family developments comply with the outdoor noise level standard, the standard will not be applied at patios or decks of individual units provided noise-reducing measures are incorporated (e.g., orientation of patio/deck, screening of patio with masonry or other noise-attenuating material). Outdoor activity areas for non-residential developments are the common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities; not all residential developments include outdoor activity areas.

<sup>3</sup>In areas where it is not possible to reduce exterior noise levels to achieve the outdoor activity area standard using a practical application of the best noise-reduction technology, an increase of up to 10 Ldn over the standard will be allowed provided that available exterior noise reduction measures have been implemented and interior noise levels are in compliance with this table.

<sup>4</sup>Determined for a typical worst-case hour during periods of use.

13-P-1.2 Require development projects, including new uses, to meet the noise standards established in Table 13-1.

13-P-1.3: Require that applicants for noise-sensitive development, such as schools, residences, and hospitals, in areas subject to noise generators producing noise levels greater than 65 dB CNEL, obtain the services of a professional acoustical engineer to provide a technical analysis of noise impacts and measures to reduce noise exposure to acceptable levels.

13-P-1.4: Ensure that new noise-sensitive uses in areas near roadways identified as producing noise levels greater than 65 dB CNEL (see Figure 13-1) incorporate noise reduction measures to ensure that interior noise levels do not exceed 45 dB CNEL.

13-P-1.5: Continue efforts to incorporate noise considerations into land use planning decisions, including measures to control noise at the source through site design, building design, landscaping, hours of operation, and other techniques, for new development deemed to be noise generators, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

13-P-1.6: Encourage criteria such as building design and orientation, wider setbacks, and intense landscaping in lieu of sound walls to mitigate traffic noise along all major corridors, except along State Route 4.

13-P-1.8: Reduce the impact of truck traffic noise on residential areas by limiting such traffic to appropriate truck routes. Consider methods to restrict truck travel times in sensitive areas.

13-P-1.10: To reduce traffic noise increases under General Plan Buildout (2040) to less than +1.50 dB, the following roadway segments shall be paved with quiet pavement:

- West 10th Street between Beacon Street and Herb White Way Approximate pavement locations are shown on Figure 3.12-2.

### ACTIONS – NOISE ELEMENT

13-A-1.a As part of development review, require projects to submit to meet the City's noise standards identified in Policies 13-P-1.1 through 13-P-4 and 13-P-9. Where projects would cause and/or be subject to noise levels in excess of the City's standards, require an acoustical analysis prepared by a qualified acoustical engineer that includes measures to reduce exposure to noise levels in excess of City standards and encourage use of noise-attenuating measures that avoid sound walls, except where uses are affected by State Route 4.

13-A-1.b: Develop noise attenuation programs for mitigation of noise adjacent to existing residential areas, including such measures as wider setbacks, intense landscaping, double-paned windows, and building orientation muffling the noise source, and avoid sound walls where feasible.

13-A-1.c: Work with Caltrans to provide sound walls designed to reduce noise by 10 dB in residential areas along State Route 4.

13-A-1.d: Support implementation of State legislation that requires reduction of noise from motorcycles, automobiles, trucks, trains, and aircraft. Require new residential projects located adjacent to major freeways, truck routes, hard rail lines, or light rail lines to follow the FTA screening distance criteria to ensure that groundborne vibrations do not exceed acceptable levels.

13-A-1.e: In making a determination of impact significance under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels experience a substantial permanent increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;
- When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;
- When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.

Additional or alternative criteria can be used for determining a substantial increase in noise levels. For instance, if the overall increase in noise levels occurs where no noise-sensitive uses are located, then the City may use its discretion in determining if there is any impact at all. In such a case, the following alternative factors may be used for determining a substantial increase in noise levels:

- the resulting noise levels;
- the duration and frequency of the noise;
- the number of people affected;
- conforming or non-conforming land uses;
- the land use designation of the affected receptor sites;
- public reactions or controversy as demonstrated at workshops or hearings, or by correspondence; and
- prior CEQA determinations by other agencies specific to the project.

### **Impact 3.12-2: General Plan implementation may result in exposure to excessive railroad noise sources (Less than Significant)**

Table 3.12-6 indicates that the 60 dBA  $L_{dn}$  railroad noise contours for the UPRR line may extend up to 461 feet from the railroad centerline. Future development located along these railroad lines could, therefore, be exposed to unacceptable exterior noise levels.

Policy 13-P-1.1 through 13-P-1.4 support noise-compatible land uses in the vicinity of railroad noise sources and require that new development and infrastructure projects be reviewed for consistency with the noise standards established in Table 13-1. The proposed General Plan standards required under Policy 13-P-1.1, for exposure to railroad noise meet or exceed the noise level standards of the adopted General Plan. Policy 13-P-1.2 and Action 13-A-1.a would ensure that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels.

Implementation of these General Plan policies and actions would ensure that development allowed under the proposed General Plan is not exposed to noise levels associated with railroad operations in excess of the City's established standards. Therefore, impacts would be **less than significant**, and no mitigation is required.

**GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS**

**POLICIES – NOISE ELEMENT**

13-P-1.1: Areas within Pittsburg exposed to existing or projected exterior noise levels from mobile noise sources exceeding the performance standards in Table 13-1 shall be designated as noise-impacted areas. Figure 13-1 identifies noise contours anticipated at General Plan buildout.

Land Use or Project Type <sup>1</sup>	Outdoor Activity Areas <sup>2,3</sup>	Interior Spaces	
		Ldn/CNEL, dBA	Leq, dBA <sup>4</sup>
Residential	60	45	-
Motels/Hotels	65	45	-
Mixed-Use	65	45	-
Hospitals, Nursing Homes	60	45	-
Theaters, Auditoriums	-	-	35
Churches	60	-	40
Office Buildings	65	-	45
Schools, Libraries, Museums	70	-	45
Playgrounds, Neighborhood Parks	70	-	-
Industrial	75	-	45
Golf Courses, Water Recreation	70	-	-

<sup>1</sup>Where a proposed use is not specifically listed, the use shall comply with the standards for the most similar use as determined by the City.

<sup>2</sup>Outdoor activity areas for residential development are considered to be the back yard patios or decks of single family units and the common areas where people generally congregate for multi-family developments. Where common outdoor activity areas for multi-family developments comply with the outdoor noise level standard, the standard will not be applied at patios or decks of individual units provided noise-reducing measures are incorporated (e.g., orientation of patio/deck, screening of patio with masonry or other noise-attenuating material). Outdoor activity areas for non-residential developments are the common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities; not all residential developments include outdoor activity areas.

<sup>3</sup>In areas where it is not possible to reduce exterior noise levels to achieve the outdoor activity area standard using a practical application of the best noise-reduction technology, an increase of up to 10 Ldn over the standard will be allowed provided that available exterior noise reduction measures have been implemented and interior noise levels are in compliance with this table.

<sup>4</sup>Determined for a typical worst-case hour during periods of use.

13-P-1.2: Require development projects, including new uses, to meet the noise standards established in Table 13-1.

13-P-1.3: Require that applicants for noise-sensitive development, such as schools, residences, and hospitals, in areas subject to noise generators producing noise levels greater than 65 dB CNEL, obtain

the services of a professional acoustical engineer to provide a technical analysis of noise impacts and measures to reduce noise exposure to acceptable levels.

13-P-1.4: Ensure that new noise-sensitive uses in areas near roadways identified as producing noise levels greater than 65 dB CNEL (see Figure 13-1) incorporate noise reduction measures to ensure that interior noise levels do not exceed 45 dB CNEL.

13-P-1.5: Continue efforts to incorporate noise considerations into land use planning decisions, including measures to control noise at the source through site design, building design, landscaping, hours of operation, and other techniques, for new development deemed to be noise generators, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

13-P-1.6: Encourage criteria such as building design and orientation, wider setbacks, and intense landscaping in lieu of sound walls to mitigate traffic noise along all major corridors, except along State Route 4.

#### ACTIONS – NOISE ELEMENT

13-A-1.a: As part of development review, require projects to submit to meet the City's noise standards identified in Policies 13-P-1.1 through 13-P-4 and 13-P-9. Where projects would cause and/or be subject to noise levels in excess of the City's standards, require an acoustical analysis prepared by a qualified acoustical engineer that includes measures to reduce exposure to noise levels in excess of City standards and encourage use of noise-attenuating measures that avoid sound walls, except where uses are affected by State Route 4.

13-A-1.b: Develop noise attenuation programs for mitigation of noise adjacent to existing residential areas, including such measures as wider setbacks, intense landscaping, double-paned windows, and building orientation muffling the noise source, and avoid sound walls where feasible.

13-A-1.c: Work with Caltrans to provide sound walls designed to reduce noise by 10 dB in residential areas along State Route 4.

13-A-1.d: Support implementation of State legislation that requires reduction of noise from motorcycles, automobiles, trucks, trains, and aircraft. Require new residential projects located adjacent to major freeways, truck routes, hard rail lines, or light rail lines to follow the FTA screening distance criteria to ensure that groundborne vibrations do not exceed acceptable levels.

13-A-1.e: In making a determination of impact significance under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels experience a substantial permanent increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;

- When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;
- When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.

Additional or alternative criteria can be used for determining a substantial increase in noise levels. For instance, if the overall increase in noise levels occurs where no noise-sensitive uses are located, then the City may use its discretion in determining if there is any impact at all. In such a case, the following alternative factors may be used for determining a substantial increase in noise levels:

- the resulting noise levels;
- the duration and frequency of the noise;
- the number of people affected;
- conforming or non-conforming land uses;
- the land use designation of the affected receptor sites;
- public reactions or controversy as demonstrated at workshops or hearings, or by correspondence; and
- prior CEQA determinations by other agencies specific to the project.

### **Impact 3.12-3: General Plan implementation could result in the generation of excessive stationary noise sources (Less than Significant)**

Implementation of the General Plan could result in the future development of land uses that generate noise levels in excess of applicable City noise standards for non-transportation noise sources. Such land uses may include commercial area loading docks, industrial uses, HVAC equipment, car washes, daycare facilities, auto repair, and recreational uses. While the General Plan does not specifically propose any new noise generating uses, the Land Use Map includes industrial land use designations, which may result in new noise sources. Specific land uses that would be located in the city are not known at this time. Additionally, noise from existing stationary sources, as identified in the background section of this chapter, will continue to impact noise-sensitive land uses in the vicinity. New projects which may include stationary noise sources such as automotive and truck repair facilities, tire installation centers, car washes, loading docks, corporation yards, parks, and play fields may create noise levels in excess of the City's standards.

While no specific projects are proposed under the General Plan update, changes in land use zoning may allow for more intensive noise-generating uses in closer proximity to noise-sensitive uses. Where this occurs, detailed noise studies would be required to ensure that noise control measures are implemented into the project design. Such measures could include facing loading docks of industrial buildings away from sensitive uses, construction of sound walls or berms between loading docks and sensitive uses, using buildings to create additional buffer distance and screening, or other site design measures to ensure that non-transportation (stationary) noise sources do not cause exterior noise levels to exceed allowable standards at sensitive receptors.

For example, a typical busy loading dock for a warehouse might generate noise levels of approximately 66 dBA  $L_{eq}$  at a distance of 100 feet, as shown in Table 3.12-5. This would exceed the

City’s proposed stationary noise standards of 55 dBA  $L_{eq}$  (daytime) and 45 dBA  $L_{eq}$  (nighttime). Construction of a 12-foot-tall sound wall would reduce loading dock noise levels to approximately 53 dBA  $L_{eq}$  (Appendix D-1). For a daytime use loading dock, this would be sufficient to meet the City’s 55 dBA  $L_{eq}$  daytime noise standard. For a loading dock which requires nighttime operation, a sound wall would not be sufficient to achieve the 45 dBA  $L_{eq}$  nighttime noise standard. To achieve the nighttime noise standard, the distance from the loading dock would need to be increased to 250 feet for the 12-foot-tall wall to achieve the 45 dBA  $L_{eq}$  nighttime standard (Appendix D-2). Alternatively, the loading docks could face internal to the project site and the industrial building could be used to screen loading dock noise. In this case the loading dock could be located 150 feet from a sensitive receptor, assuming it was screened by a 20-foot-tall building (Appendix D-3). This would achieve the City’s 45 dBA  $L_{eq}$  nighttime noise standard. While this is just a theoretical scenario, it illustrates that use of site design measures, screening walls, etc. can be sufficient to achieve compliance with the City’s stationary noise standards, even when more intensive uses are proposed in closer proximity to sensitive receptors.

The General Plan includes policies and actions that are intended to reduce noise associated with stationary sources. Specifically, Policy 13-P-1.9 and Actions 13-A-1.a and 13-A-1.b. would ensure that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels.

Implementation of the proposed policies and actions of the General Plan will reduce noise impacts from stationary noise sources to a **less than significant** level, and no mitigation is required.

**GENERAL PLAN POLICIES AND ACTIONS THAT MINIMIZE THE POTENTIAL FOR IMPACTS**

**POLICIES – NOISE ELEMENT**

13-P-1.9: Evaluate projects for stationary noise source impacts based on the standards in Table 13-2:

TABLE 13-2: Performance Standards For Stationary Noise Sources, Including Affected Projects <sup>1,2,3,4</sup>		
Noise Level Descriptor	Daytime (7 AM to 10 PM)	Nighttime (10 PM to 7 AM)
Hourly Leq, dBA	55	45

Notes:

<sup>1</sup> Each of the noise levels specified above should be lowered by 5 dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered to be particularly annoying and are a primary source of noise complaints.

<sup>2</sup> No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

<sup>3</sup> Stationary noise sources which are typically of concern include, but are not limited to, the following:

- HVAC Systems
- Pump Stations
- Emergency Generators
- Steam Valves
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Boilers
- Steam Turbines

<i>Generators</i>	<i>Fans</i>
<i>Air Compressors</i>	<i>Heavy Equipment</i>
<i>Conveyor Systems</i>	<i>Transformers</i>
<i>Pile Drivers</i>	<i>Grinders</i>
<i>Drill Rigs</i>	<i>Gas or Diesel Motors</i>
<i>Welders</i>	<i>Cutting Equipment</i>
<i>Outdoor Speakers</i>	<i>Blowers</i>

<sup>4</sup> *The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities, pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.*

**ACTIONS – NOISE ELEMENT**

13-A-1.a: As part of development review, require projects to submit to meet the City’s noise standards identified in Policies 13-P-1.1 through 13-P-4 and 13-P-9. Where projects would cause and/or be subject to noise levels in excess of the City’s standards, require an acoustical analysis prepared by a qualified acoustical engineer that includes measures to reduce exposure to noise levels in excess of City standards and encourage use of noise-attenuating measures that avoid sound walls, except where uses are affected by State Route 4.

13-A-1.b: Develop noise attenuation programs for mitigation of noise adjacent to existing residential areas, including such measures as wider setbacks, intense landscaping, double-paned windows, and building orientation muffling the noise source, and avoid sound walls where feasible.

**Impact 3.12-4: General Plan implementation may result in an increase in construction noise sources (Significant and Unavoidable)**

New development, maintenance of roadways, and installation of public utilities and infrastructure generally require construction activities. These activities include the use of heavy equipment and impact tools. Table 3.12-12 provides a list of the types of equipment which may be associated with construction activities, and their associated noise levels.

Activities involved in construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance. However, the proposed 2040 General Plan includes policies and actions that are intended to reduce noise associated with construction noise (listed below). Specifically, Policy 13-P-1.7 would reduce noise associated with construction noise.

Additionally, it is noted that City’s Municipal Code Chapter 9.44, Noise, regulates construction noise in order to ensure that construction noise is limited to certain daytime hours. As discussed previously, operation between the hours of 10:00 p.m. and 7:00 a.m. of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other appliance, the use of which is attended by loud or unusual noise, except in case of emergency. However, even with implementation of Policy 13-P-1.7 and complying with the City’s Municipal Code regulations to reduce construction noise, there remains the potential for future development and redevelopment projects to generate temporary construction noise in excess of City standards, which may cause



temporary nuisance noise impacts to adjacent land uses. As such, this impact is considered **significant and unavoidable**, and no additional feasible mitigation is available that would reduce this impact to a less than significant level.

**TABLE 3.12-12: CONSTRUCTION EQUIPMENT NOISE**

TYPE OF EQUIPMENT	PREDICTED NOISE LEVELS, LMAX DB				DISTANCES TO NOISE CONTOURS (FEET)	
	NOISE LEVEL AT 50'	NOISE LEVEL AT 100'	NOISE LEVEL AT 200'	NOISE LEVEL AT 400'	70 DB LMAX CONTOUR	65 DB LMAX CONTOUR
Backhoe	78	72	66	60	126	223
Compactor	83	77	71	65	223	397
Compressor (air)	78	72	66	60	126	223
Concrete Saw	90	84	78	72	500	889
Dozer	82	76	70	64	199	354
Dump Truck	76	70	64	58	100	177
Excavator	81	75	69	63	177	315
Generator	81	75	69	63	177	315
Jackhammer	89	83	77	71	446	792
Pneumatic Tools	85	79	73	67	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. SAXELBY ACOUSTICS, LLC 2019.

**GENERAL PLAN POLICY THAT MINIMIZES THE POTENTIAL FOR IMPACTS**

POLICY – NOISE ELEMENT

13-P-1.7: Limit generation of loud noises on construction sites adjacent to existing development to normal business hours between 8:00 AM and 5:00 PM.

**Impact 3.12-5: General Plan implementation may result in exposure to excessive aircraft noise sources (Less than Significant)**

Single-event noise associated with aircraft overflights is also of concern when evaluating aircraft noise effects in terms of land use compatibility. Single-event noise is the maximum sound level produced by an individual approach overflight at a specific location, often described in terms of L<sub>max</sub>, which is the maximum sound level recorded for each event. A different measurement is single-event noise, also commonly used when evaluating aircraft noise, is the SEL. The SEL describes the event's mean energy level over the duration of the noise event. As would be expected, single-event noise levels for aircraft overflights within the Planning Area would be greatest and most frequent near the airport's primary flight paths.

The General Plan includes policies and actions intended to reduce noise impacts throughout the City. Specifically, General Plan Policy 13-P-1.1 and Action 13-A-1.d, identified below, are intended to minimize exposure to excessive noise, including noise associated with aircraft noise sources. Specifically, Policies 13-P-1.1 support noise-compatible land uses in the vicinity of aircraft noise sources and require that new development projects be reviewed for consistency with the noise standards established in Figure 12-3. The proposed General Plan standards required under Policy

13-P-1.1, for exposure to aircraft noise meet or exceed the noise level standards of the adopted General Plan.

With the implementation of the General Plan policy and action listed below, the noise impact relative to airports would be **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICY AND ACTION THAT MINIMIZE THE POTENTIAL FOR IMPACTS**

#### POLICY – NOISE ELEMENT

13-P-1.1: Require development projects, including new uses, to meet the noise standards established in Table 13-1.

#### ACTION – NOISE ELEMENT

13-A-1.d: Support implementation of State legislation that requires reduction of noise from motorcycles, automobiles, trucks, trains, and aircraft. Require new residential projects located adjacent to major freeways, truck routes, hard rail lines, or light rail lines to follow the FTA screening distance criteria to ensure that groundborne vibrations do not exceed acceptable levels.

### **Impact 3.12-6: General Plan implementation may result in construction vibration (Less than Significant)**

Construction activities accommodated by the 2040 General Plan may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels may also occur on some project sites and vibratory pile driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

While typical construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors located further than 25-feet, should pile driving be required within 50 feet of an existing structure, these impacts may be considered significant. The proposed General Plan does not include any goals and policies relating to construction vibration.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards.

Table 3.12-12 data indicate that construction vibration levels anticipated for typical project construction are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 100 feet. Most project construction would likely occur at distances greater than 100 feet from sensitive receptors.

However, projects that require the use of pile drivers may result in vibration levels that exceed the vibration threshold of 0.5 in/sec p.p.v., which has the potential for damage to existing buildings and annoyance to sensitive receptors could occur at distances less than 100 feet.

The proposed General Plan includes policies to reduce construction vibration impacts. Specifically, Policy 13-P-1.11 requires the preparation of ground-borne vibration studies by qualified professionals when construction activities include vibration-sensitive uses and significant site grading, foundation work, or underground work would occur within less than 100 feet of existing structures. Additionally, Policy 13-P-1.12 requires development projects to reduce adverse construction vibration impacts to sensitive receptors, as feasible, when vibration-related construction activities are to occur within 100 feet from existing sensitive receptors. Therefore, with implementation of proposed General Plan Policies 13-P-1.11 and 13-P-1.12, construction vibration would be **less-than-significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES THAT MINIMIZE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – NOISE ELEMENT**

13-P-1.11: Require the preparation of ground-borne vibration studies by qualified professionals when construction activities include vibration-sensitive uses and significant site grading, foundation work, or underground work would occur within less than 100 feet of existing structures.

13-P-1.12: Require development projects to reduce adverse construction vibration impacts to sensitive receptors, as feasible, when vibration-related construction activities are to occur within 100 feet from existing sensitive receptors. Measures to reduce noise and vibration effect may include, but are not limited to:

- Phase demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.
- The pre-existing condition of all buildings within a 100-foot radius will be recorded in order to evaluate damage from construction activities. Fixtures and finishes within a 100-foot radius of construction activities susceptible to damage will be documented (photographically and in writing) prior to construction. All damage will be repaired back to its pre-existing condition.
- Substituting vibration-generating equipment with equipment or procedures that would generate lower levels of vibration. For instance, in comparison to impact piles, drilled piles or the use of a sonic or vibratory pile driver are preferred alternatives where geological conditions would permit their use.
- Other specific measures as they are deemed appropriate by the implementing agency to maintain consistency with adopted policies and regulations regarding vibration.

### **Impact 3.12-7: General Plan implementation may result in exposure to groundborne vibration (Less than Significant)**

Development accommodated by the 2040 General Plan could expose persons to excessive groundborne vibration levels attributable to trains. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time; however, such uses located in close proximity to railroad tracks could be exposed to ground vibration levels exceeding FTA guidelines.

The proposed General Plan includes Action 13-A-1.d which requires that individual development projects undergo project-specific environmental review and address potential vibration impacts associated with railroad operations. If project-level significant vibration impacts are identified, specific mitigation measures will be required under CEQA. The implementation of this policy would limit potential groundborne vibrations associated with railroad operations to a **less than significant** level, and no mitigation is required.

### **GENERAL PLAN ACTION THAT MINIMIZES THE POTENTIAL FOR IMPACTS**

#### ACTION – NOISE ELEMENT

13-A-1.d: Support implementation of State legislation that requires reduction of noise from motorcycles, automobiles, trucks, trains, and aircraft. Require new residential projects located adjacent to major freeways, truck routes, hard rail lines, or light rail lines to follow the FTA screening distance criteria to ensure that groundborne vibrations do not exceed acceptable levels.

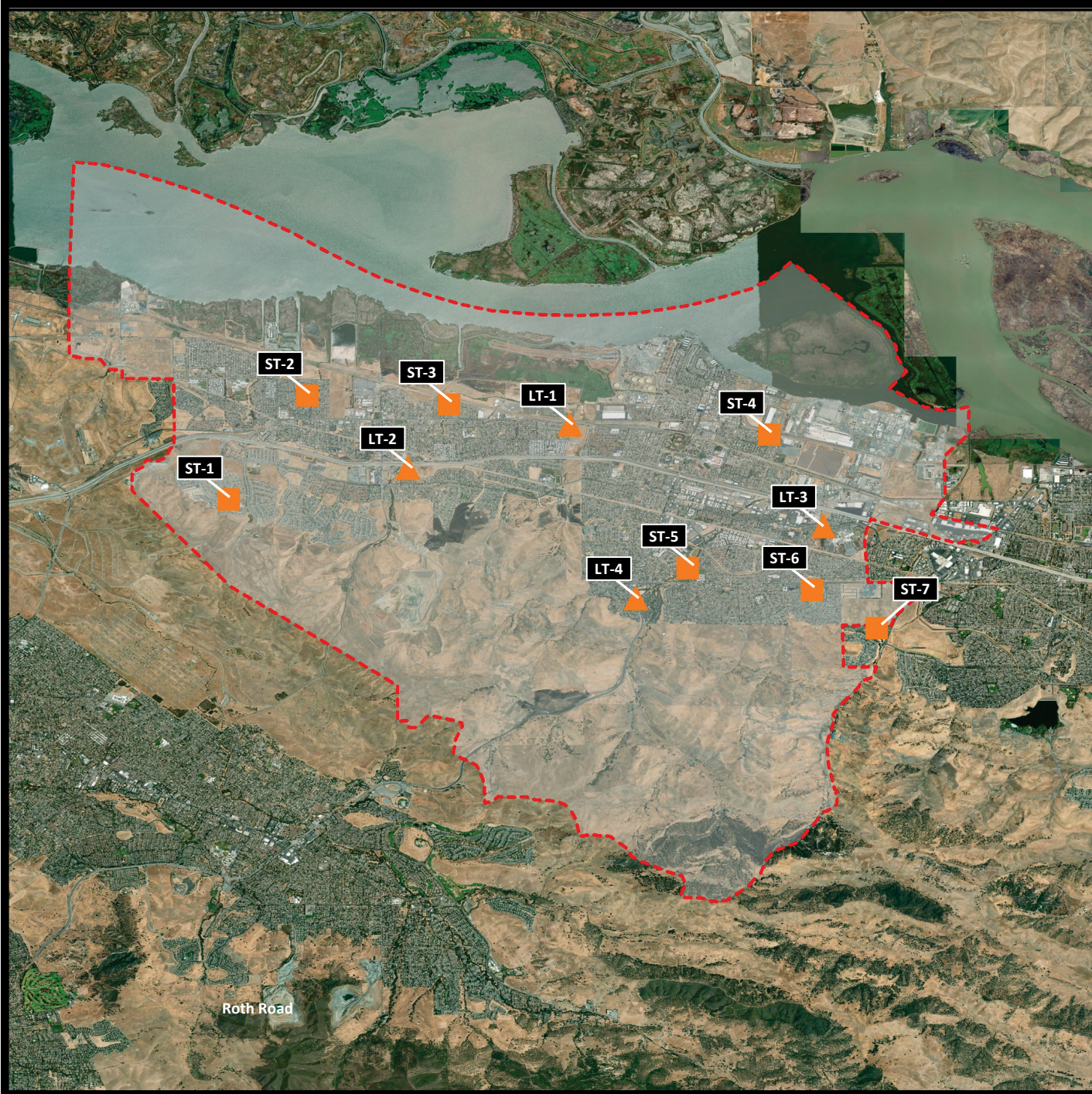


# Pittsburg General Plan




City of Pittsburg, California

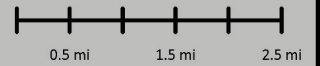
Figure 3.12-1

## Noise Measurement Locations



### Legend

-  City of Pittsburg Planning Area
-  Noise Measurement Site - Long Term
-  Noise Measurement Site - Short Term



Projection: Geographic (Latitude/Longitude) / WGS84 / arc degrees  
Rev. Date: 10/20/2023





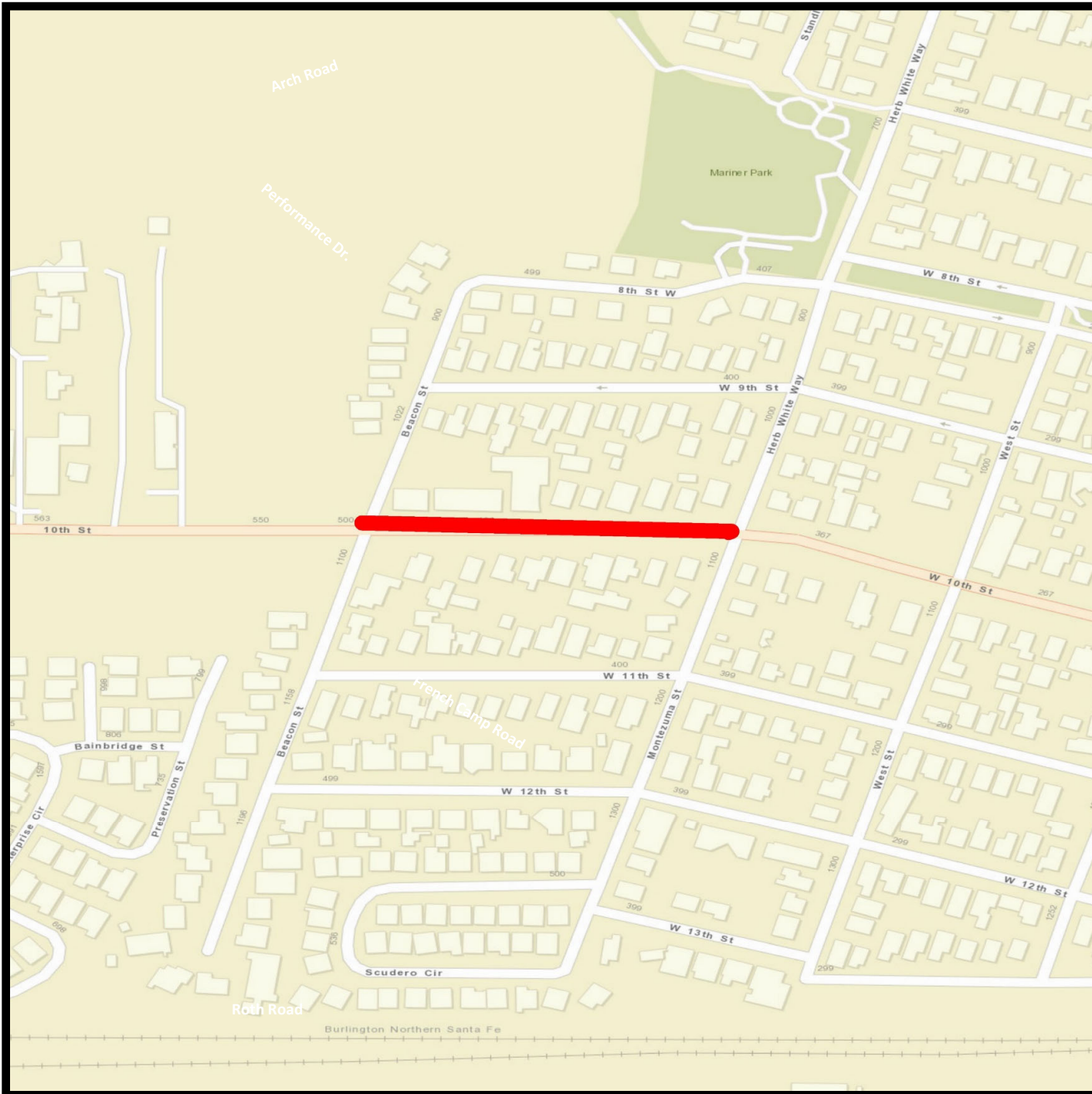
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# Pittsburg General Plan


City of Pittsburg, California

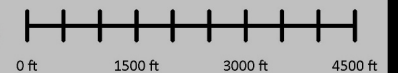
Figure 3.12-2

Required Quiet Pavement Location



## Legend

 Recommended Quiet Pavement



Projection: State Plane (California Zone 3) / NAD83 / meters  
Rev. Date: 01/22/2021



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Public services such as fire and police protection are vital to maintaining a safe and healthy community. Educational services serve as a foundation for providing citizens with the skills and resources to excel today and in the future. There are many other public services that are important to a community, such as parks and recreational opportunities, libraries, museums, hospitals, and other healthcare facilities.

This section provides a background discussion and analysis of fire protection services, police services, schools, parks and recreational facilities, libraries, and other community facilities and services. This section is organized with an existing setting, regulatory setting, and impact analysis.

Utilities services, including water, sewer, and solid waste disposal are addressed in Chapter 3.15 (Utilities and Service Systems) of this Draft EIR.

Comments on this environmental topic received during the NOP comment period include the following: East Bay Regional Park District (May 20, 2022) and Mount Diablo Unified School District (May 4, 2022).

### 3.13.1 EXISTING CONDITIONS

#### FIRE PROTECTION SERVICES

The Contra Costa County Fire Protection District (CCCFPD) provides fire protection services to the Pittsburg Planning Area. The CCCFPD boundaries encompass the central and northern portions of Contra Costa County (CCC), extending from the City of Antioch in the east to the eastern border of the City of Richmond in the west, and as far south as the northern border of the City of Moraga. The CCCFPD has a boundary area of approximately 257 square miles. The CCCFPD provides fire suppression (structural, vehicle, and vegetation fires) and prevention, Advanced Life Support (ALS) for medical emergencies, rescue, dispatch, initial hazardous materials response, fire inspection, plan review, and education. The CCCFPD has 25 fire stations and employs 288 professional firefighters across its service area.

The CCCFPD has three fire stations within the Pittsburg City limits (Stations 84, 85, and 87) and one station (Station 86) the Bay Point Area within the SOI. CCCFPD fire station locations within the City and surrounding area are shown in Figure 3.13-1. Each fire station is staffed with three personnel 24 hours a day.

Stations are generally staffed by one captain, one engineer, and one firefighter. The CCCFPD employs 11 Battalion chiefs, one Fire Chief, one Deputy Chief, four Assistant Fire Chiefs and one Fire Marshall. The CCCFPD maintains a minimum daily staffing of 82 personnel, and the total number of employees within the CCCFPD, including both sworn and non-sworn employees, is currently 333 individuals. In 2018, the CCCFPD received over 60,000 emergency and non-emergency calls for service. The CCCFPD's current response time goal for emergency and non-emergency calls is five minutes for 90 percent of all calls received. According to CCCFPD, the average ambulance response time, as of 2018, was 4 minutes and 38 seconds.

The Insurance Service Office (ISO), an advisory organization, classifies fire service in communities from 1 to 10, indicating the general adequacy of coverage. Communities with the best systems for water distribution, fire department facilities, equipment and personnel and fire alarms and communications, receive a rating of 1. CCCFPD has an ISO rating of 3.

### **Fire Stations**

Battalion 8 of the CCCFPD provides fire protection and suppression services for the Cities of Pittsburg and Antioch and surrounding unincorporated areas, such as Bay Point.

There are a total of eight stations in the battalion. Four fire stations—Stations 84, 85, 86, and 87—currently serve Pittsburg and Bay Point.

The CCCFPD operates a countywide early warning system for industrial fires. Called the Community Warning System (CWS), sirens installed at industrial facilities automatically sound when an incident occurs. The system alerts residents via television and radio announcements. The CCCFPD Fire Department facility locations within the City are shown on Figure 3.13-1.

### **Fire Concerns**

Areas in Pittsburg representing the greatest risk are in the hills south of the City, which consist of dry grasslands for much of the year. Wildland fires in East Contra Costa County are a continuous threat, with the highest risk occurring during the wildland fire season, from June to October. Much of the threat is due to open grasslands abutting residential developments. Additional information related to local wildfire threats is included in Section 3.16.

## **POLICE PROTECTION SERVICES**

The Pittsburg Police Department (PPD) is responsible for providing law enforcement services in the City, including patrol, crime prevention, parking and traffic control, community awareness, investigations, and temporary holding facilities. The PPD is located at 65 Civic Avenue as shown on Figure 3.13-1. The Department is responsible for community policing, has a Special Weapons and Tactics Team, and conducts Emergency Preparedness training. Similar to other cities, the PPD relies on the Sheriff's Office for search and rescue services and long-term holding facilities, County Animal Control for animal services, and the City of Walnut Creek for bomb squad services. Additionally, PPD contracts with the Sheriff's Office for dispatch services.

### **Organization**

The PPD is organized into Operations and Support Services and contains numerous divisions, special teams and programs as described in detail below. The PPD's 85 sworn police officers serve 72,319 Pittsburg residents in 2018, or approximately one sworn officer for every 850 residents.

#### **PATROL DIVISION**

The PPD Patrol Division is a 24/7 operation with more than 35 officers assigned to one of five patrol shifts. Pittsburg is broken up into five separate beats to provide equal police coverage to the

entire City. The Patrol Division is supported by the Traffic Division, which encompasses three officers plus a supervisor, five School Resource Officers assigned to Pittsburg High School and the Junior High Schools located throughout the City, a Community Response Team that focuses on providing outreach services to our homeless population, as well as five Community Service Specialists who assist with parking enforcement, booking of in custody suspects and investigating certain misdemeanor crimes. Each of the five shifts is supervised by a Sergeant with a Lieutenant, known as a Watch Commander, who oversees all patrol related activity. The Pittsburg Police Department's Patrol Division Statistics are shown in Table 3.13-1 below.

**TABLE 3.13-1: PITTSBURG POLICE DEPARTMENT'S PATROL DIVISION STATISTICS**

	2014	2015	2016	2017	2018
Calls for Service	77,569	76,346	72,426	80,631	80,133
Total Arrests	3,225	3,287	2,805	3,329	2,808
Adult Arrests	3,071	3,146	2,704	3,150	2,687
Juvenile Arrests	154	141	101	179	121

SOURCE: PITTSBURG POLICE DEPARTMENT ANNUAL REPORT 2019

#### TRAFFIC DIVISION

The PPD Traffic Unit is comprised of one sergeant, four officers, and one community service specialist who proactively patrol 346 miles of roadway within the City of Pittsburg. The mission of the Traffic Unit is to ensure the safety of our community who use our roadways by enforcing both the California Vehicle Code and the Pittsburg Municipal Code. Additionally, the Traffic Unit investigates all major collisions that occur in the City. The unit is constantly involved in multi-jurisdictional enforcement operations that occur throughout the year. The Pittsburg Police Department Traffic Unit statistics are shown in Table 3.13-2.

**TABLE 3.13-2: PITTSBURG POLICE DEPARTMENT TRAFFIC UNIT STATISTICS (2017-2018)**

TRAFFIC COLLISION STATISTICS	2017	2018	% OF CHANGE
Total Collisions	456	471	3.3%
Fatal Collisions	7	4	-43.0%
Injury Collisions	174	194	11.5%
DUI Collisions	62	45	-27.4%
Vehicle vs. Pedestrian Collisions	29	32	10.3%

SOURCE: PITTSBURG POLICE DEPARTMENT ANNUAL REPORT 2019

#### INVESTIGATIONS DIVISION

The Investigation Division is tasked with thoroughly investigating serious crimes. Detectives evaluate and prepare criminal cases for appropriate clearance and submission to a prosecutor. The division is comprised of one lieutenant, one sergeant, twelve detectives, a crime scene investigator, a records clerk, a community service specialist and a cold case homicide investigator.

#### OTHER DIVISIONS AND TEAMS

The PPD also operates property and evidence, records, code enforcement, and marine unit divisions, maintains crisis negotiation, canine, bike patrol, mental health evaluation, and

## 3.13 PUBLIC SERVICES AND RECREATION

community response teams, implements a school resource officer program, and has a chaplaincy program. The Code Enforcement Division addresses potential violations of the Pittsburg Municipal Code and their statistics in 2018 are shown in Table 3.13-3.

**TABLE 3.13-3: PITTSBURG POLICE DEPARTMENT CODE ENFORCEMENT DIVISION STATISTICS (2018)**

	COMPLAINTS	VOLUNTARY COMPLIANCE	CITATIONS ISSUED
Public Nuisance	124	53	22
Weeds, Rubbish, Garbage	720	396	124
Zoning Violations	181	85	32
Vehicle Code Violations	2,574	920	785
<b>Totals</b>	<b>3,599</b>	<b>1,454</b>	<b>963</b>

SOURCE: PITTSBURG POLICE DEPARTMENT ANNUAL REPORT 2019

### Crimes by Category in Pittsburg

In 2018, the PPD responded to 80,133 calls for service, which resulted in more than 2,800 arrests. The Federal Bureau of Investigation (FBI) Uniformed Crime Reporting Program began in 1930 and encompasses approximately 14,000 law enforcement agencies nationwide. Participating agencies voluntarily provide crime data to the Department of Justice to generate a standardized and reliable set of crime statistics. By FBI definition, Part I Crime is comprised of the following violent and property crimes: murder, rape, robbery, aggravated assault, burglary, larceny, vehicle theft and arson. Over the past 20 years, Pittsburg has experienced an overall decrease in total Part I Crimes reported. As shown in Table 3.13-4, the majority of crimes committed in Pittsburg consist of property crimes, which have been decreasing since 2016 from 2,000 to 1,660 total crimes in 2019. However, during the five year period from 2015 to-2019, the number of violent crimes has increased from 225 in 2015 to 446 in 2019. Several factors are taken into consideration when looking at crime trends, including population increases, state law implementation, and crime definition updates. The violent crime trend in Pittsburg from 2015 to 2019 may be a direct result of these factors. Pittsburg specifically experienced an increase in the reporting of sexual assaults after the FBI broadened the definition of rape. That change, along with recent public dialogue on sexual assault crimes and the #MeToo movement, has empowered victims to safely speak out about the violence perpetrated against them.

Crime trends in Pittsburg during the period from 2015 to 2019, as reported by the FBI Criminal Justice Information Services Division, are shown in Table 3.13-4 below.

**TABLE 3.13-4: PITTSBURG CRIME STATISTICS (2015-2019)**

CATEGORY/CRIME	2015	2016	2017	2018	2019
Violent Crimes (Homicide, Rape, Robbery, Assault)	225	308	341	416	446
Property Crimes (Burglary, Larceny, Vehicle Theft, Arson)	2,430	2,000	1,795	1,699	1,660

SOURCE: FBI CRIME STATISTICS; [HTTPS://UCR.FBI.GOV/](https://ucr.fbi.gov/).

## PARKS AND RECREATIONAL FACILITIES

### City Parks

The City's Parks and Recreation Department manages the maintenance of the City's 30 park facilities. The Community Development Department is responsible for acquisition and development of park facilities. The primary source of funding for park maintenance comes from the Citywide Landscaping and Lighting Assessment District, developer impact fees, and the General Fund. The City currently maintains a neighborhood and community park standard of five acres per 1,000 residents.

The City's 28 parks consist of approximately 149.1 acres of developed park space. With an approximate population of approximately 72,541 persons, the City's parkland totals approximately 2.1 acres of City parkland per 1,000 residents (excluding trails and County facilities). As such, the City does not currently meet the park standard.

### COMMUNITY PARKS

Community parks are developed primarily to meet the recreational needs of a large portion of the City. Community parks range in size according to purpose, and often feature one-of-a-kind community facilities or natural resources. For example, Riverview Park offers paths and amenities along the Delta waterfront, while Small World Park features small replicas of a fort, mission, railroad ride, lagoon, riverboat, and a full-scale carousel. Community parks, such as Buchanan Park, may also contain a greater variety of recreational facilities, such as swimming pools, community centers, public rest rooms, bocce ball and horseshoe areas, trails, athletic fields, and pond fishing.

### NEIGHBORHOOD PARKS

Neighborhood parks primarily serve a small portion of the city, usually within one-half-mile radius of the park. Neighborhood parks are generally oriented toward the recreational needs of children and youth. For example, Marina Park provides playground equipment, as well as softball, baseball, and soccer fields. All of the City's neighborhood parks are located near collector streets in residential neighborhoods.

### SPECIAL USE PARKS AND TRAILS

In addition to City parks, regional trails provide opportunities for hiking, biking, and jogging along open space corridors throughout the region. The Delta De Anza Regional Trail is a paved multiuse hiking, bicycling and equestrian trail currently spanning over 15 miles of the planned 25-mile length. When completed, the Delta De Anza Regional Trail would generally follow the East Bay Municipal Utility District's corridor and the Contra Costa Water District's canal. The trail also connects the cities of Concord, Bay Point, Pittsburg, Antioch, and Oakley and provides access to Contra Loma Regional Park (and Black Diamond Mines Regional Preserve) through Antioch Community Park. The Black Diamond Mines Regional Preserve offers tours of abandoned coal

## 3.13 PUBLIC SERVICES AND RECREATION

mining tunnels and many miles of hiking trails. The Delta De Anza Regional Trail and the Black Diamond Mines Regional Preserve are under the jurisdiction of the East Bay Regional Park District.

The location of parks within the City is shown on Figure 3.13-1. Table 3.13-5 summarizes the City's park facilities by acreage.

**TABLE 3.13-5: SUMMARY OF LOCAL PARK FACILITIES**

<i>PARK NAME</i>	<i>ACRES</i>
8th Street Greenbelt	3.9
Ambrose Park	6.5
Americana Park	2.2
Buchanan Park	22.9
California Seasons Park	2.4
Central Harbor Park	1.7
Central Park	6.7
City Park	27.6
Columbia Linear Park	4.2
Deanza Park	3.6
Giacomelli Park	2.4
Heritage Park Plaza	0.1
Highlands Park	3.9
Highlands Ranch Park	9.6
Hillsdale Park	3.3
John Buckley Square	2.3
John Henry Johnson Park	8.4
Larry Lasater Park	3.8
Marina Walk Park	1.7
Mariner Park	2.8
Oak Hills Park	8.7
Plaza	0.1
Riverview Park	5.5
Santa Fe Linear Park	2.8
Small World Park Amusement Center	6.8
Stoneman Trailhead	1.8
Village Parks at New York Landing	1.1
Woodland Hills Park	2.5
<b>Total</b>	<b>149.1</b>

*SOURCES: CITY OF PITTSBURG; CONTRA COSTA COUNTY; GOOGLE MAPS (2023).*

### Regional Parks

On a regional scale, the City is located near several recreational areas and facilities, which includes both water-based, and passive recreational opportunities. The location of regional parks and

recreational areas within the Planning Area are shown on Figure 3.13-1. Table 3.13-6 summarizes the local regional facilities by acreage.

**TABLE 3.13-6: SUMMARY OF REGIONAL PARKS AND RECREATIONAL AREAS**

<i>PARK NAME - COUNTY PARKS</i>	<i>ACRES</i>
Baypoint Regional Shoreline	178.96
Black Diamond Mines Regional Preserve	4,627.37
Anuta Park	3.68
Ambrose Park District	8.93
Diablo Rod and Gun Club	8.92
Lynbrook Park	4.03

SOURCES: CITY OF PITTSBURG; CONTRA COSTA COUNTY; GOOGLE MAPS, 2023.

## SCHOOLS

The City of Pittsburg is served by three School Districts:

- Pittsburg Unified School District (PUSD)
- Antioch Unified School District (AUSD)
- Mt. Diablo Unified School District (MDUSD)

PUSD is a K-12 district that serves the community of Pittsburg, California. PUSD is approximately 50 minutes from downtown San Francisco with a direct line on Bay Area Rapid Transit (BART). PUSD has a close relationship with Los Medanos Community College, which is located in Pittsburg.

PUSD serves more than 11,500 students in kindergarten through twelfth grade. PUSD also provides the community with an outstanding public preschool program and award-winning adult education school.

PUSD is comprised of eight elementary schools, three junior high schools, one comprehensive high school, and one alternative education high school. PUSD also includes programs for adult education, independent study programs, alternative learning experiences, and early childhood education. Schools serving the Pittsburg community are provided in Figure 3.13-1. Table 3.13-7 summarizes the public schools serving Pittsburg.

AUSD serves approximately 17,000 students in the City of Antioch, small portions of the City of Oakley, and the eastern-most portions of Pittsburg. Specifically, the eastern-most portions of the City are located within the attendance boundaries of Fremont Elementary School and Turner Elementary School. AUSD is comprised of 15 elementary schools, one virtual academy, four junior high schools, five high schools, one medical high school, and one alternative education high school.

## 3.13 PUBLIC SERVICES AND RECREATION

**TABLE 3.13-7: PUBLIC SCHOOLS SERVING PITTSBURG**

SCHOOL	GRADES SERVED	ADDRESS	ENROLLMENT (2021-2022 SCHOOL YEAR)
<i>ELEMENTARY SCHOOLS</i>			
Parkside	K-5	985 West 17th Street, Pittsburg	577
Marina Vista	K-5	50 East 8th Street, Pittsburg	575
Foothill	K-5	1200 Jensen Drive, Pittsburg	556
Los Medanos	K-5	610 Crowley Avenue, Pittsburg	632
Highlands	K-5	4141 Harbor Street, Pittsburg	484
Heights	TK-5	40 Seeno Street, Pittsburg	517
Shore Acres	K-5	351 Marina Road, Bay Point	413
Rio Vista	K-5	611 Pacifica Ave, Bay Point	446
Delta View	K-5	2916 Rio Verde, Bay Point	569
Fremont	K-5	510 G Street, Antioch	398
Turner	K-5	4207 Delta Fair Boulevard, Antioch	397
<i>JUNIOR/MIDDLE SCHOOLS</i>			
Martin Luther King Jr.	6-8	2012 Carion Court, Pittsburg	700
Rancho Medanos Jr.	6-8	2301 Range Road, Pittsburg	799
Hillview	6-8	333 Yosemite Drive, Pittsburg	905
<i>HIGH SCHOOLS</i>			
Pittsburg	9-12	1750 Harbor Street, Pittsburg	3,637
Black Diamond	9-12	1131 Stoneman Avenue, Pittsburg	187

SOURCES: SCHOOL ACCOUNTABILITY REPORT CARDS FOR PITTSBURG UNIFIED SCHOOL DISTRICT (PUSD), ANTIOCH UNIFIED SCHOOL DISTRICT (AUSD), AND MT. DIABLO UNIFIED SCHOOL DISTRICT (MDUSD).

MDUSD is a public school district in Contra Costa County that currently operates 29 elementary schools, nine middle schools, five high schools, seven alternative school programs and an adult education program. MDUSD is one of the largest school districts in the state. MDUSD covers 150 square miles, including the Cities of Concord and Clayton, as well as most of Pleasant Hill and portions of Walnut Creek, Pittsburg, Lafayette, and Martinez. It also services unincorporated areas, including Pacheco, Clyde, and Bay Point. Specifically, the western-most portions of the City are located within the attendance boundaries of Shore Acres Elementary School, Rio Vista Elementary School, and Delta View Elementary School.

### OTHER PUBLIC FACILITIES

#### Pittsburg Civic Center

The Pittsburg Civic Center includes City Hall and the City's government offices, and it also serves as the center for several other government functions and offices including the Pittsburg Superior Court Courthouse, PPD, the Pittsburg Library, and PUSD offices.

#### Library System

The 10,000-square-foot Vincent A. Davi Memorial Library is the Pittsburg Branch Library of the Contra Costa County Library system. Known as the Pittsburg Library, it is located at 80 Power



Avenue, adjacent to the Civic Center. While Pittsburg Library is owned by the City, it is operated by Contra Costa County Library, with supplemental funding from the City. Pittsburg Library offers a variety of programming for all ages particularly children and teens. In order to meet the needs of Pittsburg's large Spanish speaking community, Pittsburg Library houses adult and children's Spanish language materials, and bilingual staff are on hand. Besides providing a variety of materials in a variety of formats, the Pittsburg Library is home to a large cookbook collection due to an endowment from the Vincent A. Davi family. Access to the internet is also available. The Pittsburg Library Community Meeting Room managed and maintained by the City is also available for rent.

### **Pittsburg Community Center**

The Pittsburg Community Center (Senior Center) is located just off the southwest corner of E. Leland and Harbor Streets, directly across from Small World Park and next to Stoneman Village. This 10,500-square-foot facility houses many activities for seniors, such as wellness services, arts and crafts, and local and regional excursions. The Senior Center has rental spaces available for daily and hourly rentals with a capacity up to 506 people.

### **Marina Community Center**

The Marina Community Center gymnasium hosts a variety of open gym and drop-in sports. The Marina Community Center includes areas for indoor pickleball, basketball, volleyball, fun fitness, and other events. All open gym and drop-in sports are held at the Marina Community Center gymnasium, located at 340 Marina Boulevard in Pittsburg.

## **3.13.2 REGULATORY SETTING**

### **FEDERAL**

There are no Federal regulations applicable to the environmental topics of public services and recreation.

### **STATE**

#### **California Occupational Safety and Health Administration**

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The state passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a

jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

### **California Fire Protection Code**

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

The California Fire Code contains regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of:

- Fire and explosion.
- Dangerous conditions arising from the storage, handling, and use of hazardous materials and devices.
- Hazardous conditions in the use or occupancy of buildings or premises.

The California Fire Code also contains provisions to assist emergency response personnel. These fire-safety-related building standards are referenced in other parts of Title 24. The California Fire Code is a fully integrated code based on the 2021 International Fire Code. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety.

### **California Health and Safety Code**

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

### **National Fire Protection Association (NFPA) 1710**

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one minute or less for at least 90 percent of the alarms

- Turnout time of one minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four minutes or less for the arrival of the first arriving engine company at a fire incident and eight minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident
- Eight minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department)

### **California Code of Regulations**

The California Code of Regulations (CCR) Chapter 4.9, Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project, *Section 65995-65998 (h)* provides that the payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are hereby deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities.

### **Quimby Act**

The Quimby Act (California Government Code Section 66477) states that “the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map.” Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development.

### **California Department of Education**

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the state. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate

this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by State regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

### **The Kindergarten-University Public Education Facilities Bond Act of 2002 (Proposition 47)**

Proposition 47 was approved by California voters in November 2002 and provides for a bond issue of \$13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds would be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California, in order to provide adequate higher education facilities to accommodate growing student enrollment.

### **California Government Code Section 65996**

As a matter of law, California Government Code Section 65996 identifies the payment of school impact fees as providing full and complete mitigation of a project's potential impact on school facilities. School facilities means any school-related consideration relating to a school district's ability to accommodate enrollment. As such, a project cannot be denied on the basis that existing school facilities are inadequate.

### **Leroy F. Greene School Facilities Act of 1998 (SB 50)**

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill (SB) 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the \$9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A," reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for State construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- Level I fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- Level II fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15 to 30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- Level III fees are outlined in Government Code Section 65995.7. If state funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives state funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

## LOCAL

### **Contra Costa County Hazard Mitigation Plan**

The Contra Costa County Hazard Mitigation Plan (2018) serves as its local hazard mitigation plan and fully addresses the requirements of Government Code section 65302(g)(4). The Contra Costa County Hazard Mitigation Plan incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short- and long-term strategies, involves planning, policy changes, programs, projects, and other activities. The plan covers the unincorporated county, 25 special purpose districts, and 10 municipalities, including the City of Pittsburg.

### **Contra Costa County Fire District Fire Facility Impact Fees**

In October 2005, the CCCFPD prepared the Fire Facilities Impact Fee Study and Report, which documented a reasonable relationship between new development and the need for funding of new facilities. Under the Mitigation Fee Act (Government Code Section 6600 et seq.) the CCCFPD has the legal authority to impose impact fees providing that certain legal requirements are met. The Fire Facilities Impact Fee Study and Report details the need for impact fees, quantifies such fees, and provides sufficient legal justification for the fees. Residential projects within the CCCFPD are subject to CCCFPD Fire Facilities Impact Fees on a per unit basis.

### **City of Pittsburg Hazard Mitigation Plan**

The City of Pittsburg Hazard Mitigation Plan (HMP) was prepared in order to assess the natural, technological, and human-caused risks to Pittsburg so as to reduce the potential impact of the hazards by creating mitigation strategies. The HMP was updated in 2022. The 2022 HMP represents the City of Pittsburg's commitment to create a safer, more resilient, community by taking actions to reduce risk and by committing resources to lessen the effects of hazards on the people and property of Pittsburg. The HMP complies with the Federal Disaster Mitigation Act (2000), Federal Register 44 CFR Parts 201 and 206. The Pittsburg City Manager's Office and Police Department has coordinated preparation of the HMP in cooperation with other Pittsburg departments, community stakeholders, partner agencies, and members of the public. The HMP addresses hazards and risks associated with releases of hazardous materials, including incidents associated with refineries and chemical plants and establishes a Mitigation Action Plan to reduce risks and inform the City's response to disasters.

The HMP complies with the Federal Disaster Mitigation Act (2000), Federal Register 44 CFR Parts 201 and 206, which modified the Robert T. Stafford Disaster Relief and Emergency Assistance Act by adding a new section, 322 - Mitigation Planning. This law, as of November 1, 2004, requires local governments to develop and submit hazard mitigation plans as a condition of receiving Hazard Mitigation Grant Program (HMGP) and other mitigation project grants. The Pittsburg City Manager's Office and Police Department has coordinated preparation of the HMP in cooperation with other Pittsburg departments, community stakeholders, partner agencies, and members of the public.

### **City of Pittsburg Municipal Code**

Title 15 (Buildings and Construction) of the City of Pittsburg Municipal Code, includes Chapter 15.20 Fire Code – Regulations includes enforcement and fire code amendments specific to the City. Additionally, Chapter 15.92 includes Community Facility Fees – Fire Protection Facilities fees to provide a method for financing fire protection facilities required by the goals and policies of the General Plan and necessitated by the needs of new construction and development for adequate fire protection facilities and services.

Chapter 15.92, Community Facility Fees – Fire Protection Facilities, provides a method for financing fire protection facilities required by the goals and policies of the general plan and necessitated by the needs of new construction and development for adequate fire protection facilities and services. Pursuant to Chapter 15.92, a fire protection facilities fee shall be paid as a condition precedent to the issuance of a building permit for new construction. The fee shall be in the amount established by resolution of the City Council.

### 3.13.3 IMPACTS AND MITIGATION MEASURES

#### THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on public services and recreation if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - Fire Protection;
  - Police Protection;
  - Schools;
  - Parks; and
  - Other public facilities.
- An increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- If it includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

#### IMPACTS AND MITIGATION MEASURES

**Impact 3.13-1: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new fire protection facilities or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts and the provision of public services (Less than Significant)**

Development and growth accommodated by the 2040 General Plan would result in increased demand for public services, including fire protection. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Pittsburg.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded fire protection service structures will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the city.

## 3.13 PUBLIC SERVICES AND RECREATION

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Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public/Institutional land use designation would accommodate the majority of new fire protection facilities necessary to provide fire protection services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide this public service.

The 2040 General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new fire protection facilities) are considered by the City, each project will be evaluated for conformance with the 2040 General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new fire protection facilities will be needed to serve growth contemplated in the 2040 General Plan. The environmental effect of providing public services, including fire protection, is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development nor does it designate specific sites for new or expanded public facilities. However, the fire protection facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. For example, operational and construction noise would increase as fire protection facilities are expanded. Additionally, water demands would increase as fire protection to serve new development is warranted. Further, development of fire protection facilities could result in removal of habitat for special-status species and/or disturbance of cultural resources sites. The impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this EIR. Any future development under the 2040 General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

The 2040 General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for fire protection facilities are **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.



11-P-1.2: Ensure emergency response equipment and personnel training are adequate to follow the procedures contained within the Emergency Operations Plan and Emergency Response and Emergency Operations Plan for a major earthquake, wildland fire, flood, or hazardous materials release event.

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-1.4: Maintain, modernize, and designate new sites for emergency response facilities, including fire and police stations, as needed to accommodate population growth.

11-P-1.5: Prepare and disseminate information to local residents, businesses, and schools about emergency preparedness, including for flooding, fire, hazardous material releases, and seismic activity, and evacuation routes.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, and facilities shown on Figure 11-1, as well as school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

11-P-1.8: Ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments.

11-P-1.9: Maintain effective mutual aid agreements for fire, police, medical response, mass care, heavy rescue, and other functions as appropriate.

11-P-1.10: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

#### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-1.a: Implement and periodically review and update, as necessary, emergency response and planning documents, including the Emergency Operations Plan (EOP) and the local Hazard Mitigation Plan (HMP) and HMP to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity.

11-A-1.b: Identify and pursue strategies to increase the city's resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the city and particularly the waterfront's unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-1.c: Improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes.

## 3.13 PUBLIC SERVICES AND RECREATION

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11-A-1.d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

11-A-2.d: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding, and extreme heat). Incorporate these into all relevant plans, including the EOP and HMP.

### POLICIES – COMMUNITY FACILITIES ELEMENT

12-P-6.1: Promote and cooperate with Contra Costa Fire Protection District to ensure adequate staffing and station locations, a maximum five-minute travel response time 90% of the time for fire and emergency calls, an overall fire insurance (ISO) rating of 3 or better for all developed areas within the City, and a minimum staffing of 3 personnel for all fire stations.

12-P-6.2: Require adequate road widths, turnarounds, and emergency access development projects for fire response trucks.

12-P-6.3: Require development in areas of high fire hazard to be designed and constructed to minimize potential losses and maximize the ability of fire personnel to suppress fire incidents.

12-P-6.4: Require existing and new development in or adjacent to high and very high fire hazard severity zones, wildland urban interface zones, and State Responsibility Areas to maintain defensible space zones, landscape using native, fire-resistant plants and fire-resistant materials, abate weeds, and, where feasible, harden structures and infrastructure against fires.

### ACTIONS – COMMUNITY FACILITIES ELEMENT

12-A-6.a: Annually monitor response times and provide the City Council with an annual report on the results of the monitoring.

12-A-6.b: Continue to enforce the California Building Code and the California Fire Code, with amendments to address local conditions, to ensure that all construction and development implements fire-safe techniques, including fire resistant materials, where required.

12-A-6.c: Coordinate with Contra Costa Fire Protection District to periodically review, and if necessary amend, the criteria for determining the circumstances under which fire service will be enhanced and ensure adequate levels of service are provided to older, low income, and disadvantaged areas.

12-A-6.d: Review and amend the Municipal Code to include fire safe requirements, including defensible space zones, structure hardening, fire-resistant materials and landscaping, and, where appropriate, community firebreaks, for development in or adjacent to high and very high fire hazard severity zones and wildland urban interface zones.

12-A-6.e: Cooperate with Contra Costa County Fire Protection District in obtaining sites to either relocate or establish new fire stations within City limits to provide more efficient response times and to ensure new growth receives adequate levels of fire protection.

**Impact 3.13-2: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new police protection facilities or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts and the provision of public services (Less than Significant)**

Development and growth accommodated by the 2040 General Plan would result in increased demand for public services, including law enforcement. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Pittsburg.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded police protection service structures will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the city.

Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public/Institutional land use designation would accommodate the majority of new police protection facilities necessary to provide police protection services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide this public service.

The 2040 General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new police protection facilities) are considered by the City, each project will be evaluated for conformance with the 2040 General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new police protection facilities will be needed to serve growth contemplated in the 2040 General Plan. The environmental effect of providing public services, including police protection, is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the 2040 General Plan does not propose or authorize development nor does it designate specific sites for new or expanded public facilities. However, the police protection facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts

of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. For example, operational and construction noise would increase as police facilities are expanded. Additionally, development of fire protection facilities could result in removal of habitat for special-status species and/or disturbance of cultural resources sites. The impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this EIR. Any future development under the 2040 General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

The 2040 General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for police protection facilities are **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-1.4: Maintain, modernize, and designate new sites for emergency response facilities, including fire and police stations, as needed to accommodate population growth.

11-P-1.5: Prepare and disseminate information to local residents, businesses, and schools about emergency preparedness, including for flooding, fire, hazardous material releases, and seismic activity, and evacuation routes.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, and facilities shown on Figure 11-1, as well as school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

11-P-1.8: Ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments.

11-P-1.9: Maintain effective mutual aid agreements for fire, police, medical response, mass care, heavy rescue, and other functions as appropriate.

11-P-1.10: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

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**ACTIONS – SAFETY & RESILIENCY ELEMENT**

11-A-1.a: Implement and periodically review and update, as necessary, emergency response and planning documents, including the Emergency Operations Plan (EOP) and the local Hazard Mitigation Plan (HMP) and HMP to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity.

11-A-1.b: Identify and pursue strategies to increase the city's resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the city and particularly the waterfront's unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-1.c: Improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes.

11-A-1.d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

**POLICIES – COMMUNITY FACILITIES ELEMENT**

12-P-5.1: Prioritize public safety through ensuring adequate staffing, implementing best available technologies, capital investments in public safety, maintaining minimum feasible response times, and organizing and utilizing community volunteers.

12-P-5.2: Ensure that the Police Department has adequate funding, staff, and equipment to accommodate existing and future growth.

12-P-5.3: Periodically review and, if necessary, amend the criteria for determining the circumstances under which police service will be enhanced.

12-P-5.4: Promote and support community-based crime prevention programs, as an important augmentation to the provision of professional police services.

12-P-5.5: Through the development review process, use physical site planning as an effective means of preventing or reducing crime, ensuring that open spaces, landscaping, parking lots, parks, play areas, and other public spaces be designed with maximum feasible visual and aural exposure to community residents.

12-P-5.6: Seek to build relationships between police and the community, through programs such as meet and greets.

**ACTIONS – COMMUNITY FACILITIES ELEMENT**

12-A-5.a: Prepare an annual Police Department Performance Report, as amended periodically.

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12-A-5.b: In conjunction with the annual Police Department Performance Report, further develop and refine best practices to assess, monitor, and maintain the Police Department's organizational performance goals and monitor police staffing levels. The assessment categories related to adequate police staffing could include but are not limited to:

- Crime rates;
- Response times;
- Clearance rates;
- Police department workload;
- Financial resources; and
- Performance standards.

12-A-5.c: As part of the development review process, consult with the Police Department in order to ensure that the project design facilitates adequate police services and that the project addresses its impacts on police services.

12-A-5.d: Continue to implement community-based police outreach services and programs, including but not limited to, neighborhood watch, Citizen's Police Academy, Youth Academy, and other community outreach and volunteer programs that educate the community regarding public safety services and awareness.

### **Impact 3.13-3: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new school facilities or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts and the provision of public services (Less than Significant)**

Development and growth accommodated by the 2040 General Plan would result in increased demand for public services, including schools. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Pittsburg.

As the demand for services increases, there will likely be a need to address acceptable service ratios, class sizes, and other performance standards. New or expanded school structures will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the City. Additionally, according to the MDUSD NOP comment letter for the 2040 General Plan, MDUSD does not have capacity for additional students at this time in its current school sites, and many of the proposed General Plan amendments are within the MDUSD boundaries.

Existing school facilities could be expanded at their current location. New facilities may also be constructed. The Public/Institutional land use designation would accommodate the majority of new school facilities necessary to provide school services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide this

public service. However, state law (California Government Code Section 65996) identifies the payment of school impact fees as providing full and complete mitigation of a project's potential impact on school facilities. As such, a project cannot be denied on the basis that existing school facilities are inadequate. Each school district is responsible for implementing specific methods for mitigating school impacts under California Government Code Section 65996. Therefore, each subsequent developer would be required to comply with California Government Code Section 65996, through payment of developer impact fees, and potential impacts to school facilities would be deemed fully mitigated.

The 2040 General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new school facilities) are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new school facilities may be needed to serve growth contemplated in the 2040 General Plan. The environmental effect of providing public services, including school services, is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or authorize development, nor does it designate specific sites for new or expanded public facilities. However, the school facilities would be primarily provided on sites with land use designations that allow such uses or are intended for urbanization and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the 2040 General Plan. For example, operational and construction noise would increase as school facilities are expanded. Additionally, water demands, wastewater generation, and solid waste generation would increase as school facilities are developed to serve new development. Further, development of school facilities could result in removal of habitat for special-status species and/or disturbance of cultural resources sites. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this EIR. Any future development under the 2040 General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate. Furthermore, payment of developer impact fees as required by state law would fully mitigate impacts related school facilities resulting from the development of future projects accommodated by the 2040 General Plan.

The 2040 General Plan includes a range of policies (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for public facilities are **less than significant**, and no mitigation is required.

## 3.13 PUBLIC SERVICES AND RECREATION

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### GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS

#### POLICIES – RECREATION & YOUTH ELEMENT

9-P-6.1: Ensure that school facilities maintain adequate capacity to provide for current and projected enrollment.

9-P-6.2: Work with Mount Diablo Unified School District to ensure that the timing of school construction and/or expansion is coordinated with phasing of new residential development.

9-P-6.3: Work cooperatively with local school districts to explore all local and State funding sources to secure available funding for new school facilities and programs and to identify possible sites for the construction of new school facilities.

9-P-6.4: Cooperate with local school districts to develop joint school/park facilities, which provide an increased variety of recreational opportunities close to many residential areas. Additionally, work with school districts to develop public parks adjacent to school facilities.

9-P-6.5: Emphasize the integration of land uses and activities surrounding Los Medanos Community College. Encourage physical connections between the College and surrounding neighborhoods, commercial areas, and open space resources.

#### ACTION – RECREATION & YOUTH ELEMENT

9-A-6.a: As part of development review for residential subdivisions, require new development to pay applicable school and public facility impact fees and work with developers and the school districts to ensure that adequate school and related facilities will be available.

#### POLICIES – SAFETY & RESILIENCY ELEMENT

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, and facilities shown on Figure 11-1, as well as school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

**Impact 3.13-4: General Plan implementation could result in adverse physical impacts on the environment associated with the need for new park facilities or the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts and the provision of public services (Less than Significant)**

Development and growth accommodated by the 2040 General Plan would result in increased demand for public services, including parks. The 2040 General Plan includes policies and actions to



ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Pittsburgh.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded park and recreation structures (e.g., park maintenance buildings, parks, trails, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth in the City.

Existing facilities may be expanded at their current location. New facilities may also be constructed. The Parks/Recreation land use designation would accommodate the new park and recreational facilities necessary to provide recreational services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide this public service.

The 2040 General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new park and recreational facilities) are considered by the City, each project will be evaluated for conformance with the 2040 General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new park and recreational facilities will be needed to serve growth contemplated in the General Plan. The environmental effect of providing public services, including park and recreational facilities, is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the 2040 General Plan does not propose or authorize development nor does it designate specific sites for new or expanded public facilities. However, the park and recreational facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the 2040 General Plan. For example, operational and construction noise would increase as park facilities are expanded. Additionally, water demands, wastewater generation, and solid waste generation would increase as park facilities are developed to serve new development. Further, development of park facilities could result in removal of habitat for special-status species and/or disturbance of cultural resources sites. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this EIR. Any future development under the 2040 General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

The 2040 General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services.

## 3.13 PUBLIC SERVICES AND RECREATION

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Therefore, impacts related to the provisions and need for park and recreational facilities are **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### POLICIES – RECREATION & YOUTH ELEMENT

9-P-1.1: Strive to engage all segments of the community when planning for park and recreational facilities and services.

9-P-1.2: Maintain a neighborhood and community park standard of 5 acres of public parkland per 1,000 residents.

9-P-1.3: Develop public parks and recreational facilities that are equitably distributed throughout the urbanized area, provide neighborhood recreation facilities in existing neighborhoods where such facilities are presently lacking, and are within reasonable walking distance of all homes.

9-P-1.4: Consider park accessibility, use and character as more valuable than size in the acquisition and development of new parks.

9-P-1.5: Maintain park and recreation facility standards for new development to serve both residents and employees, attainable through, in order of priority: 1) provision of fully developed parks, 2) dedication of parkland, or 3) payment of in-lieu fees dedicated to the provision of new park sites or enhancing existing facilities.

9-P-1.6: Design the layout of new park facilities in accordance with the natural features of the land. Where possible, preserve such natural features as creeks and drainage ponds, rock outcroppings, and significant topographic and visual features.

9-P-1.7: Throughout all parks and recreation planning efforts, emphasize and prioritize public participation with local stakeholders and community workshops that enable close collaboration with a variety of members of the community in the design, and programming, of parks and recreation facilities to ensure that these facilities meet the needs of all segments of the community, regardless of age, ethnicity, income, and activity level.

9-P-2.1: Maintain and extend public access to local and regional open space and trails throughout the Planning Area that increase access to and linkages between open space areas, recreation areas, Downtown, the waterfront, the City's neighborhoods, and other key locations:

- Great California Delta Trail. The Great California Delta Trail plans for an extensive system of routes for bicycling and hiking, with interconnections to other land and water trail systems, recreational facilities, and public transportation around the Delta.
- Waterfront/Shoreline. Maintain and improve public access to the shoreline.
- Los Medanos Community College. Foster linkages between the campus and the community.
- Kirker Creek. The Kirker Creek easement could be developed as a creekside trail, connecting other trails and open spaces throughout the City with the hiking trails in the Black Diamond Mines Regional Preserve.

- Contra Costa Canal. The Contra Costa Canal provides a meandering right-of-way throughout Pittsburg, with opportunities to link neighborhoods, the Railroad Avenue commercial corridor, and neighboring communities.
- PG&E Utility ROW. PG&E holds a right-of-way for the power/utility lines that run north-south from the southern hills to the power plant on the waterfront, an ideal corridor for public access.

9-P-2-2: Development projects adjacent open space, shoreline, hillside, and other recreational areas shall provide public connections and linkages.

9-P-3.1: Encourage the development or provision of facilities that cater to diverse recreational and cultural interests.

9-P-3.2: Locate community facilities in and adjacent to public parks, where possible. Encourage community organizations to utilize these and other park facilities for recreational and cultural activities.

9-P-3.3: Enable private and non-profit programs to use City recreational facilities, as needed.

9-P-3.4: Continue to develop programs for the Senior Center, featuring cultural and recreational programs, classes and special events geared toward the community's seniors.

9-P-3.5: Support the preservation, improvement, and development of community cultural facilities, including cultural centers, community centers, theaters, and libraries, that provide gathering places for cultural exploration, expression, and inspiration.

9-P-3.6: Participate in partnership and collaborative efforts with local art groups and service organizations to strengthen local, regional, and State art advocacy efforts.

9-P-3.7: Consider adoption of an ordinance that establishes incentives to encourage investments in public art.

9-P-3.8: Explore and develop new funding options for maintenance of public art, in partnership with private developers.

9-P-3.9: Encourage collaboration among artists, art organizations, and other community partners, including businesses, educational institutions, and individuals, for acquisition and maintenance of public art.

9-P-3.10: Work in partnership with artists, art organizations, and educational institutions to educate youth in the arts.

9-P-4.1: Assess and pursue the development of recreational facilities and programs specifically geared toward youth and teens, including:

- Satellite Youth Center. Consider the potential to expand youth and teen center locations or to ensure adequate transportation to the Teen Center to ensure youth in underserved areas have a safe environment for local youth to meet and interact, or to participate in after-school, athletic, or cultural activities.

## 3.13 PUBLIC SERVICES AND RECREATION

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- Gymnasium. A large gymnasium would provide the City with more opportunity to get youth involved in local sports leagues and afterschool drop-in games, such as basketball.
- Aquatic Center. Consider opportunities to establish facilities to provide swimming, diving, and other athletic and recreational water activities.
- Opportunities to provide additional recreational and social programs and amenities throughout the community including exploring the feasibility of additional sports fields, entertainment venues and activity options, cultural events, family-friendly festivals, and recreation and activity programs, for all ages and abilities.

9-P-4.2: Promote internship programs and opportunities to connect students with local businesses and provide them with hands on work experience.

9-P-4.3: Pursue partnerships with organizations to enhance public-private partnerships that support youth recreational programs.

9-P-4.4: Support the development of community recreational activities, events, organized sports leagues, and other programs that serve broad segments of the community, including teens and youth.

9-P-4.5: Continue to provide support to local nonprofits and other sports and recreational programs that provide community recreational services on City owned facilities.

9-P-4.6: Support land uses and recreational sports activities that foster growth and personal development.

9-P-5.1: Pursue partnerships with organizations to enhance public-private partnerships that support senior recreational programs.

9-P-5.2: Support recreational activities, events, organized sports leagues, and other programs that serve broad segments of the community, including seniors.

9-P-6.4: Cooperate with local school districts to develop joint school/park facilities, which provide an increased variety of recreational opportunities close to many residential areas. Additionally, work with school districts to develop public parks adjacent to school facilities.

9-P-6.5: Emphasize the integration of land uses and activities surrounding Los Medanos Community College. Encourage physical connections between the College and surrounding neighborhoods, commercial areas, and open space resources.

9-P-6.6: Pursue joint-planning of recreational and cultural facilities on Los Medanos Community College campus. Work with the community college Board to allow public access to recreational facilities and programs.

### ACTIONS –RECREATION & YOUTH ELEMENT

9-A-1.a: As part of the planning effort for future recreation, parks, and youth facilities, review all plans for consistency with General Plan policies, opportunities to facilitate master planning and programming for parks, trail systems and recreational facilities, and ensure recent recreation

facilities including Dream Courts and Pittsburg Premier Fields are included. Ensure that master planning and programming efforts for recreation, parks, and youth facilities includes and address:

- Activity upgrades and needs analysis for additional recreational amenities including: sports fields (baseball, soccer, and cricket), and amphitheaters, to serve residential growth accommodated by the General Plan Update), emerging activity trends and needs within the community, as well as potential enhancement of assets currently owned and maintained by the City.
- Need for a satellite youth or teen center to ensure recreation, education, wellness, and supportive services are accessible to youth throughout the community.
- Needs for additional parks, aquatic facilities, sports fields, and recreational activity programming to accommodate projected growth, including all persons, families, youth, and seniors accommodated by the General Plan.
- Need for and feasibility of an outdoor all-weather track and field facility.
- Need for and feasibility of a skate park.
- Opportunities to enhance neighborhood bicycle and pedestrian connectivity.
- Maintenance needs and requirements for new and existing facilities.
- Opportunities for public private partnerships.
- Potential improvements to integrate the City's shoreline into the urban fabric.

Future updates to the Parks and Recreation Master Plan shall emphasize and prioritize public participation and workshops that enable close collaboration with a variety of members of the community in the design, and programming, of parks and recreation facilities to ensure that these facilities meet the needs of all segments of the community, regardless of age, ethnicity, income, and activity level and are located in areas accessible to disadvantaged communities.

9-A-1.b: Periodically review, and update if necessary, the City's Park and Recreational Facilities Impact Fees in order to ensure that new development continues to provide a fair-share contribution towards parks, trails, and recreation facilities.

9-A-2.a: During review of development projects, ensure that residential, commercial, community-oriented, and visitor-oriented land uses provide public access to the shoreline and waterfront, hillside areas, public trails, and other recreational open space opportunities.

9-A-2.b: Coordinate with regional agencies in the development of regional trails, passive recreational opportunities, shoreline recreation, and other community-serving recreation that increases passive and active access to open space.

9-A-2.c: Identify opportunities to acquire open space to improve active and passive recreational opportunities that are compatible with the preservation of environmental resources, views, and management of resources to address sustainability and sea level rise.

9-A-2.d: Implement the policies and actions in the Circulation Element that facilitate and promote safe, increased walkability, bicycle use, and connectivity between parks and trail systems, with a focus on areas currently not well connected or lacking basic infrastructure.

9-A-4.a: Continue to plan for youth-oriented recreation and community facilities through the Parks and Recreation Master Plan.

## 3.13 PUBLIC SERVICES AND RECREATION

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9-A-4.b: Continue to update and utilize the City Services Parks and Recreation webpage to provide information on park and recreational facilities and opportunities to participate in senior programs, youth sports and other recreational programs.

9-A-5.a: Coordinate with regional and local service providers to identify venues and opportunities for recreational services, community events, intergenerational programs social connections, to engage older adults.

9-A-5.b: Develop programs, including with local schools and other organizations, that promote existing and new connections between senior and school-age residents.

### **Impact 3.13-5: General Plan implementation could result in adverse physical impacts on the environment associated with the need for other public facilities or the need for new or physically facilities, the construction of which could cause significant environmental impacts and the provision of public services (Less than Significant)**

Development and growth accommodated by the 2040 General Plan would result in increased demand for public services, including other public facilities. Other public facilities in the Planning Area include the Vincent A. Davi Memorial Library, the Pittsburg Civic Center, the Pittsburg Community Center, and the Marina Community Center. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and that the City will maintain and implement public facility master plans, in collaboration with appropriate outside service providers and other agencies, to ensure compliance with appropriate regional, state, and federal laws and to provide efficient public facilities and services to Pittsburg.

As the demand for services increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded community facilities and structures will be needed to provide adequate staffing, equipment, and appropriate facilities to serve growth in the City.

Existing facilities may be expanded at their current location. New facilities may also be constructed. The Public/Institutional and Parks/Recreation land use designations would accommodate the new public facilities necessary to provide community services. There would likely be environmental impacts associated with the construction or expansion of the facilities needed to provide this public service.

The 2040 General Plan does not propose or approve actual development projects, or the physical expansion of public facilities. As future development and infrastructure projects (including new and/or expansion of existing community facilities) are considered by the City, each project will be evaluated for conformance with the 2040 General Plan, Municipal Code, and other applicable regulations. Such development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Any future expansion of public facilities required by growth in the City would be required to be reviewed for site-specific impacts.

As previously stated, new and/or expanded community facilities will be needed to serve growth contemplated in the 2040 General Plan. The environmental effect of providing public services, including community facilities, is associated with the physical impacts of providing new and expanded facilities. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the 2040 General Plan does not propose or authorize development, nor does it designate specific sites for new or expanded public facilities. However, the community facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the governmental facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the 2040 General Plan. For example, operational and construction noise would increase as other governmental facilities are expanded. Additionally, water demands would increase as other governmental facilities to serve new development is warranted. Further, development of other governmental facilities could result in removal of habitat for special-status species and/or disturbance of cultural resources sites. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this EIR. Any future development under the 2040 General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate.

The General Plan includes a range of policies and actions (listed below) to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. Therefore, impacts related to the provisions and need for community facilities are **less than significant**, and no mitigation is required.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICY – RECREATION & YOUTH ELEMENT**

9-P-6.7: Promote use of the educational and cultural resources available at the Pittsburg Library.

##### **ACTIONS –RECREATION & YOUTH ELEMENT**

9-A-6.a: As part of development review for residential subdivisions, require new development to pay applicable school and public facility impact fees and work with developers and the school districts to ensure that adequate school and related facilities will be available.

##### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, and facilities shown on Figure 11-1, as well as school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

### **Impact 3.13-6: General Plan implementation may result in adverse physical impacts associated with the deterioration of existing parks and recreation facilities or the construction of new parks and recreation facilities (Less than Significant)**

Growth accommodated under the General Plan would include a range of uses that could increase the population of the City and also attract additional workers and tourists to the City. Such growth would result in increased demand for parks and recreation facilities. It is anticipated that over the life of the General Plan, use of parks, trails, and recreation facilities would increase, due to new residents and businesses. The additional demand on existing parks and recreational facilities would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined since the potential improvements are unknown.

The provision of new parks and recreation facilities would reduce the potential for adverse impacts and physical deterioration of existing parks and recreation facilities, by providing additional facilities to accommodate the demand for parks and recreation facilities. These new facilities would be provided at a pace and in locations appropriate to serve new development, as required to maintain the City adopted standard for park space acreage at 5.0 acres for every 1,000 residents (as required by General Plan Policy 9-P-1.2). Development under the 2040 General Plan would indirectly lead to the construction of new parks and recreation facilities to serve new growth and to meet existing parks and recreation needs. The 2040 General Plan supports the creation of new parks and recreation facilities, including new parks and trails, to accommodate a wide range of activities for all age groups. These new parks and recreation facilities would be spread throughout areas proximate to new development in and around existing neighborhoods. Neighborhood parks, facilities, and trails would generally be accommodated in the Parks/Recreation and Open Space land use designations.

General Plan Policy 9-P-1.2 establishes a citywide ratio of five acres of parkland per 1,000 residents. The City currently manages approximately 340 acres of developed park space. With an approximate population of 72,000, the City's parkland totals approximately 4.7 acres of City parkland per 1000 residents (excluding trails and County facilities).

As noted previously, the City's parkland standard of five acres per 1,000 residents is not currently met. At a ratio of five acres of parkland per 1,000 residents, buildout of the 2040 General Plan within the City limits would result in a demand for 102 acres of developed parkland, or 442 acres of developed parkland in addition to the existing stock of approximately 340.2 developed acres, if the City's population levels were to reach the buildout population potential of the proposed General Plan. It should be noted that new development would be required to fund its fair share for required parkland, resulting in new parkland and recreation facilities to accommodate the demand associated with new development, but would not make up for existing system deficiencies.

The 2040 General Plan does not specifically propose any development projects, including parks. As a result, site-specific physical impacts of future park development and construction cannot be determined until future projects are brought forward for review. As future parks and recreation



projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Parks and recreation projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2040 General Plan does not propose or approve any development, nor does it designate specific sites for new or expanded parks and recreational facilities. The 2040 General Plan includes a range of policies and actions (listed below) to ensure that parks and recreational facilities are adequately funded, and that new development funds its fair share of services needed to meet General Plan objectives. New development is required to participate in the provision and expansion of public services, recreational amenities, and facilities, and is also required to demonstrate that the City's public services and facilities can accommodate the increased demand for said services and facilities associated with future projects during the entitlement process.

Any new parks or recreational facilities that may be constructed in the future would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the parks and recreational facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan. These impacts are described in the relevant chapters (Chapters 3.1 through 3.16, and 4.0) of this EIR. Any future development under the General Plan would be required to comply with regulations, policies, and standards included in the General Plan, and would be subject to CEQA review as appropriate. Therefore, impacts related to the provisions and need for park and recreational facilities are **less than significant**, and no mitigation is required.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – RECREATION & YOUTH ELEMENT**

9-P-1.1: Maintain a neighborhood and community park standard of 5 acres of public parkland per 1,000 residents.

9-P-1.3: Develop public parks and recreational facilities that are equitably distributed throughout the urbanized area, provide neighborhood recreation facilities in existing neighborhoods where such facilities are presently lacking, and are within reasonable walking distance of all homes.

9-P-1.5: Maintain park and recreation facility standards for new development to serve both residents and employees, attainable through, in order of priority: 1) provision of fully developed parks, 2) dedication of parkland, or 3) payment of in-lieu fees dedicated to the provision of new park sites or enhancing existing facilities.

9-P-6.7: Promote use of the educational and cultural resources available at the Pittsburg Library.

#### **ACTIONS – RECREATION & YOUTH ELEMENT**

9-A-1.a: As part of the planning effort for future recreation, parks, and youth facilities, review all plans for consistency with General Plan policies, facilitate planning and programming for parks, trail systems and recreational facilities, and include recent recreation facilities including Dream

## 3.13 PUBLIC SERVICES AND RECREATION

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Courts and Pittsburg Premier Fields are included. Ensure that master planning and programming efforts for recreation, parks, and youth includes and address:

- Activity upgrades and needs analysis for additional recreational amenities including: sports fields (baseball, soccer, and cricket), and amphitheaters, to serve residential growth accommodated by the General Plan Update), emerging activity trends and needs within the community, as well as potential enhancement of assets currently owned and maintained by the city.
- Need for a satellite youth or teen center to ensure recreation, education, wellness, and supportive services are accessible to youth throughout the community.
- Needs for additional parks, aquatic facilities, sports fields, and recreational activity programming to accommodate projected growth, including all persons, families, youth, and seniors accommodated by the General Plan.
- Need for and feasibility of an outdoor all-weather track and field facility.
- Need for and feasibility of a skate park.
- Opportunities to enhance neighborhood bicycle and pedestrian connectivity.
- Maintenance needs and requirements for new and existing facilities.
- Opportunities for public private partnerships.
- Potential improvements to integrate the City's shoreline into the urban fabric.

Future updates to the Parks and Recreation Master Plan shall emphasize and prioritize public participation and workshops that enable close collaboration with a variety of members of the community in the design, and programming, of parks and recreation facilities to ensure that these facilities meet the needs of all segments of the community, regardless of age, ethnicity, income, and activity level and are located in areas accessible to disadvantaged communities.





9-A-1.a: Periodically review, and update if necessary, the City's Park and Recreational Facilities Impact Fees in order to ensure that new development continues to provide a fair-share contribution towards parks, trails, and recreation facilities.

9-A-6.a: As part of development review for residential subdivisions, require new development to pay applicable school and public facility impact fees and work with developers and the school districts to ensure that adequate school and related facilities will be available.








Figure 3.13-1:

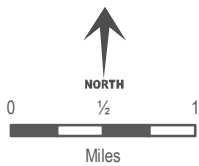
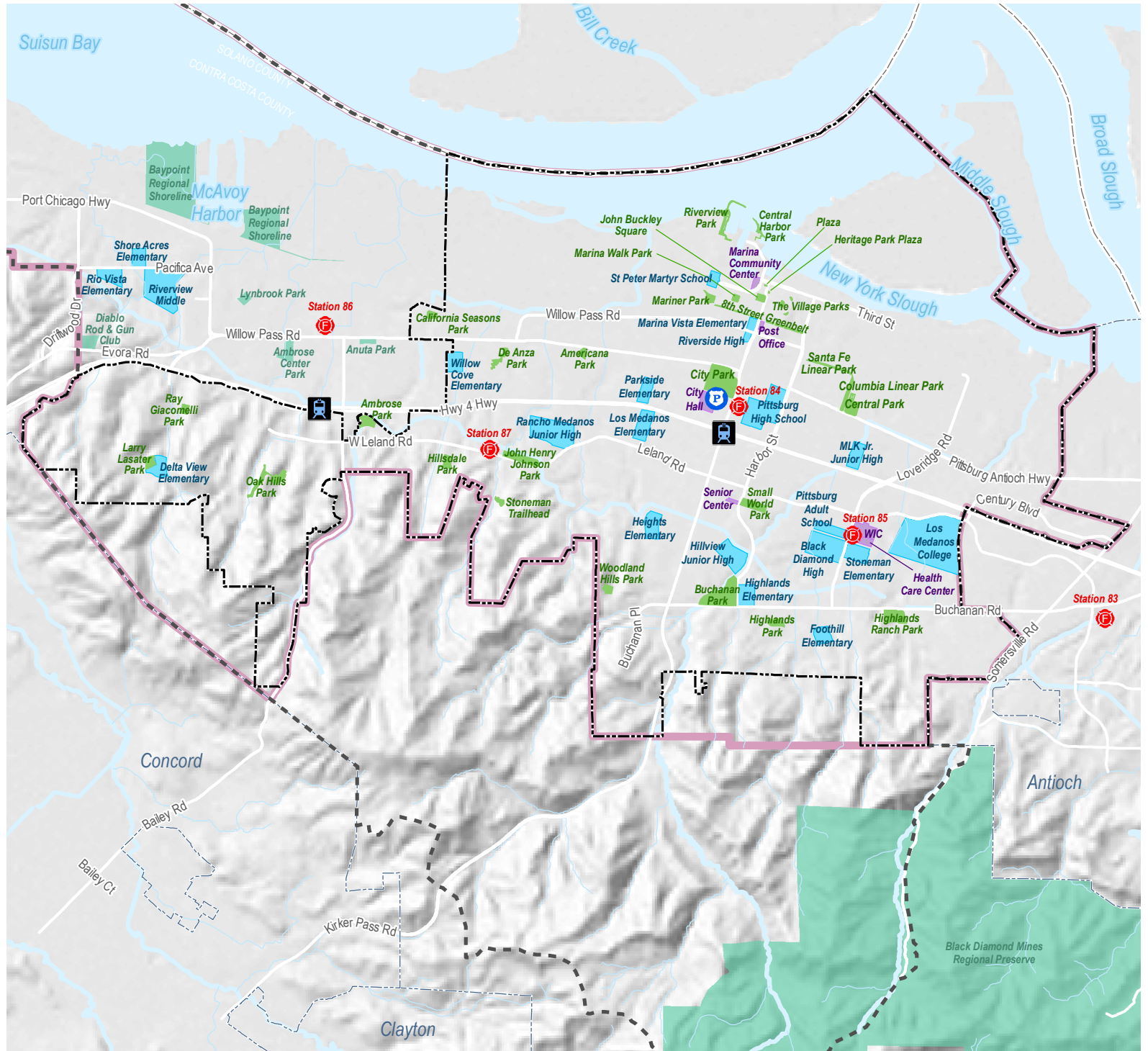
# PARKS AND PUBLIC FACILITIES

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Neighboring City

## Public Facilities

-  Fire Station
-  Police Station
-  BART Station
-  Public Place
-  School
-  City Park
-  County Park



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This chapter describes the potential impacts on the multi-modal circulation system associated with the proposed General Plan. The impact analysis examines the vehicular, transit, bicycle, and pedestrian components of the City's circulation system. To provide context for the impact analysis, an overview of the circulation network's setting, with descriptions of each transportation mode, is presented first. Following the setting, an overview of the regulatory framework, influencing the transportation system, is presented. The chapter concludes with the impact analysis findings and recommended mitigation measures.

With the implementation of Senate Bill (SB) 743, local agencies may no longer rely on vehicular delay or capacity-based analyses for California Environmental Quality Act (CEQA) impact determination. Instead, agencies must analyze transportation impacts utilizing vehicle miles traveled (VMT), a measure of the total distance traveled by vehicles for trips beginning or ending in Pittsburg on a typical weekday. VMT impacts are calculated and assessed using an efficiency metric (for example, VMT per household for residential projects or per employee for commercial projects). This is a change from the prior method of analyzing transportation impacts, which measured level of service (LOS) at intersections and roadway segments, using grades from LOS A to LOS F. While SB 743 does not allow LOS to be used to measure transportation impacts under CEQA, it may still be included in goals and policies in a local agency's general plan.

### 3.14.1 EXISTING SETTING

This section provides a contextual background to the City's existing transportation system. The General Plan addresses the overall planning and development of the circulation system for residents and visitors in a multi-modal framework. Circulation system components include the roadway network, public transportation system, bicycle and pedestrian system, and goods movement.

The City of Pittsburg is located in the San Francisco Bay Area in the eastern half of Contra Costa County. The circulation system serving Pittsburg is comprised of the roadway system, public transportation, and alternative modes of transportation, including carpooling, bicycling, and walking. Several routes of regional significance provide access to Pittsburg: State Route (SR) 4, Pittsburg-Antioch Highway, Kirker Pass Road, Bailey Road, Leland Road, and Willow Pass Road. SR 4, which runs east-west and bisects the City, connects Highway 160 in East Antioch, Highway 242 and Interstate 680 (I-680) in Concord, and Interstate 80 (I-80) in Hercules. A system of surface streets collects and distributes traffic to and from the highway and regional routes, and between the commercial, industrial, and residential areas of the City.

Bay Area Rapid Transit (BART) provides heavy rail rapid transit service between Pittsburg and the rest of the Bay Area via the Yellow Line (formerly known as the Pittsburg/Bay Point Line and now also known as the Antioch Line). The Pittsburg/Bay Point BART station is located at the southwest quadrant of the State Route 4/Bailey Road interchange; the Pittsburg Center Bart Station is located in the median of State Route 4 next to Railroad Avenue and a short distance to the downtown; the Pittsburg Center Bart Station is located in the median of State Route 4 next to Railroad Avenue and a short distance to the downtown. Local bus services are provided by Tri-Delta Transit and the County Connection.

Existing bicycle lanes along East Leland Road, Loveridge Road, Harbor Street, Buchanan Road, and Crestview Avenue provide access throughout Pittsburg. The Delta De Anza Regional Trail is a multi-use

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path connecting Pittsburg to neighboring communities. Proposed bicycle facilities include West Leland Road, Range Road, proposed San Marco Boulevard, and within the Pacific Gas and Electric Company’s (PG&E) utility right-of-way.

According to the American Community Survey (ACS) 2021-2022 one-year estimates, Pittsburg had a population of 76,416 in 2021, including 35,000 employed residents. The majority of the residents (74%) drove to work alone, while the remaining residents took alternative modes of transportation to work like carpooling (13%), riding public transit systems (5%), walking to work (2%), bicycling to work (0.2%), and working from home (4%). Table 3.14-1 provides an overview of Pittsburg’s travel-to-work mode split data compared to similar statistics for Contra Costa County and the State of California.

**TABLE 3.14-1: WORK COMMUTE CHARACTERISTICS**

MEASURE	PITTSBURG		CONTRA COSTA COUNTY		CALIFORNIA	
Population	76,416		1,161,413		39,237,836	
Employed persons	35,000		533,900		17,000,000	
MODE SPLIT	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Drove alone	24,803	74.41%	312,826	57.3%	11,342,843	63.7%
Carpooled	4,375	13.13%	46,540	8.45%	1,496,539	8.4%
Public transit	1,789	5.36%	15,407	2.8%	368,334	2.1%
Bicycle	73	0.22%	1,463	0.36%	106,220	0.6%
Walked	543	1.63%	9,479	1.7%	378,788	2.1%
Motorcycle	87	0.26%	--	--	--	--
Other	439	1.32%	7,480	1.4%	306,390	1.7%
Worked from home	1,183	3.55%	152,844	28%	3,812,070	21.4%

SOURCE: POPULATION DATA FOR 2022 OBTAINED FROM APPLIED GEOGRAPHIC’S SOLUTIONS, 2022, CITY OF PITTSBURG, STATE OF CALIFORNIA DEPARTMENT OF FINANCE, E-1 POPULATION ESTIMATES FOR CITIES, COUNTY AND THE STATE WITH ANNUAL PERCENT CHANGE - JANUARY 1, 2021 AND 2022 AND TRANSPORTATION TO WORK/ MEANS TO TRANSPORTATION TO WORK, [AMERICAN COMMUNITY SURVEY 2021 1-YEAR ESTIMATES](#), CONTRA COSTA COUNTY, CA

As shown in Table 3.14-1, employed Pittsburg residents have a higher rate of carpooling to work compared to Contra Costa County and the State of California as a whole. The combined rate of carpooling and public transit (18.49%) among employed Pittsburg residents exceeds the countywide average of 11.25%.

### ROADWAY SYSTEM

This section describes the physical characteristics of Pittsburg’s roadway network. Figure 3.14-1 shows the roadway classification system in Pittsburg. Figure 3.14-2 shows the number of lanes on arterials and collectors.

#### State Highways

One highway that is operated and maintained by Caltrans passes through the City: State Route (SR) 4.

SR 4 is an eight-lane freeway running through the center of the City. SR 4 is the primary route that connects Pittsburg with Brentwood and Stockton to the east and San Francisco and Oakland to the west. SR 4 has interchanges with I-680 and I-80 west of Pittsburg and I-5 east of Pittsburg. SR 4 has interchanges at the following City streets:

- San Marco Boulevard,
- Bailey Road,
- Railroad Avenue, and
- Loveridge Road.

### Arterials

Arterial streets are designed to serve through traffic and major local traffic generators such as residential, commercial, industrial, and institutional uses.

Pittsburg's north-south arterials are described below:

**San Marco Boulevard** is a four-lane road in the western half of Pittsburg that extends from an interchange with SR 4 at its northern end to a dead end just south of an intersection with Rio Verde Circle. The road mainly serves traffic from nearby single-family and multi-family residential developments, with the exception of a gas station and park at its intersection with West Leland Road.

**Bailey Road** is a four-lane road in the western half of Pittsburg that extends from Willow Pass Road in the north to south of the City's limits. The road serves a mix of single-family and multi-family residential developments, a commercial shopping center, and the Pittsburg/Bay Point Station on the Bay Area Rapid Transit (BART) Yellow Line at an interchange with SR 4, and a landfill south of the City's limits.

**Railroad Avenue** bisects the City of Pittsburg from East 3<sup>rd</sup> Street in the downtown area to its intersection with Buchanan Road and Kirker Pass Road. The road is two lanes wide from East 3<sup>rd</sup> Street to East 10<sup>th</sup> Street and four lanes wide from East 10<sup>th</sup> Street to its intersection with Buchanan Road and Kirker Pass Road. The road serves a variety of land uses, including single-family and multi-family residential land uses, downtown commercial and strip mall developments, and government facilities such as the Pittsburg Police Department, the Pittsburg Unified School District, and the Pittsburg Superior Court. Railroad Avenue has an interchange with SR 4. BART's Pittsburg Center Station is accessible via Railroad Avenue.

**Loveridge Road** is a four-lane road that extends from Pittsburg Waterfront Road in the north to Buchanan Road in the south. The road is in the eastern half of the City and connects to residential and commercial land uses south of the interchange with SR 4 and industrial uses north of the interchange with SR 4.

**Somersville Road** is a four-lane road that extends from the northern City's limits at the at-grade railroad crossing with the Union Pacific Railroad right-of-way and the southern City's limits, approximately 1,230 feet north of its intersection with James Donlon Boulevard. The road connects with multiple commercial developments, a mobile home park, and an interchange with SR 4. Somersville Road serves as part of Pittsburg's eastern city limits.

Pittsburg's east-west arterials are described below:

**Willow Pass Road** is located in the northwestern portion of the City and extends from its intersection with Bayview Avenue to approximately 250 feet west of its intersection with Enterprise Circle. The road is two lanes wide and connects with single-family residential developments and a few industrial developments. A small interchange exists at Range Road / Parkside Drive.

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**West Leland Road** is a four-lane road that extends from its intersection with Santa Teresa Drive to its intersection with Railroad Avenue. The road is a major east-west thoroughfare for the City south of SR 4 and serves many residential and commercial developments.

**East Leland Road** is a four-lane road that extends from its intersection with Railroad Avenue to the City's eastern limits, approximately 160 feet west of its intersection with Century Boulevard. Like West Leland Road, East Leland Road is a major thoroughfare south of SR 4 that serves many residential, commercial, and government land uses.

**Buchanan Road** is a two-lane road that extends from its intersection with Castlewood Drive in the west to east of the City's limits, approximately 1,700 feet east of its intersection with Tuscan Meadows Drive. The road serves mainly residential developments and some government and commercial developments.

### Traffic Volumes

Daily (24-hour) traffic volumes on key street segments are summarized below in Table 3.14-2. Average daily traffic (ADT) volumes are shown in Figure 3.14-3.

**TABLE 3.14-2: CUMULATIVE ROADWAY SEGMENTS VOLUMES**

No.	ROADWAY	2016-17	2040	% GROWTH	#OF THROUGH LANES (MOTOR VEHICLES)	POSTED SPEED LIMITS
1	State Route 4 (W/O Bailey Rd)	163,300	186,700	14%	6	65
2	State Route 4 (W/O Railroad Ave)	153,200	172,200	12%	6	65
3	State Route 4 (E/O Railroad Ave)	137,600	150,800	10%	6	65
4	State Route 4 (E/O Loveridge Ave)	131,100	149,900	14%	6	65
5	Bailey Rd (N/O Leland Ave)	18,300	22,700	24%	2	30/35
6	West Leland Rd (E/) Range Rd)	18,900	23,300	23%	4	35/40
7	East Leland Rd (E/O Harbor St)	25,800	30,500	18%	4	35/40
8	Railroad Ave (N/O Buchanan Rd)	16,200	20,200	25%	4	35
9	Railroad Ave (N/O California Ave)	34,300	47,400	38%	4	35/20
10	California Ave (E/O Railroad Ave)	23,400	27,300	17%	4	35/40
11	W 10th St (W/O Herb White Way)	11,700	24,500	109%	2	35
12	Tenth St (E/O Railroad Ave)	10,800	22,600	109%	2	30
13	Willow Pass Rd (W/O Bailey Rd)	7,800	12,300	58%	3	35,45
14	Willow Pass Rd (W/O Range Rd)	17,600	30,100	71%	2	40
15	Harbor St (S/O SR 4)	16,100	20,300	26%	4	35
16	Harbor St (N/O Buchanan Rd)	15,400	19,700	28%	4	35
17	Atlantic Ave (E/O Railroad Ave)	22,500	28,900	28%	2	30
18	Loveridge Rd (N/O California Ave)	21,500	23,300	8%	4	35,40
19	Loveridge Rd (N/O Buchanan Rd)	18,900	20,000	6%	4	35
20	Buchanan Rd (E/O Harbor St)	19,100	22,700	19%	2	35
21	Pittsburg Antioch Hwy (E/O Loveridge Rd)	12,300	13,600	11%	2	50
22	E 14th St (W/O Pittsburg Antioch Hwy)	5,400	6,600	22%	2	30
23	Kirker Pass Rd (S/O Buchanan Rd)	20,600	25,000	21%	4	40,45



No.	ROADWAY	2016-17	2040	% GROWTH	#OF THROUGH LANES (MOTOR VEHICLES)	POSTED SPEED LIMITS
24	Somerville Rd (N/O Century Blvd)	15,300	15,300	0%	4	35
25	Solari St (S/O E 10th St)	2,100	4,800	129%	2	35
26	Evora Rd (W/O Willow Pass Rd)	14,700	21,200	44%	2	45
27	E 3rd St (E/O Railroad Ave)	3,000	5,800	93%	2	25
28	N Parkside Dr (E/O Range Rd)	8,700	11,100	28%	2	40

SOURCE: CCTA TRAVEL DEMAND FORECASTING MODEL (TJKM, TDM GROWTH MODEL, FORECASTED FOR 2040)

The total growth percentage of traffic on roadway segments varies widely. Some roadways are expected to experience zero percent growth in ADT from 2022 to 2040, while others experience up to 270 percent growth in ADT.

- 4-lane arterials:** Daily traffic volumes on Pittsburg’s four-lane arterial segments during 2022 ranged from over 14,000 to over 31,000 daily vehicles, and most segments are projected to experience growth in traffic. By 2040, Pittsburg’s 4-lane street segments would experience daily traffic volumes ranging from under 9,000 to over 52,000. Since Pittsburg’s 4-lane street segments generally have an effective capacity of over 35,000 daily vehicles, travel speeds may be affected because of the projected growth.
- 2-lane arterials & collectors:** Current volumes on two-lane segments of Pittsburg’s arterial and collector street network range from over 1,600 to just under 20,000 daily vehicles. Two-lane arterial and collector streets can generally accommodate up to 20,000 daily vehicles where frequent left-turn pockets are provided. By 2040, the daily traffic volumes would range from over 6,000 to over 35,000.

**Vehicle Miles Traveled**

By definition, one vehicle mile traveled (VMT) occurs when one vehicle (regardless of number of occupants) is driven on a roadway for one mile. For the purposes of this EIR, VMT is estimated and projected for a typical weekday when schools are in session. VMT values in this analysis represent the full length of a given trip and are not truncated at jurisdiction boundaries. Additionally, these VMT values are for trips starting or ending within the City (i.e., are associated with Pittsburg land uses). Trips passing through the City without stopping are not included in these VMT estimates, as the City has little or no control over such trips.

VMT is used to measure the performance of the existing transportation network and to evaluate potential transportation impacts. Although the absolute amount of VMT is typically reported, impact analysis is typically based on VMT expressed as an efficiency metric. VMT efficiency metrics, such as VMT per resident, VMT per employee, or VMT per dwelling unit, allow the VMT performance of different-sized projects to be compared. Such metrics provide a measure of travel efficiency and help depict whether people are traveling by vehicle more or less over time, across different areas, or across different planning scenarios. A per-dwelling-unit or per-employee decline in VMT compared to a baseline condition indicates that the transportation network is operating more efficiently.

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The City of Pittsburg uses the Contra Costa Transportation Authority (CCTA) Travel Demand Model, a trip-based model, to estimate VMT. Table 3.14-3 shows the major land uses in the model for the 2018 baseline, which reflects modeling to incorporate development up to the 2018 year.

**TABLE 3.14-3: EXISTING CONDITIONS MODEL MAJOR LAND USE – CCTA MODEL**

LAND USE	UNITS	2018 BASELINE
Single-family	Dwelling Units	14,317
Multi-family	Dwelling Units	6,990
Retail	Employees	5,535
Service	Employees	22
Agricultural	Employees	749
Manufacturing	Employees	988
Trade	Employees	5,778
Other	Employees	14,317

SOURCE: TJKM, 2023.

It is noted that inherent potential limitations exist when using a future-year travel demand model as changes in travel behavior and transportation systems are expected to occur in response to emerging trends, new technologies, and evolving user preferences. Some of these new travel options and technologies are discussed below. Additionally, information about how technology is affecting travel is accumulating over time. Some of these emergent changes that could influence future travel forecasts include:

- Substitution of internet shopping and home delivery for some shopping or meal-related travel.
- Substitution of telework for commute travel.
- New travel modes and choices. Transportation networking companies (TNCs), such as Uber and Lyft), have increased the travel options available to travelers and have contributed to changes in traditional travel demand relationships. Additional options such as car share, bike share, scooter share, and on-demand micro-transit are also emerging.
- Automated and connected vehicles.

Like most models, the CCTA travel demand model does not explicitly capture the above-mentioned new modes of travel and emerging trends in travel behavior. Significant uncertainties exist at the present time that prevent explicit modeling of these new modes and emerging trends for the analysis of the General Plan. However, since VMT is a “relative efficiency” metric, to the extent that these trends could cause systematic changes across the City and beyond, uncertainties in these effects effectively cancel each other out when comparing VMT efficiency for a given horizon period.

Two primary measures of VMT are used by the City:

- **VMT per capita (residents), for residential land uses.** Includes VMT for trips produced by a dwelling unit’s residents, such as to work, school, or shops, and with one end of the trip at the home, on a typical weekday.
- **VMT per employee, for commercial land uses.** Includes home-to-work trips with one end at the land use, including employees, customers, and deliveries, on a typical weekday.

VMT estimates for the 2018 baseline conditions are shown in Table 3.14-4. As CCTA updates its model, the metrics in the table below are subject to change.

**TABLE 3.14-4: VEHICLE MILES TRAVELED, BASELINE CONDITIONS FOR THE CITY OF PITTSBURG**

<i>LAND USE</i>	<i>UNITS</i>	<i>2018 BASELINE CONDITIONS</i>
All residential	VMT per capita	17.37
All employment	VMT per employee	12.30
<b>Total VMT</b>	<b>VMT</b>	<b>2,098,168</b>

SOURCE: TJKM, 2023.

Concerning the residential uses, it is reasonable to expect that multi-family dwelling units would generate about three-quarters of the VMT of single-family dwelling units, as the ratio of their daily trip generation rates is in that range. Additionally, socioeconomic characteristics likely play a role, with single-family units having a propensity for longer-distance commuter trips.

Regarding the non-residential uses, the most common use types include retail, office, industrial, and restaurants. Although schools, churches, and parks are also present within Pittsburg, proposals for new construction are relatively rare and should be evaluated on a case-by-case basis. Additionally, the VMT per employee reported here does not only reflect the actual amount of travel by each employee but is a ratio of that land use's total amount of travel (by all users including employees, customers, visitors, and deliveries) divided by employees. The VMT reported here represents all vehicle trips, from origin to destination, associated with the land use, including portions of the trip outside of the study area, in accordance with OPR Technical Advisory guidance (described in the Regulatory Framework section). Air quality, GHG, and energy analysis are based on a different measure of VMT, only including travel within the study area, to determine the impact of the City's mobile emissions, as described in those resource sections. Readers should refer to those resource sections for more information about how the plan's travel characteristics affect those specific topics. Because each section is focused on a specific environmental effect with its own specific metrics, thresholds, or significance criteria, it is possible to have a different conclusion for transportation impacts than other resource topics that also reference plan-related travel.

## Safety

Collision data helps understand different factors that might be influencing collision patterns and various factors leading to collisions in a given area. For the purpose of this analysis, jurisdiction-wide collision data for a five-year period (from 2015 to 2019) was retrieved from the Transportation Injury Mapping System (TIMS) and Statewide Integrated Traffic Records System (SWITRS) which is also been used in the Local Roadway Safety Plan. Collisions that occurred on state routes / highways were excluded from this analysis.

Based on the data, the following details were identified:

- Pedestrians or cyclists were involved in 42% of crashes.
- Fatalities and/or severe injuries occurred in 4% of reported collisions.
- Among the collisions involving fatal and/or severe injuries, 7% involved the influence of alcohol or drug(s).

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- Most frequently cited collision factors were “Unsafe Speeds” (at 24%) and “Improper Turning” (at 7%).
- Among the collisions involving fatal and/or severe injuries, the most frequent crash types were “Vehicle/Pedestrian” (at 39%), “Rear-Ends” (at 24%), and “Broadside” (at 30%).

The number of reported collisions decreased from 2015 to 2019, regardless of severity. The highest number of collisions (217 collisions) was observed in 2015 and the lowest number of collisions (110) was observed in 2019. A total of 90 fatal and severe injury (F+SI) collisions occurred within the City of Pittsburgh’s limits during the study period.

Tables 3.14-5 and 3.14-6 illustrate the five-year collision trends for all collisions and K+SI collisions, respectively.

**TABLE 3.14-5. COLLISIONS BY SEVERITY AND FACILITY TYPE: 2015-2019**

<i>COLLISION SEVERITY</i>	<i>ROADWAY SEGMENT</i>	<i>INTERSECTION</i>	<i>TOTAL</i>
Fatal	7	20	27
Severe Injury	19	44	63
Visible Injury	38	133	171
Complaint of Pain	113	391	504
<b>Total</b>	<b>177</b>	<b>588</b>	<b>765</b>

SOURCE: CRASH DATA (SWITRS) FROM 2015-2019

**TABLE 3.14-6: KILLED OR SERIOUS INJURY COLLISIONS: 2015-2019**

<i>YEAR</i>	<i>TOTAL</i>	<i>KILLED AND SEVERE INJURY</i>
2015	217	18
2016	198	17
2017	202	18
2018	168	18
2019	110	19

SOURCE: CRASH DATA (SWITRS) FROM 2015-2019

Table 3.14-7 displays the primary collision factors associated with this history. Unsafe speed was the top factor.

**TABLE 3.14-7: PRIMARY COLLISION FACTOR: 2015-2019**

PRIMARY COLLISION FACTOR	ALL INJURY COLLISIONS	KILLED OR SERIOUS INJURY COLLISIONS
	SHARE	SHARE
Unsafe Speed	29%	29%
Automobile Right of Way	14%	3%
Traffic Signals and Signs	11%	8%
Improper Turning	12%	12%
Driving or Bicycling Under the Influence of Alcohol or Drug	10%	10%
Wrong Side of Road	5%	4%
Pedestrian Violation	4%	17%
Pedestrian Right of Way	5%	4%
Other	15%	12%

SOURCE: CRASH DATA (SWITRS) FROM 2015-2019

The data in Table 3.14-7 is illustrated in Chart 3.14-1.

**CHART 3.14-1: PRIMARY COLLISION FACTOR: 2015-2019**

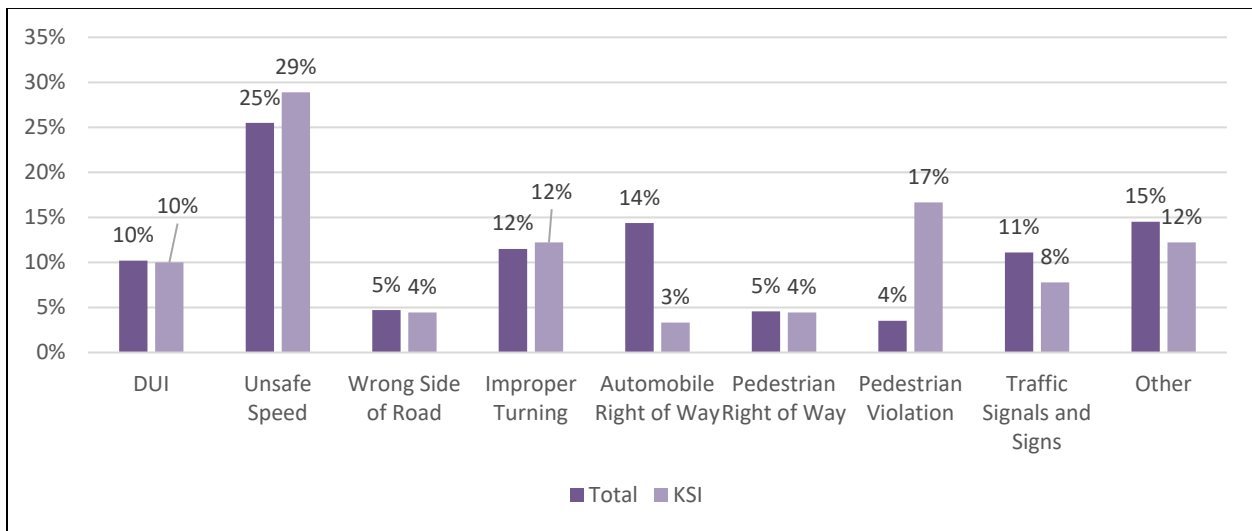


Figure 3.14-5 shows all injury collisions, Figure 3.14-6 shows fatal and severe injury collisions, Figure 3.14-7 shows collisions involving pedestrians, Figure 3.14-8 shows collisions involving bicyclists, and Figure 3.14-9 shows collisions involving trucks. Most collisions occurred along major roadways.

### PUBLIC TRANSPORTATION SYSTEM

Pittsburg is well connected to the Bay Area with the regional and local public transportation system. Following the opening of the Pittsburg Center Bay Area Rapid Transit (BART) Station as part of the Antioch extension (formerly known as “eBART”), there has been an increase in the number of transit riders. Tri-Delta Transit, County Connection, and BART provide local and regional connectivity from the City of Pittsburg. In addition, Altamont Corridor Express (ACE), Greyhound, and Amtrak are operated in and around Pittsburg.

### **Tri-Delta Transit Bus Service**

Tri-Delta Transit or the Eastern Contra Costa County Transit Authority (ECCTA) serves the Cities of Pittsburg, Antioch, Oakley, Brentwood, and the unincorporated areas of East County, including Bay Point. Within Pittsburg, Tri-Delta Transit operates 12 bus routes serving all major areas within the City. The Tri-Delta transit now operates 15 local weekday and five weekend & holiday buses as compared to 11 weekday and three weekend buses in 2008. The local route fare has been increased from \$1.25 in 2008 to \$2.00 in 2019. In 2018, ECCTA began operating its first battery electric transit bus. All buses have bicycle racks and are wheelchair accessible.

### **County Connection Transit Service**

The Central Contra Costa Transit Authority (CCCTA or County Connection) provides fixed-route and paratransit bus service throughout the communities of Concord, Pleasant Hill, Martinez, Walnut Creek, Clayton, Lafayette, Orinda, Moraga, Danville, San Ramon, as well as unincorporated communities in Central Contra Costa County. It operates a fleet of 121 fully accessible transit buses and 63 paratransit vehicles. Service hours span from 6 a.m. to 9 p.m. on weekdays, and from 9 a.m. to 7 p.m. on weekends

### **Paratransit**

All Tri-Delta Transit and County Connection buses are accessible, and many individuals with disabilities can use the fixed-route bus services. However, if an individual is unable to use fixed-route transportation, they may be eligible for ADA Paratransit transportation. Tri-Delta Transit's Paratransit and County Connection LINK Paratransit provide paratransit (also known as door-to-door public transportation) for people who are unable to independently use the transit system due to a physical or mental disabilities within the City or surrounding jurisdictions. Tri-Delta Transit Paratransit service is extended to individuals who are 65 years of age or older. LINK Paratransit accommodates interagency travel by coordinating with other paratransit service providers in the region. Paratransit operators are required to comply with the ADA and service areas within three-quarters of a mile of their respective, public fixed-route service.

### **Bay Area Rapid Transit (BART) Rail Service**

The Pittsburg/Bay Point BART station was initially opened in 1996 and includes a surface parking lot with 2,000 parking spaces and a five-acre area set aside for bus, passenger loading/unloading, and short-term parking. The station is served by standard BART trains operating on 15-minute weekday frequencies between San Francisco International Airport and Pittsburgh/Bay Point.

In May 2018, service was extended 10 miles to the east of the Pittsburg/Bay Point station to Antioch via the SR-4 median using state-of-the-art Diesel Multiple Unit (DMU) vehicles. The eBART extension includes service to the Pittsburg Center station adjacent to Railroad Avenue. The centrally located Pittsburg Center station is more readily accessible via non-automobile modes and provides a smaller supply of 262 motor vehicle spaces nearby.

Following the opening of the Antioch station: the Pittsburg/Bay Point station now serves an average of approximately 100,000 monthly entries and 100,000 monthly exits, which correlates to approximately 8,000 average weekday riders (4,000 entries and 4,000 exits). The Pittsburg Center station serves an additional 2,400 average weekday riders. The 109-mile BART system currently serves an average of over 10 million monthly riders, averaging 410,000 weekday riders.

### Amtrak Rail

Amtrak is a passenger railroad service provider that provides intercity connectivity across the nation. The closest Amtrak station is located in the neighboring city of Antioch, about six miles east of Pittsburg. The station is on the San Joaquin Line which extends between Bakersfield in the south and Oakland to the west via Stockton. The Amtrak rail line further connects to the Altamont Corridor Express (ACE) line in Stockton and may be used as an alternative to reach Fremont and San Jose.

### Taxi Services

Taxi service in Pittsburg is provided by private operators that serve the city and the greater San Francisco Bay Area. Taxi service is available 24 hours a day, seven days a week by calling in a service request.

### Transportation Networking Companies

Lyft and Uber provide connections to local and regional destinations. Availability varies depending on driver availability, and service may not be available at all times. Service is requested by smartphone applications for each provider.

## BICYCLE AND PEDESTRIAN SYSTEM

The following section describes the bicycle and pedestrian network in the City of Pittsburg.

### Bicycle Facilities

The City's Existing Conditions Report identifies gaps in Pittsburg's bike lane network and higher stress for cyclists even where bike lanes are provided adjacent to 35-mph vehicular speeds (Pittsburg 2019). In addition, key constraints to cycling in Pittsburg include a relative lack of north-south connections. The plan proposes a comprehensive set of improvements to address these deficiencies in connectivity and safety.

The City of Pittsburg maintains limited bikeways and storage facilities. Some existing on-street bicycle facilities exist on portions of East Leland Road, Railroad Avenue, Kirker Pass Road, Buchanan Road, Harbor Street, Willow Pass Road, Crestview Drive, and Loveridge Road. Additionally, the Delta de Anza regional trail, which runs east-west throughout the length of the City, provides a multi-use trail that local cyclists may use. Local bicycle facilities include bike paths, bike lanes, and bike routes:

- **Class I Bikeways (Bike Paths)** are paved facilities that are physically separated from roadways used by motor vehicles by space or a barrier and are designated for bicycle use. Existing bike paths in Pittsburg are multi-use paths and permit not only bicycles, but also pedestrians, skaters, scooters, and handicapped persons in wheelchairs. (Caltrans Class I facility)
- **Class II Bikeways (Bike Lanes)** are lanes on the outside edge of roadways reserved for the exclusive use of bicycles. Bike lanes are designated with special signage and pavement markings. (Caltrans Class II facility)
- **Class III Bikeways (Bike Routes)** are roadways recommended for use by bicycles and often connect roadways with bike lanes and bike paths. Bike routes are designated with signs only. (Caltrans Class III facility)

Table 3.14-8 shows the number of existing and proposed or planned bikeways in the City.

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**TABLE 3.14-8: DESIGNATED BIKEWAY NETWORK MILES BY TYPE OF FACILITY**

<i>TYPE OF BIKEWAY</i>	<i>BIKEWAY CLASS</i>	<i>EXISTING (MILES)</i>	<i>PROPOSED OR PLANNED (MILES)</i>
Multi-use Paths	I	9.1	24.4
Bicycle Lanes	II	20.6	13.6
Bicycle Routes	III	1.1	8.1
Separated Bikeways	IV	0.0	15.9
<b>Total</b>	-	<b>30.8</b>	<b>63.0</b>

SOURCE: TJKM, 2023

### Pedestrian Facilities

Pedestrian facilities include sidewalks, paths, pedestrian bridges, crosswalks, and crossing signals. Most streets in Pittsburg have sidewalks on both sides with signals and crosswalks at signalized intersections to accommodate pedestrian circulation. The grid street pattern in the Downtown, coupled with appropriate pedestrian facilities and linkages to waterfront paths, enable a walkable urban core. However, some older streets in the City contain sporadic pedestrian facilities. Pedestrian facility improvements will improve safety for pedestrians and encourage the use of alternative modes of transportation.

While the pedestrian network is generally well-developed in Pittsburg, there are some locations where gaps or barriers limit pedestrian circulation, including lengthy crossings of busy streets and discontinuous street patterns in newer developments. Sidewalk gaps exist on an estimated 13 miles of the City's roadway network. Proposed pedestrian facilities in the Plan would comprehensively improve pedestrian access and safety in Pittsburg, consistent with applicable policies. For example, the proposed projects to close gaps in the City's sidewalk network would be implemented under Policy 7-P-38 to "develop a series of continuous pedestrian systems within Downtown and residential neighborhoods." Proposed crosswalks enhancements would also be implemented under Policy 7-P-42 to "improve pedestrian crossing safety at heavily used intersections."

Pedestrians and cyclists are typically the most vulnerable users to roadway hazards. When collisions do occur, the extent of their injuries is typically greater and increases exponentially with the speed of the roadway. The Plan would add geometric design features at existing intersections to improve safety for pedestrians and cyclists. Crosswalk enhancements would include features such as curb extensions to shorten pedestrian crossing distances, raised crosswalks to indicate that drivers should slow down at intersections, and upgraded curb ramps to improve access for pedestrians with mobility restrictions. Instead of introducing hazards to the circulation system, proposed geometric features would decrease existing hazards identified in the Existing Conditions Report. Individual active transportation projects listed in the Plan would have to conform to local, state, and national standards and manuals, as applicable, regarding safety, proper design emergency access, and construction. These standards would require proper emergency access as part of the design and through the construction of projects.

### GOODS MOVEMENT

Goods movement in Pittsburg is accomplished by truck and rail.



### Truck Routes

Several local Surface Transportation Assistance Act (STAA) truck routes exist within Pittsburg. STAA routes have specific signage and are designed with specified street widths, curb return radii, and other features to accommodate STAA trucks, which have longer wheelbases than other trucks. According to the City of Pittsburg Truck Route Map, shown on Figure 3.14-4, the following streets are STAA truck routes within Pittsburg:

- SR 4 (Regional Truck Route)
- Willow Pass Road (City Truck Route)
- West Tenth Street (City Truck Route)
- East Third Street (City Truck Route)
- North Parkside Drive (City Truck Route)
- Railroad Avenue (City Truck Route)
- West Leland Road (City Truck Route)
- East Leland Road (City Truck Route)
- Buchanan Road (City Truck Route)
- Harbor Street (City Truck Route)
- Pittsburg Antioch Highway (City Truck Route)

### Railroad Network

Goods movement in Pittsburg and the region is supported by the Union Pacific (UP) Railroad and the Burlington Northern Santa Fe (BNSF) Railroad. Within the city limits, at-grade railroad crossings exist on Loveridge Road.

### Safety

Collision history for injury collisions involving trucks is presented in the Roadway System subsection. An average of two collisions per year involving trucks were reported from 2015 through 2019. Of those collisions, an average of about 0.4 per year was serious in nature. Two collisions over that five-year period resulted in a fatal and severe injury.

## 3.14.2 REGULATORY SETTING

The City of Pittsburg General Plan, along with regional, state, and federal plans, legislation, and policy directives, provide guidelines for the safe operation of streets and transportation facilities in Pittsburg. While the City of Pittsburg has primary responsibility for the maintenance and operation of transportation facilities within the City, Pittsburg staff work continually with responsible regional, state, and federal agencies, including the County of Contra Costa, the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), Contra Costa Transportation Authority (CCTA), the California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA), and others, to maintain, improve, and balance the multi-modal transportation needs of the community and the region.

### FEDERAL

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#### **Americans with Disabilities Act**

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency. To implement this goal, the United States Access Board has created accessibility guidelines for public rights-of-way. The guidelines address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

### STATE

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#### **OPR General Plan Guidelines**

The California Governor's Office of Planning and Research (OPR) publishes General Plan Guidelines for cities and counties developing their general plans. OPR released its updated guidelines in 2017 (last amended in 2020), which include legislative changes, new guidance, policy recommendations, external links to resource documents, and additional resources. For each general plan element, the guidelines discuss statutory requirements in detail, provide recommended policy language, and include examples of city and county general plans that have adopted similar policies.

#### **Assembly Bill 32, Senate Bill 32, and Senate Bill 375**

Assembly Bill (AB) 32, also known as the Global Warming Solutions Act of 2006, committed California to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. In 2016, Senate Bill (SB) 32 added a new target: reducing statewide emissions to 40 percent below 1990 levels by 2030.

SB 375 provides guidance for curbing emissions from cars and light trucks to help California comply with AB 32. There are five major components to SB 375:

- ARB will guide the adoption of GHG emission targets to be met by each Metropolitan Planning Organization (MPO) in the state. The MPO for Pittsburg is MTC.
- MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting these regional targets. The SCS must be consistent with the Regional Transportation Plan (RTP).
- Regional housing elements and transportation plans must be synchronized on eight-year schedules. Also, the SCS and Regional Housing Needs Assessment (RHNA) must be consistent with each other.
- The California Environmental Quality Act (CEQA) is streamlined for preferred development types such as mixed-use projects and transit-oriented developments (TODs) if they meet specific requirements.
- MPOs must use transportation and air emission modeling methodologies consistent with California Transportation Commission (CTC) guidelines.

### Senate Bill 743

SB 743, passed in 2013, resulted in several statewide CEQA changes. It required OPR to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend the use of those metrics beyond TPAs. OPR selected vehicle miles traveled (VMT) as the preferred transportation impact metric and applied their discretion to require its use statewide. This legislation established that the aesthetic and parking effects of residential, mixed-use residential, or employment center projects on an infill site within a TPA do not create significant impacts on the environment. The revised CEQA Guidelines that implement this legislation became effective on December 28, 2018, and state that vehicle level of service (LOS) and other similar metrics related to delay shall not be used as the sole basis for determining the significance of transportation impacts for land use projects, and that as of July 1, 2020, this requirement shall apply statewide.

The OPR “Technical Advisory on Evaluating Transportation Impacts in CEQA” (December 2018) includes specifications for VMT methodology and recommendations for significance thresholds, screening of projects that may be presumed to have less than significant impacts, and mitigation.

Screening criteria include:

- **Small projects:** The Technical Advisory concludes that, absent any information to the contrary, projects that generate 110 trips per day or less may be assumed to cause a less-than-significant transportation impact.
- **Projects near transit stations:** Projects located within ½ mile of an “existing major transit stop” or an “existing stop along a high-quality transit corridor” would have a less-than-significant impact on VMT.
- **Affordable residential development:** Projects consisting of a high percentage of affordable housing may be assumed to cause a less-than-significant transportation impact on VMT because they may improve jobs-housing balance and/or otherwise generate less VMT than market-based units.
- **Redevelopment projects:** If a proposed redevelopment project leads to a net overall decrease in VMT (when compared against the VMT of the existing land uses), the project would lead to a less-than-significant transportation impact.
- **Local-serving retail:** Trip lengths may be shortened and VMT reduced by adding “local-serving” retail opportunities that improve retail destination proximity. Page 17 of the Technical Advisory generally describes retail development including stores less than 50,000 square feet as local serving. In May 2020, OPR staff indicated that any retail building that is 50,000 square feet or less may be considered local serving.

Other key guidance includes:

- VMT is the most appropriate metric to evaluate a project’s transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT but ultimately defers to local agencies to determine the appropriate tools.

- OPR recommends measuring VMT for residential and office projects on a “per rate” basis. Specifically, OPR recommends VMT per capita for residential projects and VMT per employee for office projects.
- OPR recommends that a per capita or per employee VMT that is 15 percent below that of existing development may be a reasonable threshold. In other words, an office project that generates VMT per employee that is more than 85 percent of the regional VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the State’s emissions goals.
- For retail projects, OPR recommends measuring the net decrease or increase in VMT in the planning area with and without the project. The recommended impact threshold is any increase in total VMT.
- Lead agencies ultimately have the discretion to set or apply their own significance thresholds, provided they are based on significant evidence.
- Cities and counties still can use measures of delay such as LOS for other plans, studies, or network monitoring. However, according to CEQA Section 15064.3: Determining the Significance of Transportation Impacts, “effect on automobile delay shall not constitute a significant environmental impact.”

### **California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals**

ARB has specific guidance for VMT thresholds in the ARB 2017 “Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals” (January 2019). This document provides recommendations for VMT reduction thresholds that would be necessary to achieve the state’s GHG reduction goals and acknowledges that the SCS targets alone are not sufficient to meet climate goals. ARB concluded that a 14.3-percent reduction in total VMT per capita and a 16.8 percent reduction in light-duty VMT per capita (over current conditions; 2015-2018) was needed to meet these goals. Additionally, the OPR “Technical Advisory” cites this document as support for the 15-percent reduction threshold.

### **California Air Resources Board Improved Program Measurement**

The Improved Program Measurement would help California work more strategically to meet its climate change goals, Auditor of the State of California, February 2021.

#### Recommendations:

1. Measure the Actual GHG Benefits of CARB’s Transportation Programs
  - With limited time and resources available to meet the State’s GHG goals, CARB must do more to identify the actual emissions reductions its transportation programs achieve.
  - Currently, lack of data collection and measurement leads CARB to overstate the reductions from its incentive programs, which receive hundreds of millions of dollars each year from the State’s cap-and-trade fund.
2. Ensure That Programs Provide the Non-GHG Benefits CARB Claims
  - Consistent with state law and its own guidelines, CARB operates transportation programs that focus primarily on providing socio-economic benefits to participants.

- However, even though these programs may cost more, CARB has not taken sufficient steps to determine whether they provide the intended benefits—such as improving participants’ financial stability.
3. Provide Better Information to the Legislature to Guide California’s Strategy
    - For the above reasons, CARB’s current reporting to the Legislature is not adequate.
    - The State needs better tools to balance its climate change priorities and guide its investments.

### **California Air Resources Board Mandatory GHG Reporting 2019 Emissions Year FAQs**

In the “2018 Progress Report, California’s Sustainable Communities and Climate Protection Act” (November 2018), ARB charts recent VMT per capita trends and shows VMT per capita increasing in recent years. This trend is inconsistent with RTP/SCS projections across the state forecasting declines.

The Audit Report is a more recent assessment of ARB’s GHG reduction programs, which found that VMT and its associated GHG emissions are trending in the wrong direction. Per the Audit Report, the state is not on track to achieve 2030 GHG reduction goals and emissions from transportation have not been declining. Transportation-related GHG emissions increased between 2013 and 2018. Additionally, ARB’s Mandatory GHG Reporting 2019 Emissions Year FAQs, November 4, 2020, indicated that though transportation-related emissions declined in 2017, 2018, and 2019, they were still above 2013 levels.

### **Assembly Bill 417**

In October 2013, AB 417 created a statutory CEQA exemption for bicycle plans in urbanized areas. Before the passage of this bill, cities, and counties that prepared bicycle plans were required to carry out a CEQA review. AB 417 exempts the following types of bicycle projects in an urbanized area:

- Restriping of streets and highways,
- Bicycle parking and storage,
- Signal timing to improve intersection operations, and
- Signage for bicycles, pedestrians, and vehicles.

However, not all bicycle plans are exempt if certain conditions are met (for example, a new Class I bicycle trail through a sensitive natural area).

### **Caltrans Vehicle Miles Traveled-Focused Transportation Impact Study Guide**

The Caltrans “Vehicle Miles Traveled-Focused Transportation Impact Study Guide” (TISG), dated May 20, 2020, was prepared to guide Caltrans districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans’ review of VMT impact analysis for land use projects and land use plans. Caltrans seeks to reduce single occupancy vehicle trips, provide a safe transportation system, reduce per capita VMT, increase accessibility to destinations via cycling, walking, carpooling, and transit, and reduce greenhouse gas (GHG) emissions. The TISG notes that, for land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA. Caltrans’ primary review focus for a land use project’s transportation impacts is now VMT. The TISG generally endorses the OPR “Technical Advisory,” including the thresholds in that document. Caltrans may review VMT thresholds, methodology, and mitigations.

### **Caltrans Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance**

The Interim LDIGR Safety Review Practitioners Guidance (July 2020) was developed to provide immediate direction about the safety review while final guidance is being developed. This interim guidance does not establish thresholds of significance for determining safety impacts under CEQA. The guidance notes that the significance of impacts should be determined with careful judgment on the part of a public agency and based, to the greatest extent possible, on scientific and factual data consistent with Caltrans' CEQA guidance contained in Caltrans' Standard Environmental Reference. The guidance notes that District traffic safety staff will use available data to determine if the proposed project may influence or contribute to locations identified by traffic safety Investigations generated by network screening or initiated by the district.

### **Assembly Bill 1358: State of California Complete Streets Act**

On September 30, 2008, Governor Schwarzenegger signed Assembly Bill (AB) 1358, the California Complete Streets Act of 2008, into law. AB 1358 requires any substantive revision of the circulation element of a city or county's general plan to identify how they will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists.

### **Caltrans Deputy Directive 64-R1: Complete Streets – Integrating the Transportation System**

In 2001, Caltrans adopted Deputy Directive (DD) 64, a policy directive related to non-motorized travel throughout the state. In October 2008, DD 64 was strengthened to reflect changing priorities and challenges. DD 64-R1 states:

*The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.*

*The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating "complete streets" beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of "complete streets" requires collaboration among all Department functional units and stakeholders to establish effective partnerships.*

Providing safe mobility for all users, including motorists, bicyclists, pedestrians, and transit riders, contributes to the Department's vision: "Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability."

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Economically, complete streets can help revitalize communities, and they can give families the option to lower transportation costs by using transit, walking, or bicycling rather than driving to reach their destinations. The Department is actively engaged in implementing its complete streets policy in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System.

### **Caltrans Director’s Policy 22 (DP-22): Director’s Policy on Context Sensitive Solutions**

Director’s Policy 22, a policy regarding the use of “Context Sensitive Solutions” on all state highways, was adopted by Caltrans in November of 2001. The policy reads:

*The Department uses “Context Sensitive Solutions” as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context-sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.*

*The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.*

The policy recognizes that “in towns and cities across California, the State highway may be the only through street or may function as a local street,” that “these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods,” and that “communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality.” The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

### **Assembly Bill 43**

In October 2021, AB 43 created greater freedom for local authorities to reduce speed limits to improve safety. Previously, speed limits were generally required to be based on 85<sup>th</sup>-percentile observed speeds. Caltrans is now developing guidance for the implementation of the bill.

### **Assembly Bill 68**

AB 68 legalized the widespread construction of Accessory Dwelling Units (ADUs), also known as “Granny Flats,” on single-family and multi-family housing lots. Before AB 68, local governments erected substantial barriers to the construction of ADUs via high fees and land use and permitting hurdles. AB 68 reduces the maximum time for approved permits of ABUs and eliminates local ordinances that ban their construction. The higher land use intensities within residential developments that AB 68 allows could affect local roadway networks.

### REGIONAL

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#### **MTC Regional Transportation Plan and Sustainable Community Strategy**

The current Regional Transportation Plan and Sustainable Community Strategy (RTP/SCS) produced by MTC was adopted in 2021. The RTP/SCS sets forth regional transportation policy and provides capital program planning for all regional, state, and federally funded projects. The RTP/SCS demonstrate how land use development and transportation can work together to meet greenhouse gas emission reduction targets for cars and light trucks. The RTP can be considered the Bay Area’s “statement of priorities” for the future transportation system. The RTP/SCS “pinpoints policies and investments necessary to advance the goal of a more affordable, connected, diverse, healthy and vibrant Bay Area.” The RTP/SCS “neither funds specific infrastructure projects nor changes local policies” and allows “[c]ities and counties [to] retain all local land use authority.”

#### **Measure C: CCTA Transportation Improvement and Growth Management Program**

Passed in 1988, this Contra Costa County transportation sales tax measure provided for a half-cent on the dollar sales tax for twenty years (through March 2009), to pay for an ambitious list of transportation projects and programs included in a voter-approved Expenditure Plan. The measure was estimated to generate \$1 billion over 20 years for a BART extension, freeway improvements, better bus service, enhanced bicycle facilities, and more transportation options for senior citizens and people with disabilities.

Measure C also included a provision unique among other sales tax measures throughout the state – a program to link planning for growth and development with transportation. CCTA was formed to manage this billion-dollar public investment, oversee the design and construction of new projects, and carry out what would be the county’s first Growth Management Program (GMP).

Note, the Measure C initiative has been continued through Measure J. See below.

#### **Measure J: CCTA Transportation Improvement and Growth Management Program**

In November 2004, Contra Costa voters approved Measure J with a 71% vote. The measure provided for the continuation of our county’s half-cent transportation sales tax for 25 more years beyond the original expiration date of 2009. As with Measure C, the tax revenues would be used to fund a voter-approved Expenditure Plan for transportation programs and projects. The renewal of the tax means that many major improvements in the transportation system will become a reality, and key projects can be undertaken sooner than originally planned.

Measure J would provide approximately \$2.5 billion for countywide and local transportation projects and programs through the year 2034. CCTA worked for over two years, along with local governments, organizations, and residents to develop the Expenditure Plan, which specifies how the funds will be spent.

Measures C and J require all Contra Costa County jurisdictions to participate in the preparation of Action Plans for Routes of Regional Significance to determine the appropriate measures and programs for the mitigation of regional traffic impacts. TRANSPLAN is the Regional Transportation Planning Committee (RTPC) for eastern Contra Costa County, comprised of the cities of Antioch, Brentwood, Oakley, Pittsburg,



and unincorporated Contra Costa County. One elected official from each of these jurisdictions serves on the TRANSPLAN Committee. The Action Plans from the TRANSPLAN Committee are integrated with Action Plans from other regional transportation planning committees to form the CCTA Countywide Comprehensive Transportation Plan.

### **CCTA 2019 Congestion Management Program for Contra Costa**

As the designated Congestion Management Agency (CMA) representing the jurisdictions of Contra Costa County, the CCTA is responsible for preparing and adopting a Congestion Management Program (CMP) and updating it every other year. The 2021 proposed CMP network includes the following corridors in the City:

- SR 4,
- Railroad Avenue, and
- Kirker Pass Road.

### **CCTA East County Action Plan**

The CCTA establishes Multimodal Transportation Service Objectives (MTSOs) and actions for achieving those objectives to roads designated as Routes of Regional Significance. The East County Action Plan designates roads with the following characteristics as Routes of Regional Significance:

- All portions of the Interstate and State highway systems, and
- Arterial roadways that serve one or more of the following functions:
  - Connects two or more “regions” of the County,
  - Crosses County boundaries,
  - Carries a significant amount of through traffic, or
  - Provides access to a regional highway or transit facility (e.g., a BART Station or freeway interchange)

The following roads in the City of Pittsburg are designated as Routes of Regional Significance:

- Bailey Road,
- Buchanan Road,
- East 10<sup>th</sup> Street/Harbor Street,
- Leland Road,
- Railroad Avenue/Kirker Pass Road,
- Somersville Road,
- SR 4, and
- Willow Pass Road.

The following MTSOs apply to the Routes of Regional Significance in the City of Pittsburg listed above with the exception of SR 4:

- Maintain LOS D or better at all signalized intersections, except:
  - On Bailey Road, where LOS E will be acceptable; or,

- At Traffic Management Program (TMP) sites that use performance measures other than average intersection delay.
- Within Priority Development Areas, any physical improvement identified as a result of applying the above standard shall be evaluated for its effects on all intersection users, including pedestrians, cyclists, and transit users.

### LOCAL

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#### **City of Pittsburg Railroad Avenue Specific Plan**

Pittsburg developed the Railroad Avenue Specific Plan in 2009 in collaboration with CCTA and the Eastern Contra Costa Transit Authority to increase public transit ridership near the Pittsburg Center BART Station by promoting increased development intensity and pedestrian and transportation linkages via transit-oriented development (TOD).

#### **Pittsburg/Bay Point BART Master Plan**

The Pittsburg/Bay Point BART Master Plan was adopted in October 2011 by the City of Pittsburg and guides development for the next 20 years around the Pittsburg/Bay Point BART Station. The intent of the plan is to intensify land uses around Pittsburg/Bay Point Station to create a mixed-use TOD.

#### **Pittsburg Moves Active Transportation Plan**

The Pittsburg Moves Active Transportation Plan was adopted by the City of Pittsburg in February 2021 and aims to make the City pedestrian and bike friendly. The plan outlines plans to create a network of pedestrian and bike infrastructure within the City limits and to implement education and evaluation programs to raise awareness of pedestrians and bikes by the City's residents.

The program established a list of projects, including but not limited to:

- Delta de Anza Regional Trail,
- California Delta Trail,
- Los Medanos to the Pittsburg Center BART Trail,
- The PG&E Corridor,
- Delta Waterfront Access Trail, and
- Railroad Avenue Greenway.

#### **City of Pittsburg Transportation Impact Analysis Guidelines**

The City of Pittsburg 's Transportation Impact Assessment Guidelines (TIA Guidelines) provide guidelines for addressing project impacts to the transportation system and includes guidelines for CEQA assessment of projects. The TIA Guidelines establish the following VMT thresholds of significance.

- **Residential projects:** Existing countywide household VMT per capita minus 15 percent.
- **Office projects:** Existing countywide VMT per employee minus 15 percent.
- **Retail projects:** Baseline Bay Area total VMT per service population minus 15 percent.
- **Mixed-use projects:** Evaluate each land use separately.

Baseline VMT is defined as the average VMT per project type for the City of Pittsburg under baseline year conditions using the CCTA Travel Demand Model. The current baseline year is 2018. With updates to the model, the baseline year will change.

The TIA Guidelines establish the following screening criteria to identify when a project should be expected to cause a less than significant VMT impact without conducting a detailed VMT analysis:

- **Small Projects:** Small projects generate or attract fewer than 110 trips per day. Based on research for small project triggers, this may equate to non-residential projects of 10,000 square feet or less and single-family residential projects of 10 units or less, or otherwise generating less than 836 VMT per day.
- **CEQA Exemption:** Any project that is exempt from CEQA is not required to conduct a VMT analysis.
- **Small Scale, Local-Serving Retail:** Local-serving retail projects are defined as projects of less than 50,000 square feet in size on the basis that they attract trips that would otherwise travel longer distances. Local-serving retail generally improves the convenience of shopping and other activities close to home and has the effect of reducing vehicle travel.
- **Small and Active Transportation Projects:** Screened transportation projects are transit projects, bicycle and pedestrian projects, and roadway projects that do not result in an increase in vehicle capacity.
- **Public services:** Police stations, fire stations, public utilities, and parks do not generally generate VMT. Instead, these land uses are often built in response to development from other land uses (e.g., office and residential). Therefore, these land uses can be presumed to have less-than-significant impacts on VMT. However, this presumption would not apply if the project is sited in a location that would require employees or visitors to travel substantial distances and the project is not located within ½ mile of a major transit stop or does not meet the small project screening criterion.

### City of Pittsburg Truck Route Map

The City of Pittsburg Truck Route Map identifies existing truck routes within the City. The map includes several local Surface Transportation Assistance Act (STAA) truck routes and other City truck routes, as shown on Figure 3.14-4.

MTC is exploring potential funding sources for the following:

- A truck facility parallel to SR 4/Loveridge Rd, and
- Truck-climbing lanes on Kirker Pass Road between Clearbrook Road and Buchanan Road.

### City of Pittsburg Design and Construction Standards

The City's Standard Details and Specifications provide for the coordinated and standardized development of City facilities, including roadways. The standards apply to, regulate, and guide the design and preparation of plans, and the construction of streets, highways, alleys, drainage, traffic signals, site access, and related public improvements. All public roadway infrastructure improvements must be designed and constructed in accordance with the city standards and Caltrans' Standard Specifications (Caltrans 2018).

3.14.3 IMPACTS AND MITIGATION MEASURES

METHODS OF ANALYSIS

The transportation impact analysis assesses how the planning area’s transportation system would operate with the implementation of the proposed General Plan. The transportation impact analysis methodology includes a combination of quantitative and qualitative evaluations of the roadway, bicycle, pedestrian, and transit components of the transportation system. All analysis presumes that future background travel options and behaviors remain similar to current conditions and do not explicitly account for potential changes associated with disruptive trends, emerging technologies, and changes in travel choices, which were discussed in the Environmental Setting section.

**Analysis Scenarios**

The following scenarios were analyzed using the Contra Costa Transportation Authority’s travel demand model. Table 3.14-9 summarizes the major land use in each scenario. The buildout of the existing General Plan was also analyzed in a separate scenario, as discussed in Chapters 2.0 (Project Description) and 5.0 (Alternatives).

- **2018 Baseline.** The baseline land uses described earlier in this chapter.
- **2040 Proposed General Plan Buildout.** Buildout of the land use development in the proposed General Plan.

**TABLE 3.14-9: SCENARIO MAJOR LAND USE**

<i>LAND USE</i>	<i>UNITS</i>	<i>2018 BASELINE</i>	<i>2040 PROPOSED GENERAL PLAN BUILDOUT</i>	<i>INCREASE (2040 PROPOSED GENERAL PLAN VS. 2018 BASELINE)</i>
Households	Housing Units	21,342	29,358	+37.56%
Population	Persons	74,641	87,915	+17.78%
Employment	Employees	18,882	33,604	+77.97%

SOURCE: TJKM, 2023.

The City is expected to grow substantially (especially in the employment sector) from 2018 to 2040. The population is expected to grow by around 18%, while employment is expected to grow by almost 78%.

Reasonably foreseeable development surrounding the planning area was also assumed for general plan scenarios modeled as part of this effort. Namely, development in the Cities of Antioch, Oakley, Brentwood, Concord, and Walnut Creek, as well as other portions of Contra Costa County per their general plans was assumed.

The proposed General Plan Circulation Element’s circulation diagram is shown in Figure 3.14-10. It must be noted that the Plan serves only as a schematic; precise design elements will be subject to further studies prior to implementation. Key features of the planned Pittsburg mobility network include:

- The provision of a citywide network of streets that accommodates all users in terms of both accessibility and safety;
- The promotion of non-automobile transportation modes, such as with the completion of a citywide bike network;

- The deterring of neighborhood cut-through traffic;
- Improvements along commuter corridors and their junctions to reduce congestion; and
- The provision of new network connections (such as along Bailey Road, Buchanan Road, Kirker Pass Road, and San Marco Boulevard).

### Vehicle Miles Traveled

The CCTA travel demand model was used to estimate VMT for the 2040 General Plan. Two measures of VMT are used in this analysis:

- **VMT per capita, for residential land uses.** Includes VMT for trips produced by a dwelling unit's residents, such as to work, school, or shop, and with one end of the trip at the home, on a typical weekday.
- **VMT per employee, for commercial land uses.** Includes all trips with one end at the land use, including trips by employees, customers, and deliveries, on a typical weekday.

Additional VMT-related measures are also provided for informational purposes:

- **Total VMT.** Includes all trips with at least one end in the planning area on a typical weekday.

Note that the number of residents per household will likely vary in the future due to changes in the demographics of City residents and the mix of housing types. Thus, these estimates are provided for informational purposes only.

Estimates of current VMT and forecasts of future VMT are inherently dependent on the methodology used and are based on a presumption that future travel behavior will be consistent with recent travel behavior. Travel models, including the model used for this analysis, base their forecasts of future behavior on past behavior. Any subsequent changes including changes in usage of transportation network companies (TNCs) such as Uber and Lyft, large changes in fuel prices, public availability of autonomous vehicles (AVs), and long-term COVID-19 pandemic effects (such as increases in telecommuting) may change future travel behaviors, resulting in future VMT differing from current forecasts. The future effect of these changes is unknown, and thus difficult to model.

### THRESHOLDS OF SIGNIFICANCE

For the purposes of this EIR, adoption and/or implementation of the proposed General Plan would result in significant impacts under CEQA, if any of the following would occur:

- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b),
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities,
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or
- Result in inadequate emergency access.

**Vehicle Miles Traveled**

Based on Appendix G of the CEQA Guidelines, the General Plan would result in a significant transportation impact if it would conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)(1), which states for land use projects, “Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact.” CEQA Guidelines § 15064.3, subdivision (b)(4) states, “A lead agency has the discretion to choose the most appropriate methodology to evaluate a project’s vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project’s vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence.”

Pittsburg follows the CCTA VMT guidelines and uses the following metrics:

- VMT per capita for residential land uses,
- VMT per employee for commercial land uses, and
- Net change in Total VMT within a study area for transportation projects.

The 15 percent reduction in total VMT per capita identified as necessary to meet State goals in the ARB 2017 “Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals” is supported by substantial evidence. Additionally, this document updated data used to develop the OPR “Technical Advisory.” The “Technical Advisory” supports “per rate” reductions of 15 percent compared to existing conditions. The “Technical Advisory” has been endorsed by Caltrans in their TISG.

With these considerations, the City’s TIA Guidelines utilize a threshold of 15 percent below countywide baseline VMT per capita (for residential land uses) or employee (office/employment-related land uses) by land use type. Therefore, if any of the VMT metrics above under 2040 General Plan conditions exceed 85 percent of the same value under 2018 Baseline Conditions, VMT impacts on transportation may be considered significant. VMT thresholds by land use type are shown in Table 3.14-10.

**TABLE 3.14-10: VMT THRESHOLD DEVELOPMENT**

<i>LAND USE</i>	<i>UNITS</i>	<i>2018 BASELINE (COUNTYWIDE)</i>	<i>VMT THRESHOLD 85 PERCENT OF BASELINE</i>
Residential	VMT per Capita	19.32	16.43
Commercial	VMT per Employee	14.39	12.23

SOURCE: TJKM, 2023

**Transit, Bicycles, and Pedestrians**

Appendix G of the CEQA Guidelines indicates that impacts may be significant if a project conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The proposed General Plan would have a significant impact on transit, bicycles, or pedestrians if it would conflict with adopted policies, plans, or programs regarding these systems, or create or exacerbate disruptions to the performance or safety of these systems.

**Hazards and Emergency Access**

Appendix G of the CEQA Guidelines indicates that impacts may be significant if a project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous

intersections) or incompatible uses (e.g., farm equipment). Impacts may also be significant if a project results in inadequate emergency access. The proposed General Plan would have a significant impact on the transportation system if it would increase hazards due to a design feature, incompatible uses, or inadequate emergency access.

IMPACTS AND MITIGATION MEASURES

**Impact 3.14-1: General Plan implementation would result in VMT per employee that is greater than 85 percent of Baseline conditions (Significant and Unavoidable)**

Table 3.14-11 shows the VMT per capita, VMT per employee, per resident, and total VMT for General Plan buildout conditions, as well as for the baseline condition. As shown in the table, the proposed General Plan would result in increased total VMT but show a decrease in both VMT per capita and VMT per employee. The 2040 General Plan would result in a decrease in citywide VMT both per capita and per employee. When comparing the 2040 General Plan to the VMT threshold, the 2040 General Plan would exceed the VMT threshold. While the residential VMT would be less than the VMT threshold, employment-related uses would exceed the VMT threshold as shown in Table 3.14-11.

**TABLE 3.14-11: VMT DATA COMPARISON BETWEEN EXISTING CONDITION AND VMT THRESHOLD**

LAND USE	UNITS	EXISTING CONDITION (BASELINE CITYWIDE VMT)	PROPOSED 2040 GENERAL PLAN VMT	VMT THRESHOLD	DOES 2040 GENERAL PLAN EXCEED VMT THRESHOLD?
All residential	VMT per Capita	17.38	17.21	16.43	Yes
All employment	VMT per Employee	12.31	12.21	12.23	No
Total VMT	VMT	2,102,345	2,824,716	--	

SOURCE: TJKM, 2023

Although not part of the formal impact significance criterion, Table 3.14-11 shows the total VMT generation under existing conditions and with the buildout of the 2040 General Plan. Total VMT shows an expected 34.4 percent increase when comparing baseline and 2040 General Plan forecast conditions. The reasonableness of this increase can be evaluated by comparing increases in land use.

In addition, Table 3.14-11 shows residential VMT per capita is expected to decrease by 0.9 percent at a citywide level, while VMT per employee decreases by 0.8 percent at a citywide level. Both decreases can be explained by denser developments within the 2040 General Plan. Total VMT would increase by 34.4 percent, which is in line with the land use changes and increases in population and employment for the 2040 General Plan. While both VMT per capita and VMT per employee are decreasing compared to existing citywide conditions, the 2040 General Plan would result in an overall increase in total VMT and would exceed the VMT baseline threshold as shown in Table 3.14-11. Therefore, this impact is **significant**.

Table 3.14-12 compares households, population, and employment associated with the proposed General Plan update.

## 3.14 TRANSPORTATION AND CIRCULATION

**TABLE 3.14-12: LAND USE COMPARISON BETWEEN BASELINE AND PROPOSED GENERAL PLAN**

<i>LAND USE</i>	<i>UNITS</i>	<i>BASELINE</i>	<i>PROPOSED GENERAL PLAN</i>	<i>% INCREASE</i>
Households	Housing Units	21,342	29,358	+37.56%
Population	Persons	74,641	87,915	+17.78%
Employment	Employees	18,882	33,604	+77.97%

SOURCE: TJKM, 2023

The 2040 General Plan includes policies designed to reduce vehicle travel and vehicle miles traveled. The Circulation Element addresses providing adequate pedestrian, bicycle, and transit facilities and opportunities, promoting non-vehicle travel modes, requiring employers to implement TDM programs, and ensuring regional coordination on trip and VMT reduction efforts. General Plan policies and actions that contribute to VMT reductions are identified below. These policies and actions would help to reduce the severity of these significant impacts to the greatest extent feasible.

The VMT generated by the buildout of the 2040 General Plan would exceed the VMT threshold of 85 percent of baseline. Implementing the 2040 General Plan policies and actions will help to reduce VMT through encouraging non-vehicle transportation modes, expanding transit services, and developing TDM program requirements including measures to reduce VMT associated with new development. The City will also use this EIR and CEQA Section 15183 to streamline VMT analysis for projects consistent with the updated General Plan. However, reductions in VMT per person of at least five percent would be required to achieve thresholds as shown in Table 3.14-11.

The General Plan goals, policies, and implementation measures listed below will achieve meaningful reductions in VMT generated by land uses within the City. The City at this time cannot demonstrate that VMT will be reduced to the degree that it meets these thresholds. Although large changes in the proposed 2040 General Plan land use could potentially reduce the total VMT of the City further, those changes would also affect the achievement of other goals the City seeks to achieve with the General Plan. VMT reduction also depends on factors such as demographic change, household preferences for housing types and locations, the cost of fuel, and the competitiveness of regional transit relative to driving, which relates to congestion along vehicular commute routes that are not under the City's jurisdiction, as well as transit provided by agencies other than the City. The feasibility and effectiveness of a local or regional VMT impact bank or exchange are unknown at this time. While the 2040 General Plan includes measures to reduce VMT, the City cannot demonstrate definitively at this time that implementation of these policies and actions would achieve VMT reductions to meet the VMT thresholds. Therefore, this impact is considered **significant and unavoidable**.

### GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS

#### POLICIES – CIRCULATION & TRANSPORTATION ELEMENT

7-P-1.1: Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, trails, and paths that effectively and safely accommodate all users in a manner that considers the context of surrounding land uses.



7-P-1.2: Consider all modes of travel, including opportunities to increase access and connectivity, in planning, design, and construction of all transportation projects to create safer, more livable, and more inviting environments for pedestrians, bicyclists, motorists and public transit users of all ages and capabilities.

7-P-1.4: Monitor deployment of new transportation technologies and services and develop policies that implement best practices to ensure these technologies and services benefit the public and the multimodal transportation system.

7-P-1.5: Implement and continue to increase efforts to reduce regional vehicle miles traveled (VMT) by supporting land use patterns and site designs that promote active modes of transportation, and public transit.

7-P-1.6: Design streets to operate with vehicle speeds that are safer for all users, especially pedestrian and bicyclists, while providing adequate access for emergency vehicles. Speed reductions strategies should include reduced lane widths and application of traffic calming measures on local and collector streets and especially near parks, schools, trails, and in the Downtown core. 7-P-1.7: Strive to maintain delay-based level of service (LOS) D for motor vehicle traffic as the minimum acceptable service standard for all signalized and stop-controlled intersections at all times (including during peak periods) unless maintenance of LOS would, in the City's judgement, be infeasible and/or conflict with the achievement of other City goals. Congestion in excess of LOS D may be acceptable in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or City-initiated project. In the designated Downtown core, as defined by the City's General Plan and illustrated by the City's Subdivision map, LOS E would be considered as an acceptable service standard to account for the more urban, pedestrian-oriented character of the area.

7-P-1.8: Maximize the carrying capacity and safety of arterial roadways by controlling the number of intersections, commercial driveways, and residential access points.

7-P-1.9: Implement transportation improvements to maintain and enhance roadway operations and safety while striving to improve comfort of all users.

#### ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT

7-A-1.a: Evaluate projects traffic and Vehicle Miles Traveled (VMT) impacts of development projects based on the City's Transportation Impact Analysis Guidelines to determine transportation impacts to all users and to require projects to address impacts consistent with the requirements of CEQA.

7-A-1.b: Require proposed development projects with VMT levels above the City's threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a manner consistent with the City's sustainability goals, the City's Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

7-A-1.c: Adopt a Vision Zero or similar policy with a goal of eliminating severe injury and fatal collisions.

## 3.14 TRANSPORTATION AND CIRCULATION

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7-A-1.d: Require new development to pay its fair share of the costs of street and other transportation improvements in conformance with the goals and policies established in this Circulation Element and the Transportation Impact Mitigation Fee (TIMF) program . Use the adopted regional and local TIMF ordinances, as may be amended or replaced, to ensure that all new developments pay a fair share of the cost of transportation improvements, or require mitigation for development proposals that are not part of the TIMF program which contribute more than one percent of the volume to an existing roadway or intersections.

7-A-1.e: Use traffic calming tools and speed reduction strategies in new development and the design of roadway improvements to assist in implementing complete street principles; possible tools include roundabouts, raised intersections, curb extensions, reduced roadway width, and high visibility crosswalks.

7-A-1.f: Implement identified intersections improvements illustrated in Table 7.2.

7-A-1.g: Implement vehicle weight limit restrictions on roadways near sensitive uses like schools and residential neighborhoods to prohibit cut-through truck traffic prior to approving new industrial development or other development with high levels of truck traffic.

7-A-1.h: Discourage pass-through vehicle traffic and speeding on local residential streets.

7-A-1.i: Continue to designate and monitor appropriate truck routes to discourage unnecessary through traffic in residential areas.

### **Impact 3.14-2: General Plan implementation would conflict with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities (Significant and Unavoidable)**

Implementation of the General Plan could lead to increases in the city's population and employment that would increase the demand for pedestrian and bicycle facilities and transit facilities and services.

The City adopted a Bicycle Transportation Plan that establishes the City's goals and objectives for bicycle travel. The Bicycle Transportation Plan establishes standards for bicycle facilities and identifies planned bicycle network facilities to address the City's bicycle needs. The Circulation Element developed as part of the proposed General Plan contains Policy CIR-2.1 and Implementation Actions CIR-2a and CIR-2g, which support bicycle and pedestrian routes and facilities and creating an active transportation plan supporting the development and funding of bicycle and pedestrian networks. The proposed General Plan also contains Policy CIR-2.1-2.5 and Implementation Action CIR-2a-2m, which support the creation and funding of an intra-city transit network as the City grows. Furthermore, the proposed General Plan contains additional policies and implementing actions that support access to and the performance of transit, bicycle, and pedestrian facilities. These applicable policies and implementing actions are identified below. Further, the Plan includes mixed-use development that is supportive of active transportation and transit.

General Plan Update includes policies and actions that help make the circulation system, including transit, bicycle, and pedestrian facilities, consistent with applicable programs, plans, policies, and ordinances and address the needs of growth accommodated by the proposed General Plan.

Although the General Plan Update policies and actions help make the circulation system, including transit, bicycle, and pedestrian facilities, consistent with applicable programs, plans, policies, and ordinances and address the needs of growth accommodated by the proposed General Plan, increasing vehicle traffic may increase the number of collisions on Pittsburg roadways, including collisions involving transit users, bicyclists, and pedestrians. The City cannot demonstrate definitively at this time that implementation of these policies would maintain the number of collisions for vehicles, pedestrians, and bicyclists at current or lower levels. Therefore, the plan may conflict with policies for safe travel, including by transit users, bicyclists, and pedestrians. This impact is **significant**.

The General Plan goals, policies, and implementation measures may achieve meaningful reductions in collisions within the City. The City at this time cannot demonstrate that collisions will be reduced to the degree that it meets these thresholds. Collision reduction also depends on factors such as user behavior, demographic change, household preferences for travel, the cost of fuel, and the competitiveness of other transportation modes relative to driving. Therefore, this impact is considered **significant and unavoidable**.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-2.1: Cooperate with other private entities and public agencies to promote and enhance local and regional transit serving Pittsburg.

7-P-2.2: Encourage employers to provide programs for carpooling/transit/biking/walking subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting, working at home, employee education, and preferential parking for carpools/vanpools.

7-P-2.3: Support transit use by providing safe and convenient access to transit service, supporting increased BART and bus frequency and reliability, and regularly reviewing existing transportation routes and headways to match community needs.

7-P-2.4: Ensure that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects and on any roadways that are impacted as a result of new development.

7-P-2.5: Work with school districts, school administrators, and parents of school students to develop a “suggested routes to school” program for students who bicycle and walk in concurrence with the Pittsburg Moves Active Transportation Plan.

7-P-2.6: Endorse Transportation Demand Management (TDM) strategies to reduce reliance on single-occupancy trips and commuter traffic.

7-P-3.1: Continue to promote active transportation modes and review and update Pittsburg Moves, the City’s active transportation plan, as needed to reflect the needs of the City and to promote a healthier future supporting bicycle and pedestrian networks across the City.

7-P-3.2: Pursue the completion of the City’s bicycle and pedestrian networks by filling in missing gaps and improve the existing networks through periodic servicing.

7-P-3.3: Require that all new roadways and developments accommodate bicyclists and pedestrians.

7-P-3.4: Pursue opportunities for public-private partnerships to enhance transportation infrastructure and services.

7-P-3.5: Ensure continued compliance with Title 24 of the California Building Code, requiring the removal of all barriers to disabled persons on City streets.

7-P-3.6: Encourage secure bicycle facilities and other alternative transportation facilities to be provided as part of new developments, especially future employment sites, public facilities, and multi-family residential complexes.

### ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT

7-A-2.a: Support efforts by public agencies and/or private interests to promote regional heavy and light passenger rail transit as an alternative or adjunct to BART, with connections to BART and other multi-modal transit.

7-A-2.b: Support the expansion of the existing transit service area and an increase in the service levels of existing transit. Support increased Tri-Delta and County Connection express bus service to the Pittsburg/Bay Point and Pittsburg Center BART stations.

7-A-2.c: Revise existing and provide new bus routes and facilities to increase bus utilization and decrease reliance on single-occupancy vehicle trips.

7-A-2.d: Coordinate with public transportation agencies to facilitate safe, efficient, and convenient pedestrian access to transit stops; work with agencies to relocate stops when necessary.

7-A-2.e: Preserve options for future transit use when designing improvements for roadways. Ensure that developers provide bus turnouts and/or shelters, where appropriate, as part of projects.

7-A-2.f: Require new developments to provide public access and infrastructure, as appropriate, that support internal connectivity, multimodal transportation, and integration into the surrounding transportation networks.

7-A-2.g: Work with Tri-Delta and County Connection to schedule signal timing for arterials with heavy bus traffic, where air quality benefits can be demonstrated.

7-A-2.h: Require mitigation for development proposals which increase transit demand above the service levels provided by public transit operators and agencies, or, create conflicts and fail to provide adequate facilities for pedestrians and bicyclists.

7-A-2.i: As part of development approval, ensure that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects and on any roadways that are impacted as a result of new development.

7-A-2.j: Adopt a citywide TDM plan to encourage vehicle trip reduction at employment sites, businesses, schools, and multi-unit residential facilities by 15 percent or more during commuter peak periods, and

dedicate staff to work closely with communities throughout the City on ongoing education and encouragement efforts.

7-A-2.k: Encourage developers to provide enhanced TDM programs and alternative transportation infrastructure that exceeds minimum requirements, as per 7-A-2.j, in exchange for reduced parking requirements, with a focus on priority development areas and locations in proximity to high capacity transit.

7-A-2.l: Review and consider opportunities to reduce transportation impact fees on new non-residential development commensurate with provision of TDM measures, where TDM measures will reduce demands on transportation system and where reductions are feasible. Project proponents taking advantage of reductions must agree to adopt and implement specified TDM measures and monitoring practices as a condition of project approval.

7-A-2.m: Encourage major employers to establish designated carpool parking areas, designated electric vehicle (EV) / Clean Air Vehicle (CAV) parking, and secure on-site bicycle facilities.

7-A-2.n: Coordinate with the school district to develop a “suggested routes to school” program that promotes safety for students who bicycle and walk to school. As part of this effort, update the Pittsburg Moves Active Transportation Plan to reflect recommended routes to school and, where feasible, include improvements to implement the program in the City’s TIMF program and Capital Improvement Program.

7-A-3.a: Increase connectivity with regional trails as envisioned in the Contra Costa Countywide Bicycle and Pedestrian Plan and trails plans from neighboring jurisdictions.

7-A-3.b: Provide adequate roadway width dedications for bicycle lanes, paths, and routes.

7-A-3.c: Repair or replace crosswalks and bike lane markings that are faded or damaged. Review of the existing roadways conditions should be assessed periodically.

7-A-3.d: Continue to look for opportunities to eliminate sidewalk and bike lane gaps that limit connectivity between existing neighborhoods and ensure new connections are provided with all new developments.

7-A-3.e: Implement a clear and consistent bicycle signage and wayfinding program, with directional signs along bike routes indicating major destinations.

7-A-3.f: Identify and implement opportunities to reconfigure roadways with excessive vehicular capacity to accommodate new or enhanced bicycle and pedestrian facilities in high pedestrian demand areas, such as the Downtown, to facilitate safe and efficient pedestrian movement.

7-A-3.g: Implement a Safe Routes to School program which will aim to protect the safety of students walking and biking to school.

7-A-3.h: Promote reduced vehicle ownership to encourage use of transit facilities.

7-A-3.i: Encourage, and where appropriate require, new development to provide bicycle access to parks, schools, and transit stops in the design of new residential neighborhoods.

7-A-3.j: Incorporate urban design measures in commercial and mixed use districts which accommodate pedestrians and support walking.

7-A-3.k: Continue to support public and private organizations' efforts to provide paratransit service for the elderly and disabled.

### **Impact 3.14-3: General Plan implementation would increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Significant and Unavoidable)**

Implementation of the proposed General Plan would result in increased development, which would result in new roadways and would increase the number of users on the city's transportation system. There will be a need to ensure that hazards are not increased and that adequate emergency access provisions are made to accommodate increased population and growth. As roadways are widened to accommodate increased ADT, accommodations will need to be made for all modes of travel, as part of the PFIP and other programs.

It is noted that the Plan is a programmatic-level document, and hazards are typically assessed at the project level. Potential hazards associated with future development projects would be analyzed and evaluated in detail through the environmental review process. Additionally, the City's approach to safety includes:

- Compliance with design standards – all modifications of the city's transportation network whether by City or developer action are required to comply with applicable design standards. The City's design and construction standards and specifications provide for coordinated and standardized development of City facilities, including roadways, to minimize conflicts and the potential for collisions. The standards apply to, regulate, and guide the design and preparation of plans, and the construction of streets, highways, alleys, drainage, traffic signals, site access, and related public improvements.
- Traffic investigations – the City regularly conducts investigations to address traffic safety concerns raised in the community.
- Traffic calming – the City's Neighborhood Traffic Calming Program is used to reduce speeds and create conditions more conducive to walking and bicycling. The program includes speed hump installation when conditions warrant.

Additionally, the Highway Safety Manual (American Association of State Highway and Transportation Officials, 2010) shows that fatal and injury crash frequencies generally decrease with decreasing speed. Thus, as congestion increases and vehicle speed decreases, collision rates may decrease. However, there will be periods when the roads are not congested. Additionally, this relationship cannot be shown to hold true under all conditions, and total collisions may increase. Similarly, collisions involving pedestrians and bicyclists may increase. Thus, new development will increase the number of vehicles on the roadway network, and the number of collisions in the City may increase for all modes.

Collisions involving trucks may also increase. Industrial employment is estimated to increase 279 percent under general plan buildout conditions as compared to the existing conditions. With the increase in industrial growth, about 24,700 daily truck trips are expected to be generated.

Approximately 0.31 annual injury collisions and 0.061 annual killed or serious injury collisions per thousand daily truck trips were estimated to be generated in the City under the 2020 baseline condition as described in the Environmental Setting section. Using a constant collision rate per trip, approximately 7.4 annual injury collisions and 1.5 annual killed or serious injury collisions are estimated to be generated in the City under general plan buildout conditions.

The increased level of traffic and delays may increase emergency response times. New development will also result in more people living and working at greater distance from existing fire and police facilities, with potentially longer response times. Additionally, new development will increase traffic at at-grade rail crossings, potentially increasing collisions, and funds have not been identified to implement grade separations.

The proposed General Plan contains policies and actions in support of safe circulation by all modes and adequate emergency access. The Circulation Element includes policies to pursue funding for grade separation. It also includes policies to create a Local Roadway Safety plan and to update the Capital Facilities Fee (CFF) program to include safety improvements for all modes and funding for grade-separated crossings at existing roadways. These applicable policies are listed below.

Although the General Plan policies and actions related to circulation, hazards, and emergency access would reduce the impacts to emergency circulation and access associated with the implementation of the General Plan Update, increasing vehicle traffic may increase the number of collisions on Pittsburg roadways, and therefore result in an increase in hazards. The City cannot demonstrate definitively at this time that implementation of these policies would maintain the number of collisions for vehicles, pedestrians, and bicyclists at current or lower levels. This impact is **significant**.

The General Plan goals, policies, and implementation measures listed below may achieve meaningful reductions in collisions within the City. The City at this time cannot demonstrate that collisions will be reduced to the degree that it meets this threshold. Collision reduction also depends on factors such as user behavior, demographic change, household preferences for travel, the cost of fuel, and the competitiveness of other transportation modes relative to driving. Therefore, this impact is considered **significant and unavoidable**.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – CIRCULATION & TRANSPORTATION ELEMENT**

7-P-1.1: Ensure that the City's circulation network is a well-connected system of streets, roads, highways, sidewalks, trails, and paths that effectively and safely accommodate all users in a manner that considers the context of surrounding land uses.

7-P-1.2: Consider all modes of travel, including opportunities to increase access and connectivity, in planning, design, and construction of all transportation projects to create safer, more livable, and more inviting environments for pedestrians, bicyclists, motorists and public transit users of all ages and capabilities with an emphasis on Vision Zero best practices.

## 3.14 TRANSPORTATION AND CIRCULATION

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7-P-1.6: Design streets to operate with vehicle speeds that are safer for all users, especially pedestrian and bicyclists, while providing adequate access for emergency vehicles. Speed reductions strategies should include reduced lane widths and application of traffic calming measures on local and collector streets and especially near parks, schools, trails, and in the Downtown core.

7-P-2.3: Support transit use by providing safe and convenient access to transit service, supporting increased BART and bus frequency and reliability, and regularly reviewing existing transportation routes and headways to match community needs.

7-P-2.4: Ensure that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects and on any roadways that are impacted as a result of new development.

7-P-2.5: Work with school districts, school administrators, and parents of school students to develop a “suggested routes to school” program for students who bicycle and walk in concurrence with the Pittsburg Moves Active Transportation Plan.

7-P-3.1: Continue to promote active transportation modes and review and update Pittsburg Moves, the City’s active transportation plan, as needed to reflect the needs of the City and to promote a healthier future supporting bicycle and pedestrian networks across the City.

7-P-3.3: Require that all new roadways and developments accommodate bicyclists and pedestrians.

### ACTIONS – CIRCULATION & TRANSPORTATION ELEMENT

7-A-1.a: Evaluate projects traffic and Vehicle Miles Traveled (VMT) impacts of development projects based on the City’s Transportation Impact Analysis Guidelines to determine transportation impacts to all users and to require projects to address impacts consistent with the requirements of CEQA.

7-A-1.b: Require proposed development projects with VMT levels above the City’s threshold to consider reasonable and feasible project modifications and other measures during the project design and review stage and the environmental review stage that would reduce VMT effects in a manner consistent with the City’s sustainability goals, the City’s Transportation Impact Analysis Guidelines, and with State guidance on VMT reduction.

7-A-1.c: Adopt a Vision Zero or similar policy with a goal of eliminating severe injury and fatal collisions.

7-A-1.g: Implement vehicle weight limit restrictions on roadways near sensitive uses like schools and residential neighborhoods to prohibit cut-through truck traffic prior to approving new industrial development or other development with high levels of truck traffic.

7-A-1.h: Discourage pass-through vehicle traffic and speeding on local residential streets.

7-A-1.i: Continue to designate and monitor appropriate truck routes to discourage unnecessary through traffic in residential areas.

7-A-2.d: Coordinate with public transportation agencies to facilitate safe, efficient, and convenient pedestrian access to transit stops; work with agencies to relocate stops when necessary.



7-A-2.e: Preserve options for future transit use when designing improvements for roadways. Ensure that developers provide bus turnouts and/or shelters, where appropriate, as part of projects.

7-A-2.f: Require new developments to provide public access and infrastructure, as appropriate, that support internal connectivity, multimodal transportation, and integration into the surrounding transportation networks.

7-A-2.i: As part of development approval, ensure that safe and contiguous routes for pedestrians and bicyclists are provided within new development projects and on any roadways that are impacted as a result of new development.

7-A-3.b: Provide adequate roadway width dedications for bicycle lanes, paths, and routes.

7-A-3.c: Repair or replace crosswalks and bike lane markings that are faded or damaged. Review of the existing roadways conditions should be assessed periodically.

7-A-3.d: Continue to look for opportunities to eliminate sidewalk and bike lane gaps that limit connectivity between existing neighborhoods and ensure new connections are provided with all new developments.

7-A-3.e: Implement a clear and consistent bicycle signage and wayfinding program, with directional signs along bike routes indicating major destinations.

7-A-3.f: Identify and implement opportunities to reconfigure roadways with excessive vehicular capacity to accommodate new or enhanced bicycle and pedestrian facilities in high pedestrian demand areas, such as the Downtown, to facilitate safe and efficient pedestrian movement.

7-A-3.g: Implement a Safe Routes to School program which will aim to protect the safety of students walking and biking to school.

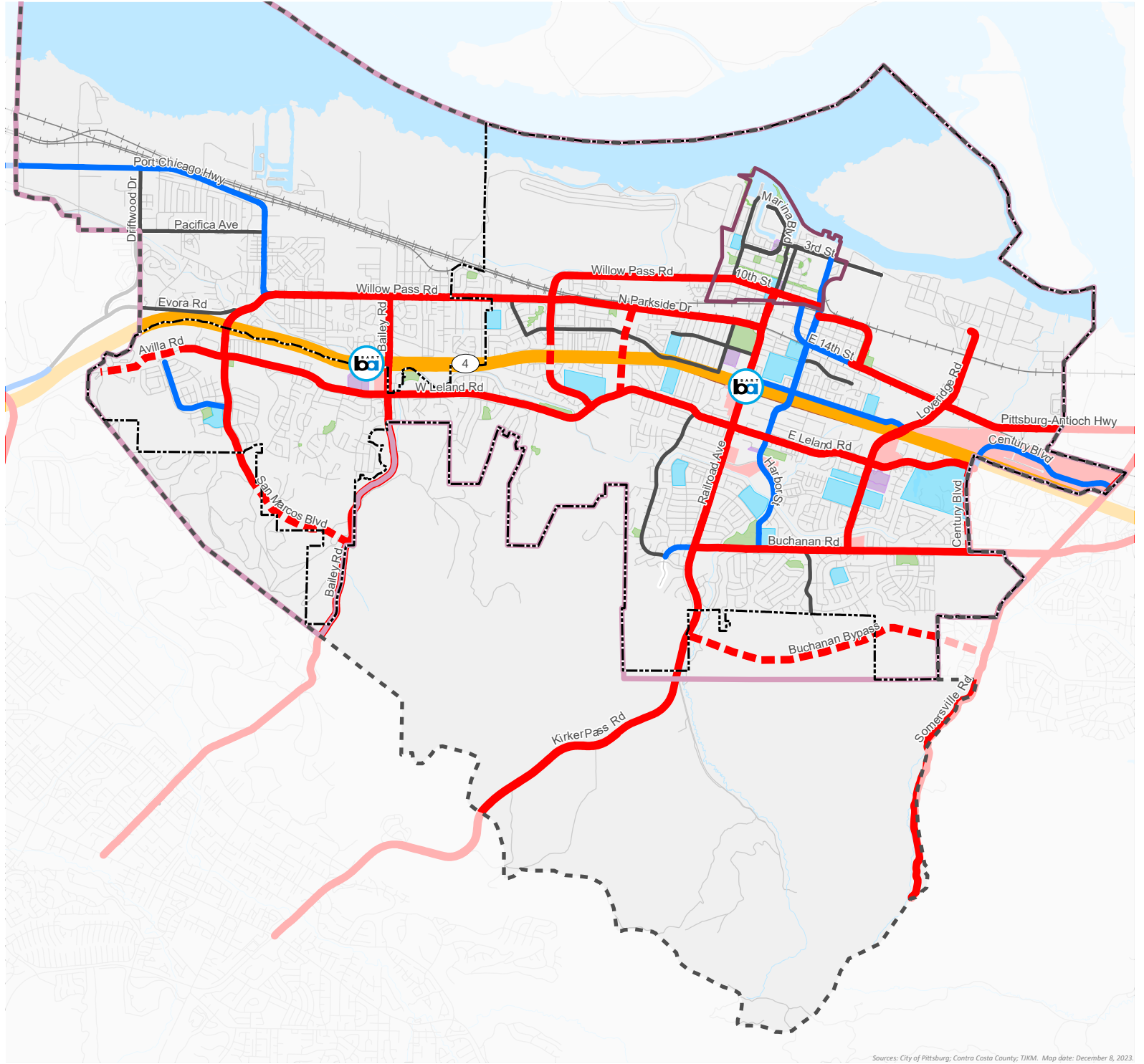
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Figure 3.14-1.

# ROADWAY NETWORK FUNCTIONAL CLASSIFICATION

**Legend**

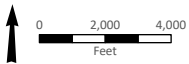
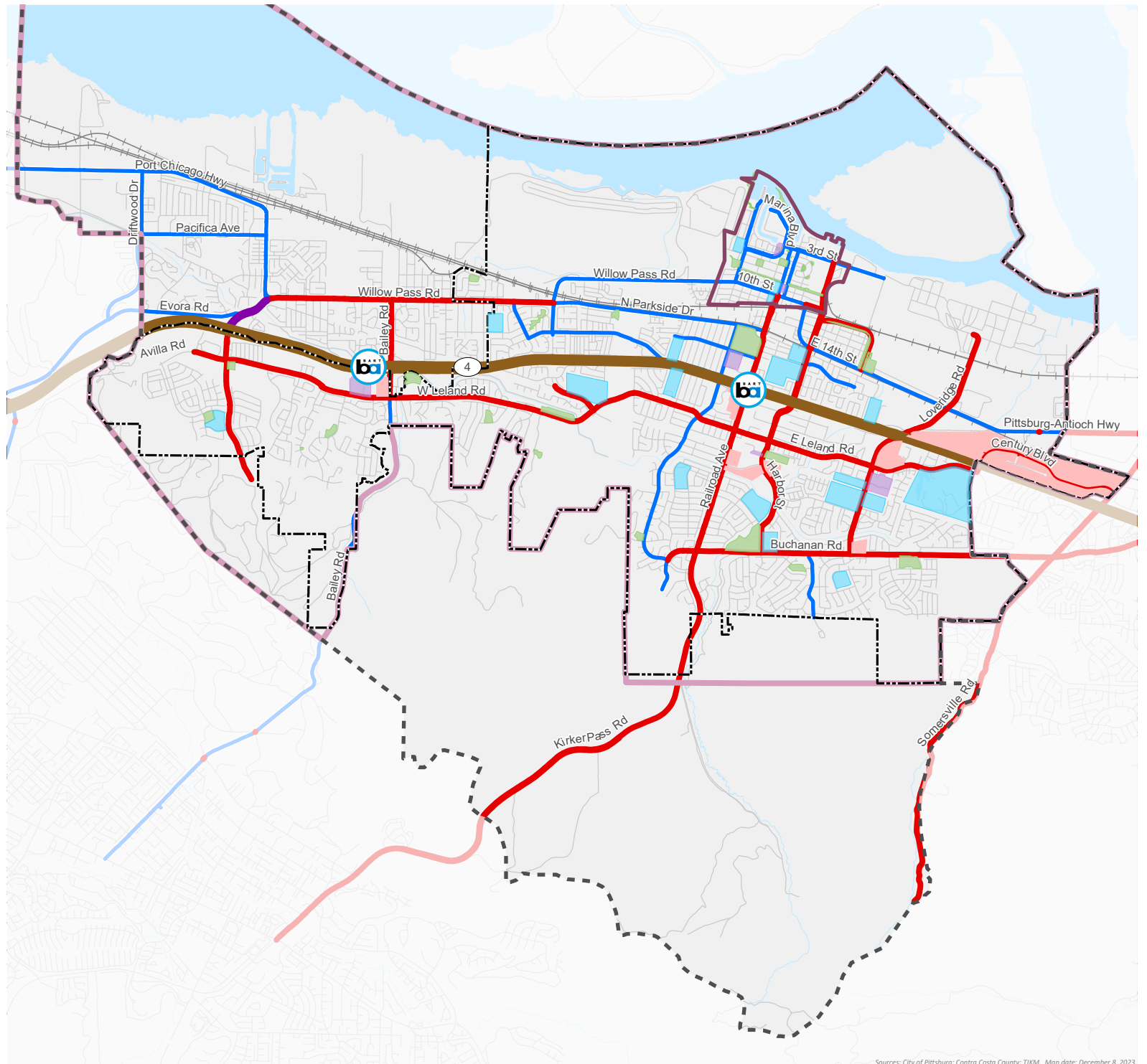
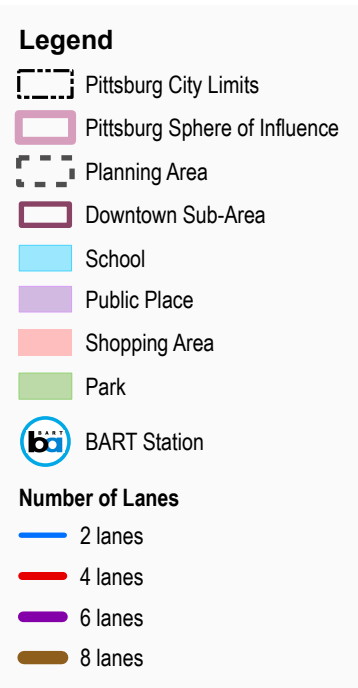
- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Sub-Area
- School
- Public Place
- Shopping Area
- Park
- BART Station
- Freeway
- Major Arterial
- Proposed Major Arterial
- Minor Arterial
- Collector



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Figure 3.14-2.

## NUMBER OF LANES



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Figure 3.14-3.

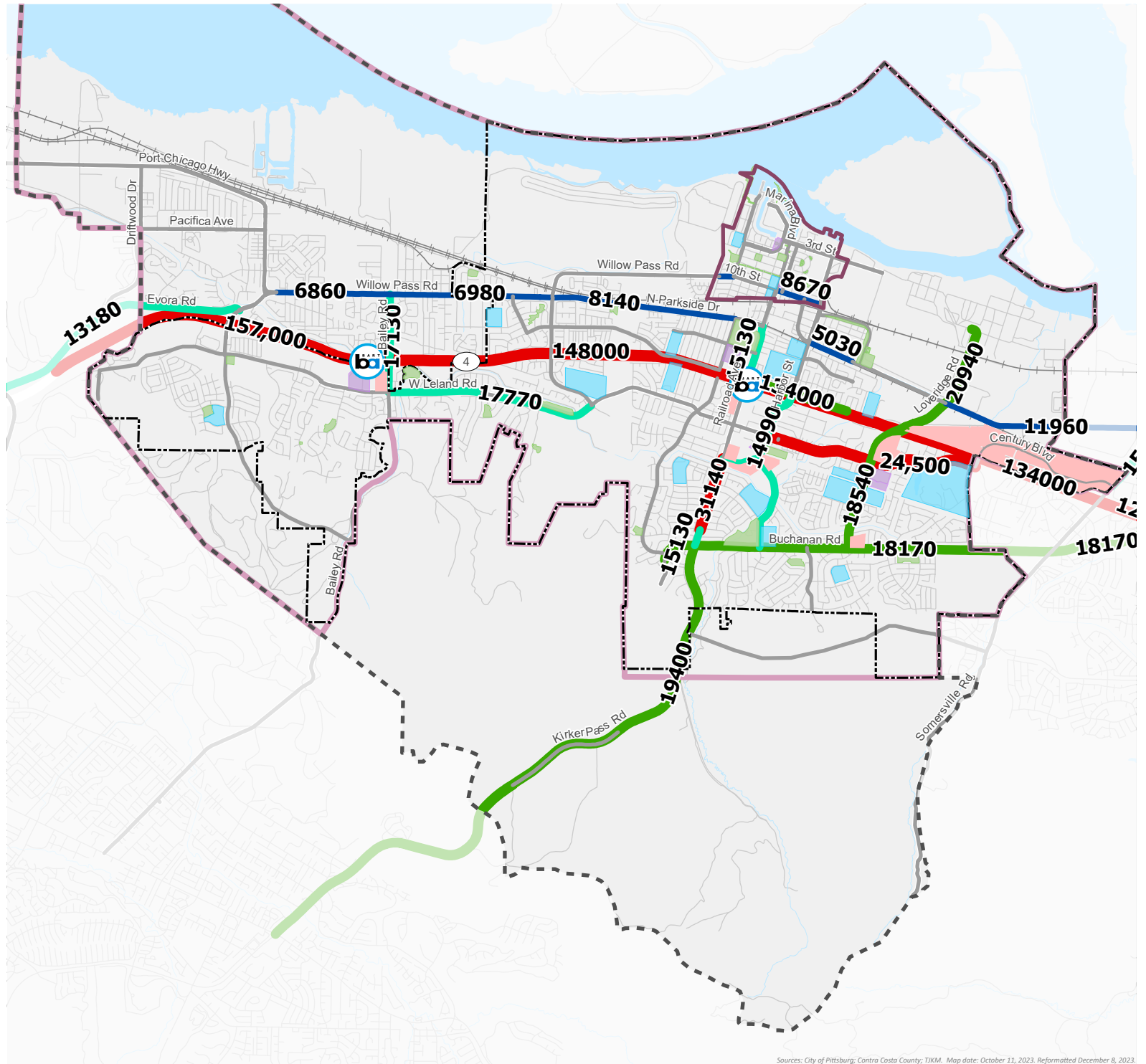
# AVERAGE DAILY TRAFFIC

**Legend**

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Sub-Area
- School
- Public Place
- Shopping Area
- Park
- BART Station

**Traffic Volumes**

- Data Not Available
- 5000 - 12000
- 12000 - 18000
- 18000 - 24000
- 24000 and above



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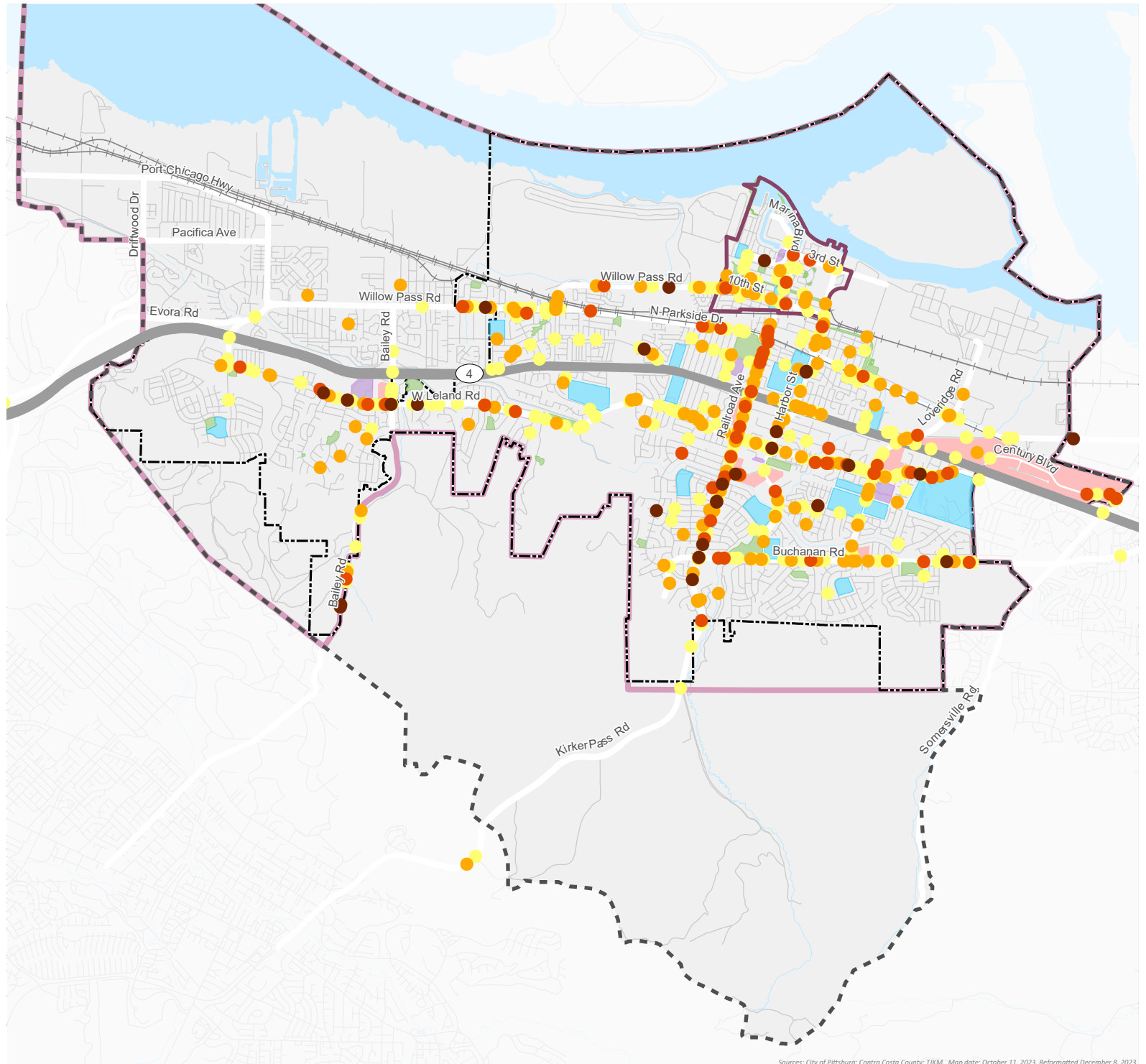


Figure 3.14-4.

# ALL INJURY COLLISIONS (2015 - 2019)

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Downtown Sub-Area
- School
- Public Place
- Shopping Area
- Park
- Collision Severity**
  - Fatal
  - Severe Injury
  - Visible Injury
  - Injury (Complaint of Pain)



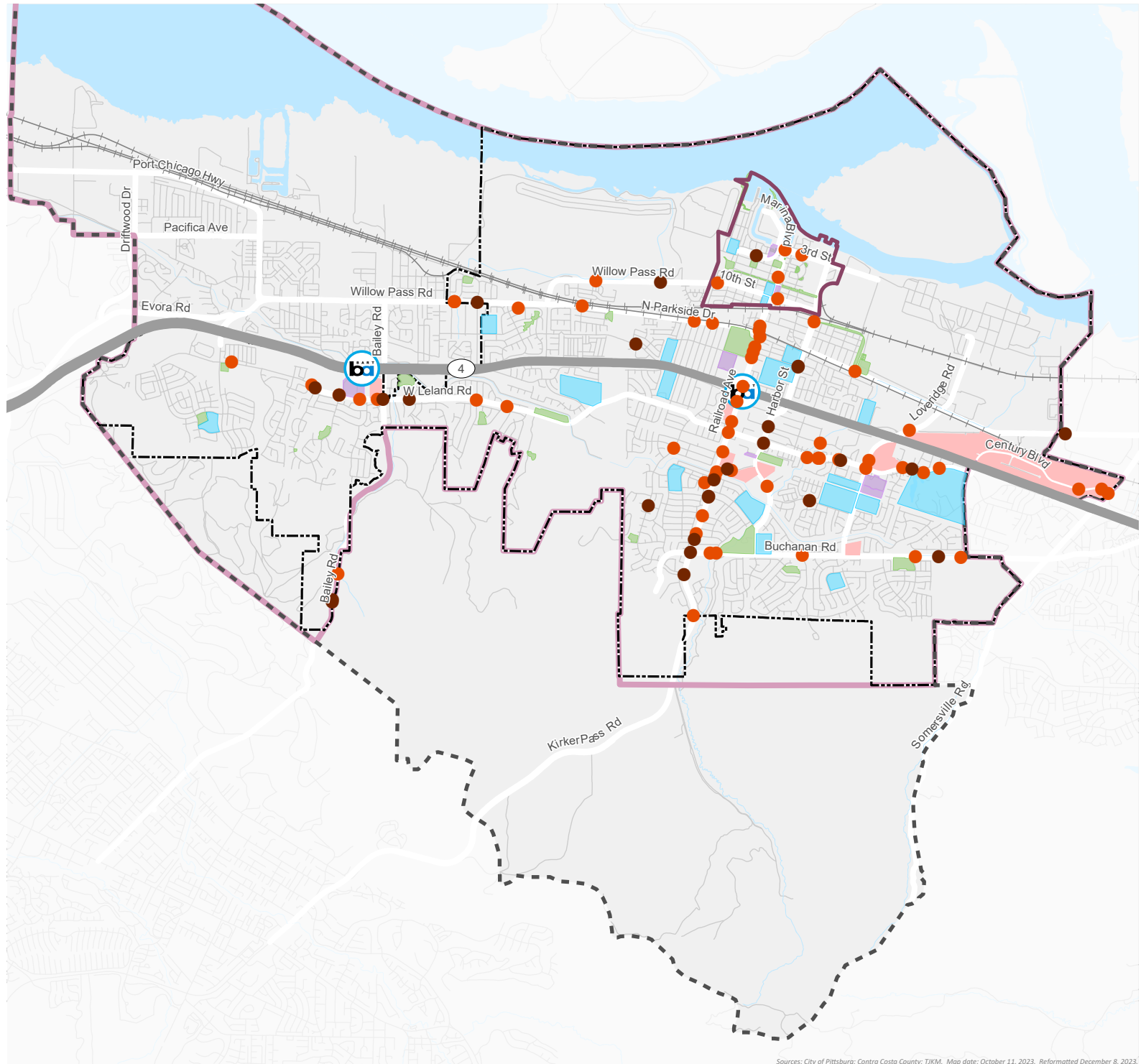
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Figure 3.14-5.

# FATAL AND SEVERE INJURY COLLISIONS (2015 - 2019)

## Legend

- Pittsburg City Limits
  - Pittsburg Sphere of Influence
  - Planning Area
  - Downtown Sub-Area
  - School
  - Public Place
  - Shopping Area
  - Park
  - ba** BART Station
- Collision Severity**
- Fatal
  - Severe Injury

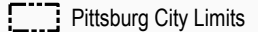
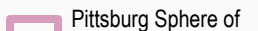
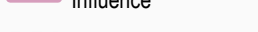
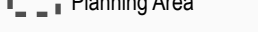
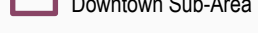
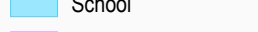
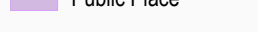
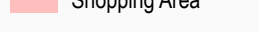




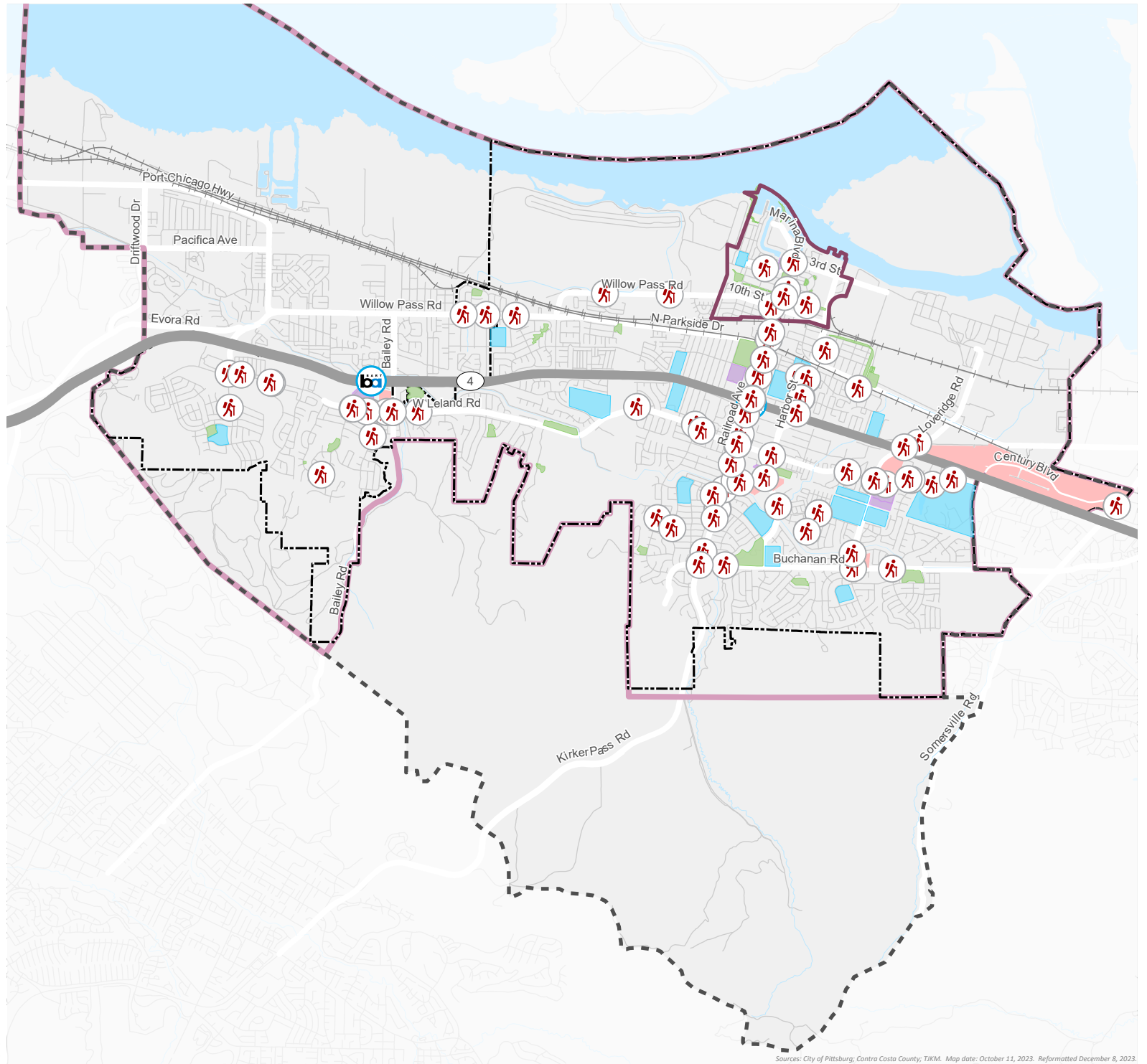
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Figure 3.14-6.

# COLLISIONS INVOLVING PEDESTRIANS (2015 - 2019)

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Sub-Area
-  School
-  Public Place
-  Shopping Area
-  Park
-  BART Station
-  Collisions Involving Pedestrians













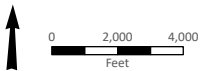
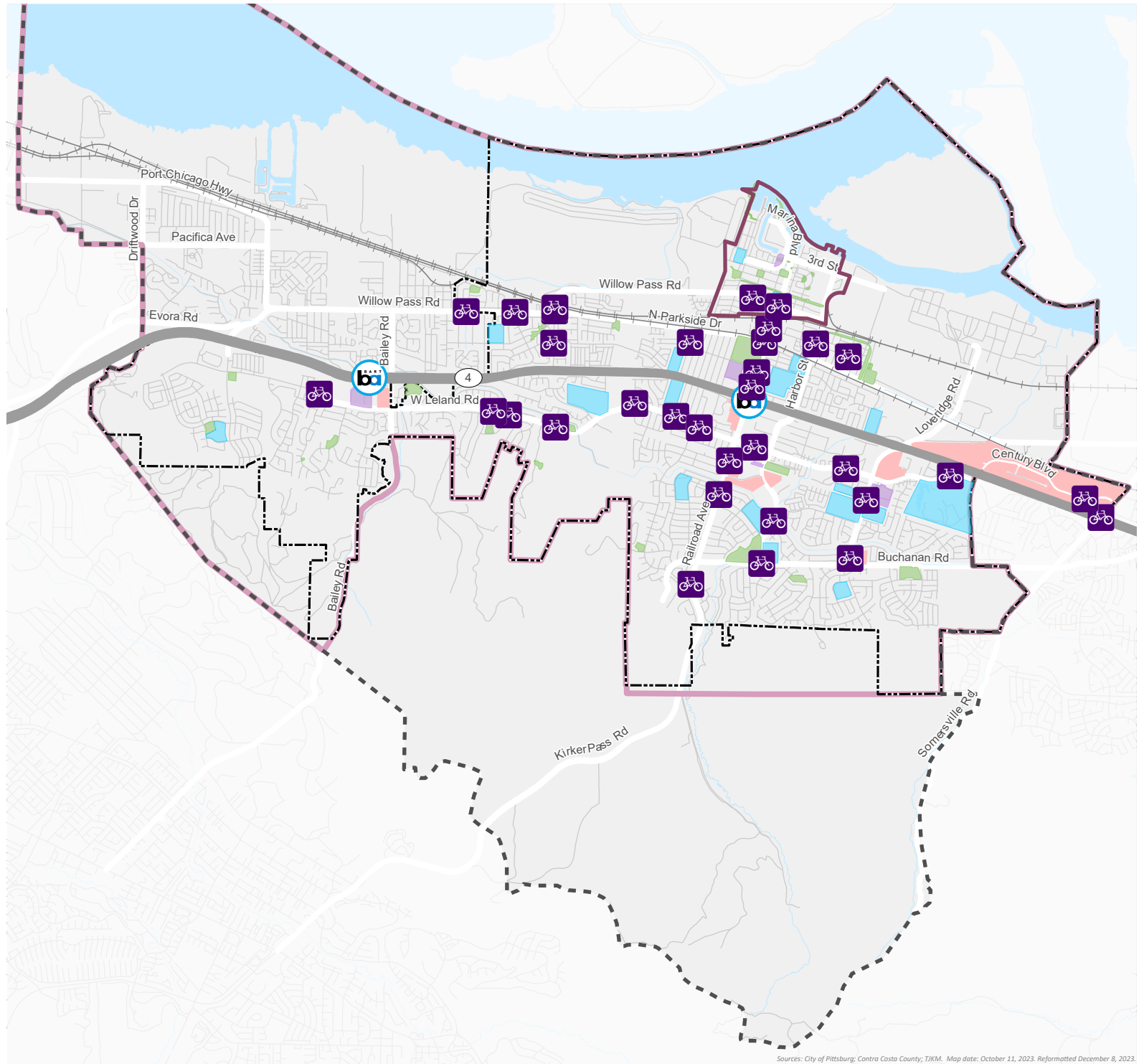
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Figure 3.14-7.

# COLLISIONS INVOLVING BICYCLISTS (2015 - 2019)

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Sub-Area
-  School
-  Public Place
-  Shopping Area
-  Park
-  BART Station
-  Collision Involving Bicyclists













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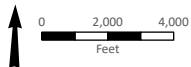
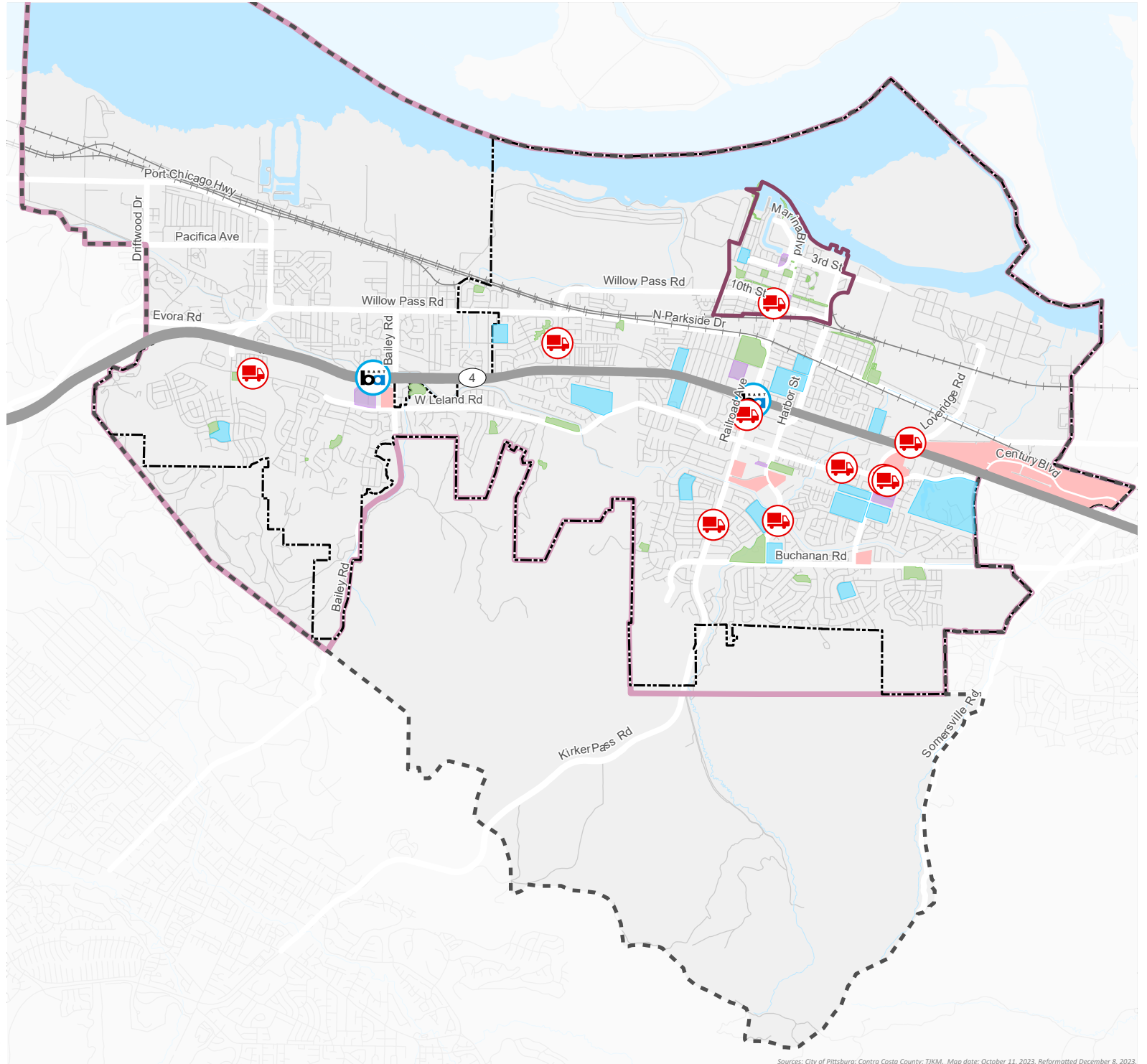


Figure 3.14-8.

# COLLISIONS INVOLVING TRUCKS (2015 - 2019)

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Influence
-  Planning Area
-  Downtown Sub-Area
-  School
-  Public Place
-  Shopping Area
-  Park
-  BART Station
-  Collisions Involving Trucks


















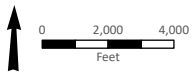
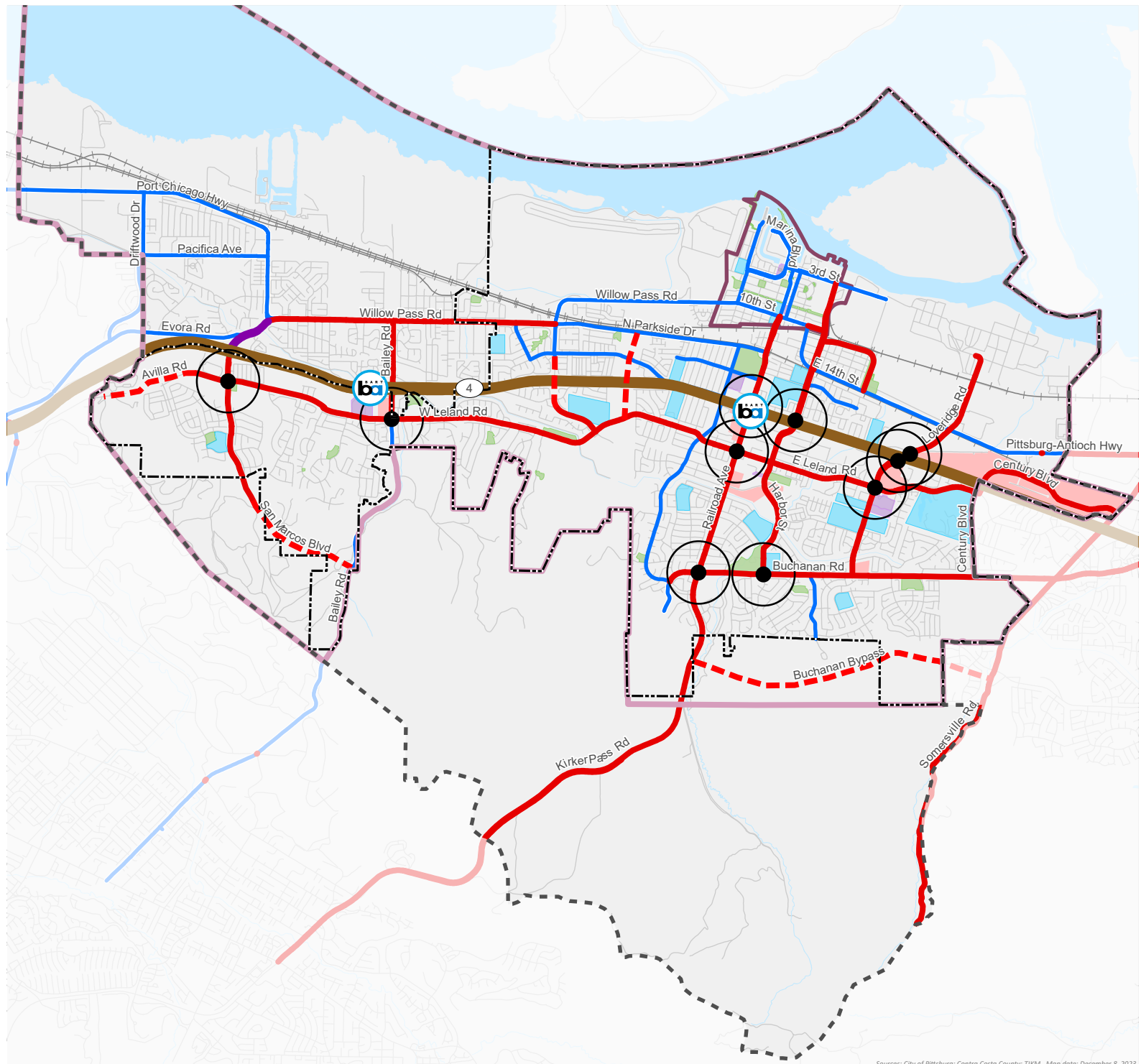
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Figure 3.14-9.

# CIRCULATION DIAGRAM

## Legend

-  Pittsburg City Limits
  -  Pittsburg Sphere of Influence
  -  Planning Area
  -  Downtown Sub-Area
  -  School
  -  Public Place
  -  Shopping Area
  -  Park
  -  BART Station
  -  Proposed Major Arterial
- Number of Lanes**
-  2 lanes
  -  4 lanes
  -  6 lanes
  -  8 lanes
-  Key Intersection with Necessary Improvement



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Utilities are critical to providing safe drinking water, disposal and treatment of wastewater, stormwater drainage, and solid waste disposal. This section provides a discussion of the utility systems in Pittsburg including water supplies, wastewater, storm drainage, and solid waste. This section is organized with an existing setting, regulatory setting, and impact analysis.

Notice of Preparation (NOP) comments were received regarding this environmental topic from the following: Contra Costa County Flood Control and Water Conservation District (May 12, 2022) and Delta Stewardship Council (May 23, 2022). Full comments are included in Appendix A.

### 3.15.1 WATER SUPPLIES

#### KEY TERMS

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**AF:** An acre-foot is the volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to approximately 325,851.4 gallons.

**AFY:** Acre-feet per year.

**BGS:** Below ground surface.

**GPD:** Gallons per day.

**GPM:** Gallons per minute.

**Groundwater:** Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

**MG:** Million gallons

**MGD:** Million gallons per day

**Surface water:** Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is replenished naturally through precipitation but is lost naturally through evaporation and seepage into soil.

#### EXISTING CONDITIONS

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##### **Potable Water System**

The City's potable water supply is comprised of two sources, both of which are treated at the Water Treatment Plant (WTP). These sources include surface water deliveries supplied by the Contra Costa Water District (CCWD), which makes up the vast majority of the City's supply, as well as groundwater supplies provided from two groundwater wells.

The City purchases untreated water from CCWD, treats it in a City-owned treatment plant, and delivers it to customers through the City's distribution pipes. In addition to the water it buys from CCWD, the City is able to pump water from two local wells (Bodega well and Rossmoor well).

The City's water service area is consistent with the City limits and reflects a total area of approximately 15.6 square miles. The water service area is a subset of the Pittsburg Planning Area, which is a larger area that extends beyond the City limits to the Sphere of Influence and is generally undeveloped. A portion of this undeveloped planning area, defined by the Urban Limit Line approved in 2007, is planned for eventual service by the City as development continues.

The City currently provides domestic water to residential, commercial, industrial, and institutional customers within the City limits. At the time of preparation of the 2020 Urban Water Management Plan (UWMP), based on the most recently available data, the City had recorded water delivery service to 18,744 single family residential users, 421 multi-family residential accounts, 745 commercial, institutional, and industrial accounts, and 366 landscape accounts. In 2020, domestic water use totaled approximately 9,232 acre-feet (AF), which was a 5.2-percent increase from 2015 water use of 8,772 AF.

### **Water System Supplies**

#### **PURCHASED AND IMPORTED WATER SUPPLY**

The City is within the service area of CCWD and purchases Central Valley Project (CVP) water from the Delta by CCWD, who is its wholesale supplier. CCWD has a contract with the U.S. Bureau of Reclamation (USBR) for 195,000 AF per year (AFY) of CVP water. The current contract was renewed in March 2005 through February 2045.

Between 85 percent and 95 percent of the City's current water supply is received from CCWD pursuant to a contractual agreement that allows the City to receive a supply of water as is necessary to meet its needs. However, this supply of water is subject to rationing restrictions in the event of a water shortage or other extraordinary circumstances. As will be described in a later section, CCWD's future water supply projections indicate adequate availability of surface water sources delivered through its contract with the USBR.

#### **GROUNDWATER SUPPLY**

The City is located above the Pittsburg Plain Groundwater Basin. The City extracts groundwater from this basin using two wells. The Pittsburg Plain Groundwater Basin is bounded by Suisun Bay to the north, the Tracy Subbasin of the San Joaquin Valley Water Groundwater Basin to the east, and the Clayton Valley Groundwater Basin to the west. The Pittsburg Plain Groundwater Basin extends to the south inland from the Suisun Bay between one and three miles. It is within the two major drainage basins of Kirker Creek and Willow Creek, which both discharge into Suisun Bay. According to DWF Bulletin 118, there is limited data regarding the occurrence and movement of groundwater in the Pittsburg Plain Groundwater Basin.

The City published the Pittsburg Plain Groundwater Management Plan (GWMP) in October 2012. The GWMP was established to manage and protect groundwater resources within the City and the

underlying groundwater basin. The primary objective the GWMP is to provide a long-term strategy to maintain the quality, reliability, and sustainability of groundwater resources within the Pittsburg Plain Groundwater Basin. To accomplish this, the City manages groundwater conjunctively with its surface water resources and supports Basin Management Objectives directed toward the sustainability and optimal use of groundwater supplies.

The Pittsburg Plain Groundwater Basin has not been adjudicated. Hydrographs created from the Department of Water Resources (DWR) well data in the Pittsburg Plain Groundwater Basin indicate that groundwater levels have remained fairly stable over the period of record, with the exception of static water level drops and subsequent recovery associated with the 1976 to 1977 and 1987 to 1992 drought periods. DWR has not identified that overdraft conditions will occur if present groundwater conditions continue.

DWR well data in the Pittsburg Plain Groundwater Basin indicate that the groundwater levels have remained fairly stable of the period of record. According to DWR, and based on present groundwater conditions, it is not expected that overdraft conditions will occur in the groundwater basin. As such, the Pittsburg Plain Groundwater Basin is not listed as a critically overdrafted groundwater basin by DWR.

The volume of groundwater pumped by the City over the past five years is summarized in Table 3.15-1.

**TABLE 3.15-1: GROUNDWATER VOLUME PUMPED (AFY)**

GROUNDWATER TYPE	BASIN NAME	2016	2017	20168	2019	2020
Alluvial Basin	Pittsburg Plain	1,353	1,429	1,470	1,154	1,480
<b>Total</b>		<b>1,353</b>	<b>1,429</b>	<b>1,470</b>	<b>1,154</b>	<b>1,480</b>

SOURCE: CITY OF PITTSBURG 2020 UWMP (2021)

RECYCLED WATER

Delta Diablo (formerly Delta Diablo Sanitation District) provides wastewater collection and treatment for the Cities of Pittsburg and Antioch, as well as the unincorporated community of Bay Point. The wastewater treatment plant (WWTP) has an average dry weather flow permitted capacity of 19.5 million gallons per day (MGD) and a recycled water facility (RWF) provides over 9,600 AFY of recycled water for industrial and landscape irrigation uses within the recycled water service area. As noted previously, Delta Diablo is the owner and operator of the recycled water distribution system, which includes deliveries within the City’s service area. The City’s potable water system serves as the backup water supply should the recycled water deliveries become unavailable. However, CCWD serves as the backup water supply for the major industrial users of recycled water, which use a vast majority of the Delta Diablo recycled water supplies.

Approximately 50 percent of the wastewater conveyed to the Delta Diablo WWTP received tertiary treatment. A majority of this recycled water volume is for cooling water at the Delta and Los Medanos Energy Centers, with the remaining volumes used for irrigation purposes at local parks. This remaining volume is delivered to 18 connections throughout the City’s service area for

## 3.15 UTILITIES AND SERVICE SYSTEMS

schools, parks, and roadway medians. While the Industrial energy centers are located within the City’s UWMP service area they receive back-up water supply from CCWD and the City will not be required to support their water supply. Therefore, they are itemized separately from the irrigation water use in the 2020 UWMP recycled water reporting and projections and shown for informational purposes only. It should be noted that Delta Diablo is the owner and operator of the recycled water distribution system, with deliveries occurring within the City’s UWMP service area.

The City continues to support developing irrigation and industrial recycled water uses where there is available supply and the use is economically feasible. Delta Diablo began recycled water deliveries within the City’s service area in the 1990s and the City has continued to add service connections since that time. The current and projected direct beneficial uses of recycled water are summarized on Table 3.15-2. This was based on 111 AF of actual irrigation use in 2010 and 200 AF of future recycled water use.

**TABLE 3.15-2: RECYCLED WATER DIRECT BENEFICIAL USES WITHIN SERVICE AREA (AFY)**

BENEFICIAL USE TYPE	LEVEL OF TREATMENT	VOLUME					
		2020	2025	2030	2035	2040	2045
Landscape irrigation (excludes golf courses)	Tertiary	111	311	311	311	311	311
<b>TOTAL</b>		<b>111</b>	<b>311</b>	<b>311</b>	<b>311</b>	<b>311</b>	<b>311</b>

SOURCE: CITY OF PITTSBURG 2020 URBAN WATER MANAGEMENT PLAN (2021)

### CURRENT AND PROJECTED WATER DEMANDS AND SUPPLIES

During prolonged years of drought, City-wide water use patterns are expected to change. Typically, outdoor water use will initially increase as irrigation is used to offset decreased rainfall. These potential water use increases can be offset, in part, by increasing water conservation measures.

The UWMP’s water supply assessment considered the following sources of supply:

- **Surface Water:** The City receives surface water deliveries from CCWD in the form of diversions from the Contra Costa Canal. Historically CCWD has been capable of meeting 100 percent of the City’s supply needs. CCWD’s 2020 UWMP indicates this could reach as low as 85 percent during the final year of a five-year drought.
- **Groundwater:** The City currently operates two groundwater wells, which extract and deliver groundwater to be blended and treated at the WWTP. The available supply for these wells is assumed as equal to the historical average pumping.
- **Recycled Water:** It is assumed the Delta Diablo recycled water supply will be an uninterrupted water source and the water supply and demand assessment assumes no reduction in supply availability.

The demand projections for the various hydrologic water years are summarized in Tables 3.15-3 through 3.15-5, which include the total projected water demands through 2045, estimates for total estimated water supply based on the hydrologic water years, and document the estimated total supply and demand during normal water years.



**TABLE 3.15-3: NORMAL YEAR SUPPLY AND DEMAND COMPARISON (AFY)**

	2025	2030	2035	2040	2045
Supply totals	12,691	13,690	14,620	15,484	16,405
Demand totals	11,342	12,341	13,271	14,135	15,056
<b>Difference</b>	<b>1,349</b>	<b>1,349</b>	<b>1,349</b>	<b>1,349</b>	<b>1,349</b>

SOURCE: CITY OF PITTSBURG 2020 URBAN WATER MANAGEMENT PLAN (2021)

**TABLE 3.15-4: SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON (AFY)**

	2025	2030	2035	2040	2045
Supply totals	12,691	13,690	14,620	15,484	16,405
Demand totals	11,342	12,341	13,271	14,135	15,056
<b>Difference</b>	<b>1,349</b>	<b>1,349</b>	<b>1,349</b>	<b>1,349</b>	<b>1,349</b>

SOURCE: CITY OF PITTSBURG 2020 URBAN WATER MANAGEMENT PLAN (2021)

**TABLE 3.15-5: MULTIPLE DRY YEARS SUPPLY AND DEMAND COMPARISON (AFY)**

		2025	2030	2035	2040	2045
First Year	Supply totals	12,691	13,690	14,620	15,484	16,405
	Demand totals	11,342	12,341	13,271	14,135	15,056
	<i>Difference</i>	1,349	1,349	1,349	1,349	1,349
Second Year	Supply totals	12,691	13,690	14,620	15,484	16,405
	Demand totals	11,342	12,341	13,271	14,135	15,056
	<i>Difference</i>	1,349	1,349	1,349	1,349	1,349
Third Year	Supply totals	12,139	13,089	13,972	14,793	15,668
	Demand totals	11,342	12,341	13,271	14,135	15,056
	<i>Difference</i>	797	748	701	658	612
Fourth Year	Supply totals	11,588	12,487	13,324	14,102	14,931
	Demand totals	11,342	12,341	13,271	14,135	15,056
	<i>Difference</i>	246	146	53	(33)	(126)
Fifth Year	Supply totals	11,036	11,886	12,676	13,410	14,193
	Demand totals	11,342	12,341	13,271	14,135	15,056
	<i>Difference</i>	(306)	(456)	(595)	(725)	(863)

SOURCE: CITY OF PITTSBURG 2020 URBAN WATER MANAGEMENT PLAN (2021)

The City has developed a Water Shortage Contingency Plan which reflects the DWR-recommended six standard water shortage levels. Identifying the appropriate shortage level will be in accordance with the procedures outlined as part of the Annual Assessment procedures.

As an example, if the Annual Assessment determines a shortage of 22 percent, the City would be considered in a Severe Drought condition. With recommendations from City staff, the City Council has the authority to declare the appropriate conservation level considered necessary to manage the system demands and mitigate the water shortage. The City Council can also downgrade, upgrade, or terminate a shortage response level based on City staff recommendations.

Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures, which can be put in place to reduce City-wide water usage. The water shortage stages are summarized in Table 3.15-6.

## 3.15 UTILITIES AND SERVICE SYSTEMS

**TABLE 3.15-6: STAGES OF WATER SHORTAGE CONTINGENCY PLANNING**

SHORTAGE LEVEL	PERCENT SUPPLY SHORTAGE/REDUCTION	PITTSBURG SHORTAGE LEVEL	WATER SUPPLY CONDITION
0	None	Normal	At Level 0, no Water Supply Shortage condition exists.
I	Up to 10%	Alert	A Level 1 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are up to 10%.
II	11-20%	Significant	A Level 2 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 11 to 20%.
III	21-30%	Severe	A Level 3 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 21 to 30%.
IV	31-40%	Critical	A Level 4 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 31 to 40%.
V	41-50%	Crisis	A Level 5 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are 41 to 50%.
IV	> 50%	Emergency	A Level 6 Water Supply Shortage condition exists when the City of Pittsburg notifies its water users that due to drought, the supply reductions targets are greater than 50%.

SOURCE: CITY OF PITTSBURG 2020 URBAN WATER MANAGEMENT PLAN (2021)

The City’s WSCP includes shortage response actions that may be implemented during a water shortage. Additionally, the City’s municipal code has multiple permanent water use restrictions in place year-round that minimize water waste. These shortage response actions and permanent water use restrictions are summarized in the WSCP.

### REGULATORY SETTING – WATER SUPPLIES

#### State

##### CALIFORNIA DEPARTMENT OF HEALTH SERVICES

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (SRF) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for methyl tertiary butyl ether (MTBE) and other oxygenates.

### STATE WATER RESOURCES CONTROL BOARD

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (Regional Water Boards), collectively known as the California Water Boards (Water Boards), are dedicated to a single vision: abundant clean water for human uses and environmental protection to sustain California's future. Under the federal Clean Water Act (CWA) and the state's pioneering Porter-Cologne Water Quality Control Act, the State and Regional Water Boards have regulatory responsibility for protecting the water quality of nearly 1.6 million acres of lakes, 1.3 million acres of bays and estuaries, 211,000 miles of rivers and streams, and about 1,100 miles of exquisite California coastline.

### CONSUMER CONFIDENCE REPORT REQUIREMENTS

CCR Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the SWRCB. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

### URBAN WATER MANAGEMENT PLANNING ACT

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an UWMP. An "urban water supplier" is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The UWMP must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier's water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. DWR must receive a copy of an adopted UWMP.

### SENATE BILL (SB) 610 AND ASSEMBLY BILL (AB) 901

The State Legislature passed SB 610 and AB 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an UWMP if groundwater is identified as a source of water available to an urban water supplier. It also requires that the UWMP include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service

contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts. AB 901 requires an UWMP to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. AB 901 requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

### SENATE BILL (SB) 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by a city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a “sufficient water supply” exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, a city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, a city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

### Local

#### CITY OF PITTSBURG URBAN WATER MANAGEMENT PLAN (2020)

The purpose of the 2020 UWMP is to ensure efficient use of urban water supplies in the City and promote conservation. The UWMP discusses the availability of water under normal, single dry year, and multiple dry year conditions, projected water use and reclamation and water conservation activities. The UWMP complies with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.).

#### CITY OF PITTSBURG WATER SYSTEM MASTER PLAN (2015)

The 2015 Water System Master Plan (2015 WSMP) is intended to serve as a tool for planning and phasing the construction of future water transmission and distribution facilities, through the project horizon year of 2030. The 2015 WSMP evaluated the City's domestic water distribution system and recommended capacity improvements necessary to service the needs of existing users and for servicing future developments. Should planning conditions change, and depending on their magnitude, adjustments to the master plan recommendations might be necessary.

#### PITTSBURG PLAIN GROUNDWATER BASIN GROUNDWATER MANAGEMENT PLAN (2012)

The primary objective of the Pittsburg Plain Groundwater Basin Groundwater Management Plan is to provide a long-term strategy to maintain the quality, reliability, and sustainability of groundwater resources within the Pittsburg Plain Groundwater Basin (Basin). To accomplish this,

the City intends to manage groundwater conjunctively with its surface water resources and support Basin Management Objectives (BMOs) directed toward the sustainability and optimal use of groundwater supplies.

#### CITY OF PITTSBURG MUNICIPAL CODE

The City of Pittsburg Municipal Code, Title 13 (Waters and Sewers) Chapter 13.04 (City Duties and Responsibilities), Chapter 13.08, (Water Service Connections), Chapter 13.10 (Collection of Contra Costa Water District's Facilities Reserve Charge), Chapter 13.12 (Water Rates), Chapter 13.14 (Regulations for the Control of Backflow and Cross-Connections to the City's Water System), Chapter 13.16 (Consumer Deposits – Service Beyond the City), and Chapter 13.18 (Water Conservation) contain regulations associated with water management and delivery.

Chapter 13.08 (Water Conservation) of the City's Municipal Code includes mandatory prohibitions on the waste of water including:

- Permitting water to flow onto a sidewalk, driveway or street, or escape down a gutter, ditch or other service drain.
- Irrigating landscaped areas with water in excess of the minimal amount required to sustain plant life, as determined by a staff water audit.
- Failing to repair a controllable leak of water.

#### CITY OF PITTSBURG WATER RESOLUTIONS

In 2015, the City passed Resolution 15-13030 "Water Conservation Program" in response to ongoing drought conditions experienced in the state and a request from CCWD to reduce water use by 15 percent. This resolution defines 'prohibited non-essential uses' and outlines the four water shortage stages and their respective customer reduction goals.

In addition, the City passed Resolution 15-13051 "Increase Water Rates and Establish Penalties for High Water Use" in response to the State's emergency regulations requiring the City to reduce its total water use by 20 percent for the months of June 2015 through February 2016. This resolution defines tiered water rates for residential customers and a flat rate for all other customers, as well as the penalties for excessive use.

#### CONTRA COSTA WATER DISTRICT UWMP

The CCWD UWMP 2020 Update presents information on the District's supply and demand forecasts, conservation programs, water shortage contingency planning, water transfers, and recycled water opportunities to the year 2045. The UWMP also includes a description of the CCWD UWMP adoption, public coordination, and planning coordination activities. The CCWD UWMP summarizes the status of CCWD's water demand management measures (also known as best management practices or BMPs) and includes the new requirements of the Water Conservation Bill of 2009 (SB X7-7), which was passed in 2009 and requires an evaluation of baseline per capita water use and identification of interim and 2020 per capita water use targets to achieve a 20 percent per capita water use reduction by 2020. Completion of a UWMP is required in order for a water supplier to be eligible for DWR administered state grants and loans and drought assistance. It is also a source of information for water supply assessments (SB 610) and Written Verifications

## 3.15 UTILITIES AND SERVICE SYSTEMS

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of Water Supply (SB 221). The CCWD UWMP meets all requirements of the California Urban Water Management Planning Act.

### CONTRA COSTA COUNTY WATER AND WASTEWATER AGENCIES COMBINED MUNICIPAL SERVICES REVIEW AND SPHERE OF INFLUENCE STUDY (2014)

The *Combined Municipal Service Review and Sphere of Influence Study* focuses on the 29 agencies (eight cities, 20 special districts and one private water company) that provide water and/or wastewater services within Contra Costa County (County). California state law authorizes Local Agency Formation Commissions (LAFCOs) within each county to establish boundaries and spheres of influence (SOIs) for cities and special districts under their purview and to authorize the provision of services within the approved service areas. This document was approved in May 2014. Contra Costa County LAFCO conducts periodic reviews of each service provider, adopting determinations addressing current service levels and the ability of each agency to continue to provide adequate services into the future. Additionally, Contra Costa County LAFCOs review and approve service area boundaries and annexations into service areas.

### COORDINATION WITH OTHER AGENCIES

The City has actively participated for many years in integrated regional water management (IRWM) planning efforts with the East Contra Costa County (ECCC) IRWM Region. Water agencies, wastewater agencies, flood control districts, and watershed management groups within the ECCC Region have a long history of cooperative planning. In the early 1990s, agencies joined together as the East County Water Management Association and undertook an ECCC Water Supply Management Study, a comprehensive water management plan, and this group continues to coordinate on water management issues for the region.

## THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact on the environment associated with Utilities if it will:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

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## IMPACTS AND MITIGATION MEASURES

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### **Impact 3.15-1: General Plan implementation would result in insufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry and multiple dry years (Significant and Unavoidable)**

Implementation of the 2040 General Plan would result in increased population and employment growth within the Planning Area, and a corresponding increase in the demand for additional water supplies.

As described in Chapter 2.0 and summarized in Table 2.0-2, buildout of the 2040 General Plan could yield approximately 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions. This new growth would result in a population increase of approximately 20,470 persons, assuming 3.34 persons per household based on U.S. Census 2016-2020 American Community Survey household size data, and approximately 24,659 new jobs, based on U.S. Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey data released March 18, 2016.

As shown previously, the demand projections for the various hydrologic water years are summarized in Tables 3.15-3 through 3.15-5. These tables include the total projected water demands through 2045, and estimates for total estimated water supply based on the hydrologic water years. These tables document the estimated total supply and demand during normal water years.

As indicated in Table 3.15-5, deficiencies ranging from 33 AF (fourth year dry year in 2040) to 863 AF (fifth year dry year in 2045) may occur. Under multiple year drought conditions, the City may be required to implement water reduction actions to mitigate potential supply shortfalls. For the analysis, groundwater supply has been assumed to be at the average 1,480 AFY of groundwater extraction between 1993 and 2020. However, the maximum annual extraction in this period was 2,092 AF in 2008, so additional groundwater extraction could be used to account for supply deficits in multiple dry years, as necessary. In addition, the per capita water use used for the demand projections is based on a rebound from drought restrictions and the economic recession, and future projections do not account for potential decreases in demand resulting from increased savings from passive conservation (that is, the future projections do not account for future increases in the use of water-saving appliances). The City and CCWD have demonstrated in recent years that, during extended dry periods, they can address deficits by reducing demand in their service areas.

The 2020 UWMP water use projections were based on land use map scenarios prepared for consideration during the General Plan Update process and were prepared prior to adoption of the 2040 General Plan. Water use projections in the UWMP will be re-evaluated in future UWMP updates, based on the new regulations and to evaluate changes to the City's growth projections and/or allocation of land use. The 2040 General Plan includes a range of policies and actions (listed below) to ensure that the City's water supply plans are updated to address development

and land use changes in order to ensure that future supply levels meet demands. For example, Policy 12-P-1.1 requires the City to ensure adequate water supply, storage, and distribution capacity is available proportionally with development patterns and water usage trends. Additionally, Policy 12-P-1.2 requires the City to continue using the UWMP and the Water Master Plan as the mechanism for detailed water supply planning, water distribution planning, implementation, and conservation. Further, Policy 12-P-1.5 ensures that the City's water supply provides for and supports a balance of jobs and housing in future development. Nevertheless, based on the available data, the City is anticipated to have a slight deficit of water supplies during dry years 3 and 4 if the levels of potential new growth analyzed in this EIR occur by 2040 and 2045.

The proposed 2040 General Plan includes a range of policies designed to ensure an adequate water supply for development and to minimize the potential adverse effects of increased water use. Projected water demands associated with 2040 General Plan buildout would not exceed the projected available water supplies during normal years, and the 2040 General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable source of clean potable water. Nevertheless, as described in the 2020 UWMP, it is anticipated that the City, would have a slight deficiency in water supplies during multiple dry years. Therefore, impacts associated with sufficient water supplies are considered to be **significant and unavoidable**.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – COMMUNITY FACILITIES ELEMENT**

12-P-1.1: Ensure adequate water supply, storage, and distribution capacity is available proportionally with development patterns and water usage trends.

12-P-1.2: Continue using the Urban Water Management Plan (UWMP) and the Water Master Plan as the mechanism for detailed water supply planning, water distribution planning, implementation, and conservation.

12-P-1.3: Implement, as needed, replacements and/or expansions to the existing system of water mains through the City's Capital Improvement Program.

12-P-1.4: Ensure that all new development provides for and funds a fair share of the costs for adequate water supply, storage, and distribution, including line extensions, easements, and plant expansions.

12-P-1.5: Ensure that the City's water supply provides for and supports a balance of jobs and housing in future development.

12-P-1.6: Consider the effect of incremental increases in the demands on groundwater supply and water quality when reviewing development applications.

12-P-2.1: Continue water district and user conservation efforts to help reduce demand in light of drought patterns, groundwater management, raw water availability, and the potential for unforeseen shortfalls.



12-P-2.2: Continue water conservation efforts from industrial facilities, including continued enforcement of the City's Water-efficient landscape standards and participation in a wastewater reclamation efforts.

#### ACTIONS – COMMUNITY FACILITIES ELEMENT

12-A-1.a: Update the City's Urban Water Master Plan to implement General Plan growth projections and to review the need for new pressure zones to ensure adequate fire flows in hillside areas.

12-A-1.b: Continue to assess a water system development fee on all new commercial, industrial, residential, and other development sufficient to fund system-wide conveyance, treatment, and capacity improvements.

12-A-1.c: Cooperate with Contra Costa Water District (CCWD) to ensure compliance with CCWD regulations and State law for new development requiring annexation to the CCWD service area. Cooperate with CCWD in processing all necessary information to allow a determination if its existing facilities can be used to service new growth and annexation areas.

12-A-1.d: Cooperate with federal agencies to ensure that new development requiring inclusion in the CCWD contract service area addresses all requirements of federal statutes and regulations, including the National Environmental Policy Act and Endangered Species Act.

12-A-1.e: Work with CCWD to ensure adequate provision of raw water supplies during potential emergency water demands.

12-A-1.f: Continuously monitor water flows through the City's water system to identify areas of potential water loss and instances of under billing for water service and make improvements to the system and billing assessments as necessary.

12-A-2.a: Regularly review and update the City's water conservation measures to be consistent with current best management practices for water conservation, considering measures recommended by the State Department of Water Resources, the California Water Efficiency Partnership, and CCWD.

12-A-2.b: Implement the following water conservation efforts to preserve Delta species and habitat:

- Water rate structure that encourages conservation;
- Plumbing code changes requiring ultra-low-flow toilets and grey water usage in new and existing construction;
- Continuance of public education on water conservation;
- Passage of Water-Efficient Landscape Ordinance for new large-scale landscaping;
- Study of expanded reclaimed water usage; and
- System-wide water audit/leak detection survey and repair program.

12-A-2.c: Implement the Landscape Ordinance in conjunction with use of reclaimed wastewater for landscape irrigation when feasible to help reduce potable water demand.

**Impact 3.15-2: General Plan implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)**

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The 2040 General Plan includes a range of policies (listed above) to ensure that water providers serving the city are consulted with during future land use changes in order to ensure that future supply levels meet demands.

Development and growth in the City under the 2040 General Plan would result in increased demand for water supplies, including water conveyance and treatment infrastructure. The proposed General Plan includes policies and actions to ensure that water supplies are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available water supplies.

As described under Impact 3.15-1, the projected 2040 and 2045 water supplies are not projected to be adequate to meet demand that would be generated by buildout of the 2040 General Plan, for the fourth and fifth multiple dry years. As such, implementation and buildout of the 2040 General Plan has the potential to result in the need to construct or expand water treatment facilities that have not already been described and accounted for in the City's relevant water master plans, which include the Water Master Plan and the UWMP.

It is anticipated that water supply infrastructure will need to be extended to serve future development. Future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the 2040 General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time, as the 2040 General Plan does not propose or authorize any specific development projects. However, extension of water supply lines would be required to serve areas where these facilities do not currently exist. The water supply lines currently located in roadways and developed areas

would be extended to serve development projects. In some cases, construction of new water supply lines in previously undeveloped areas would be required.

However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure are anticipated to be similar to those associated with new development, redevelopment, and infrastructure projects under the 2040 General Plan, as discussed in Sections 3.1 through 3.16, and 4.0 of this Draft EIR. Therefore, this impact is considered **less than significant** and no additional mitigation is necessary.

### 3.15.2 WASTEWATER

#### KEY TERMS

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**Effluent:** Effluent is an outflowing of water from a natural body of water, or from a man-made structure. Effluent in the man-made sense is generally considered to be water pollution, such as the outflow from a sewage treatment facility or the wastewater discharge from industrial facilities. In the context of wastewater treatment plants, effluent that has been treated is sometimes called secondary effluent, or treated effluent.

**NPDES:** Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

**WWTP:** Wastewater treatment plant. Treatment of wastewater may include the following processes: screening to remove large waste items; grit removal to allow sand, gravel, and sediment to settle out; primary sedimentation where sludge can settle out of the wastewater; secondary treatment to substantially degrade the biological content of the sewage; tertiary treatment to raise the quality of the effluent before it is discharged; and, discharge.

#### WASTEWATER TREATMENT AND SEWER COLLECTION

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##### Wastewater System

Sewer services in the Planning Area are provided by the City and the Delta Diablo. The City maintains and owns the local sewage collection system that serves the City's municipal users and the City's wastewater is conveyed to Delta Diablo facilities for treatment. Delta Diablo's service area encompasses Pittsburg, Bay Point, and Antioch. Delta Diablo owns and operates the collection system that serves the Bay Point community. Delta Diablo provides wastewater treatment and owns and operates the regional interceptors and the sewage treatment plant located north of the Pittsburg-Antioch Highway.

The City's collection system consists of approximately 174 miles of sewer lines ranging in diameter from 6 to 36 inches, and one sewage lift station. The oldest portions of Pittsburg's sewage collection system were constructed in the early part of this century to serve what is now Downtown. The system has since evolved into two distinct sections: the older portion north of State Route 4, and the portion serving newer areas south of the highway. Sewer lines serving residential, commercial, and industrial development north of State Route 4 drain to Delta Diablo's Pittsburg Pump Station located south of Marina Park; wastewater from developments south of State Route 4 enters the Delta Diablo interceptor system on Pittsburg-Antioch Highway.

**Wastewater Quality Control Facility**

The Delta Diablo wastewater treatment plant (WWTP) located north of Pittsburg-Antioch Highway, just east of Pittsburg City limits has a 54 square mile service area with an average wastewater flow of 12.8 million gallons per day (mgd). The Delta Diablo system includes the following components:

- 18.5 miles of sewer force main and 14 miles of interceptors
- 5 pump stations and 5 equalization storage facilities with 4 million gallons (MG) of storage
- 174 miles of sewer lines in the Bay Point collection system (Antioch and Pittsburg own and operate approximately 130 miles and 300 miles, respectively, of their own satellite systems that feed into the Delta Diablo system)
- WWTP with a 2.2 MG flow equalization basin and 12 MG of storage
- Recycled Water Facility
- 16 miles of recycled water pipeline

The water resource recovery services consist of conventional treatment of wastewater, recycled water production and distribution, pollution prevention, energy recovery, beneficial reuse of biosolids, street sweeping, and household hazardous waste collection.

The conventional treatment process consists of screening, grit removal, primary and secondary clarification, biological treatment by trickling towers and/or aeration basins, chlorination, and de-chlorination. Solids are anaerobically digested, centrifuged, and beneficially reused as fertilizer. Treated wastewater is discharged through a deep water outfall to New York Slough.

**Current and Projected Wastewater Flows**

The Delta Diablo WWTP has an average daily wastewater flow of 12.8 mgd (2022) and the capacity to treat approximately 19.5 mgd. The WWTP has a 2.2 mgd flow equalization basin, a 12.8 mg emergency retention basin, and a 1.0 mg emergency storage basin. Bay Point’s sewer system consists of 43 miles of gravity sewer.

Table 3.15-7 presents historical average flow data from 2007 to 2009 and flow projections through buildout. Future loads were developed based on these projected flows, as well as historical concentrations and peaking factors.

**TABLE 3.15-7: PAST AND PROJECTED INFLUENT FLOWS FROM TREATMENT PLANT**

CONDITION	INFLUENT FLOW (MGD)						
	2007-2009	PEAKING FACTORS	2020	2030	2040	2050	BUILDOUT
Average Dry Weather	13.2	0.97	17.1	19.3	21.5	23.7	25.3
Average Annual	13.6	1.00	17.6	19.9	22.1	24.4	26.0
Maximum Month	147	1.09	19.0	21.5	23.9	26.4	28.1
Maximum Day	18.6	1.53	24.1	27.2	30.3	33.4	35.6
Peak Wet Weather	32.5	2.46	35.6	28.7	41.8	44.9	47.1

SOURCE: DELTA DIABLO RESOURCES RECOVERY FACILITY 2022 MASTER PLAN (TABLE 1-1).

The Delta Diablo has adopted a district Master Plan that includes phased treatment plant expansion to ultimately provide 24.0 mgd (average dry weather flow) capacity in order to

accommodate anticipated General Plan buildout for the communities of Pittsburg, Antioch, and unincorporated Bay Point. Delta Diablo updated their Master Plan in 2022.

### REGULATORY SETTING - WASTEWATER

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#### **Federal**

#### CLEAN WATER ACT (CWA) / NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

#### **State**

#### STATE WATER RESOURCES CONTROL BOARD/REGIONAL WATER QUALITY CONTROL BOARD

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the WRCB and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and

surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The City of Pittsburg is within the jurisdiction of the San Francisco Bay BRWQCB and Central Valley RWQCB.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The SWRCB's role has historically been one of providing overall policy direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

#### PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the SWRCB has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to a RWQCB. The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the RWQCB NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

### **Local**

#### CITY OF PITTSBURG MUNICIPAL CODE

The City of Pittsburg Municipal Code, Title 13 (Waters and Sewers), Chapter 13.20 (Industrial Waste Disposal), Chapter 13.24 (Sewer Service Charges), Chapter 13.26 (Sewer Maintenance and Repair), and Chapter 13.28 (Stormwater Management and Discharge Control) contain regulations associated with wastewater and sewer management.

#### UTILITY MANAGEMENT PLANS

The City of Pittsburg maintains a Sewer System Management Plan document that guides the design, development, and maintenance of the sewer utilities within the City. Additionally, the Delta Diablo Resources Recovery Facility 2022 Master Plan was commissioned in 2022 to:

## 3.15 UTILITIES AND SERVICE SYSTEMS

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- Guide development of a prioritized, long-term capital improvement program (CIP) that meets infrastructure needs, addresses regulatory drivers, and maintains operational effectiveness and reliability.
- Support development of the District’s Asset Management Program by integrating condition assessment data from the WRRF.
- Develop a strategic, technical, and financial approach to meet future nutrient removal regulatory requirements.
- Identify and mitigate potential treatment process vulnerabilities and identify opportunities to improve process monitoring, control, and optimization.
- Develop a framework to support resource recovery, including recycled water, biosolids, biogas, and renewable energy use through identification of applicable innovative approaches, technologies, and best practices in use at peer wastewater and resource recovery agencies. This framework is intended to inform future planning efforts by the District.
- Guide the development of future capital project design assumptions by updating wastewater flow and load projections.
- Ensure that planning outcomes align with the District’s Strategic Plan (2021).

### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

### IMPACTS AND MITIGATION MEASURES

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**Impact 3.15-3: General Plan implementation has the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments (Less than Significant)**

Sewer services in the Planning Area are provided by the City and the Delta Diablo., as previously described The City maintains and owns the local sewage collection system that serves the City’s municipal users and the City’s wastewater is conveyed to Delta Diablo facilities for treatment. Updates to the City’s utility-related Master Plans, including the Sewer System Management Plan, are needed for compliance with legislation, to condition development and ensure public health and safety through effective planning and management of the City’s water, wastewater and



recycled water systems. The Plans are used to plan future capital improvement projects and serves as the basis for regulatory compliance documents. The Plans serve as the planning document used to provide water infrastructure needed for the City to develop its General Plan, and for the environmental determination to meet California Environmental Quality Act requirements.

The Delta Diablo WWTP, located north of Pittsburg-Antioch Highway, just east of Pittsburg City limits, has a 54 square mile service area with an average wastewater flow of 12.8 mgd. As Pittsburg continues to develop in the future, there will be an increased need for water and wastewater services, including a reliable source of recycled water. These needs have been addressed in the City's Sewer System Management Plan and the Delta Diablo Resources Recovery Facility 2022 Master Plan and will require that the District continue to implement phased improvements to some pump stations, sewer mains, and the various wastewater treatment plants when triggered by growth.

As noted previously, the Delta Diablo has adopted a district Master Plan that includes phased treatment plant expansion to ultimately provide 24.0 mgd (average dry weather flow) capacity in order to accommodate anticipated General Plan buildout for the communities of Pittsburg, Antioch, and unincorporated Bay Point. Delta Diablo updated its Master Plan in 2022. According to the Delta Diablo Resources Recovery Facility 2022 Master Plan, the projected ADWF in 2050 is projected to be 23.7 mgd, and 25.3 mgd at buildout. The WWTP hydraulic flow capacity is not anticipated to be reached in the 20-year planning horizon (2040). However, BOD treatment capacity (53,200 lb/day) is projected to be exceeded between 2030 and 2037, which necessitates expansion of the WWTP. The District's discharge permit requires that planning for expansion begin when the plant is at 80 percent of its capacity. It should be noted that the tower trickling filters have a limitation of 200 lb BOD/1000 cf media or 46,100 lbs/day of BOD, less than the total secondary system capacity. The BOD treatment capacity limitation is corroborated by findings from the 2011 Master Plan Study and 2014 WWTP Capacity Assessment Update Study.

Moreover, if development under the 2040 General Plan increases the existing treatment demand at the Delta Diablo WWTP compared with the demand anticipated under the existing General Plan, the 2040 General Plan includes a range of policies designed to ensure an adequate wastewater treatment capacity for development. For example, Policy 12-P-3.3 requires the City to work with Delta Diablo in planning for expansion of the wastewater treatment plant and conveyance infrastructure to accommodate projected growth. Additionally, Policy 12-P-3.5 requires the City to maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

As described above, the City must also periodically review and update their applicable master plans, and as growth continues to occur within the Planning Area, the City will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development. Given that projected wastewater generation volumes associated with General Plan buildout is not anticipated to exceed the capacity of the wastewater treatment provider to have adequate capacity, this impact would be **less than significant**, and no mitigation is required.

However, the 2040d General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable wastewater collection and treatment system. The policies and actions listed below would further assist in ensuring that adequate wastewater treatment and conveyance infrastructure is available to serve new growth projected under the proposed General Plan.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – COMMUNITY FACILITIES ELEMENT**

12-P-3.1: Ensure sufficient wastewater capacity to maintain desired service levels for existing uses and to accommodate planned growth and avoid capacity shortages or other negative effects on safety and quality of life.

12-P-3.2: Plan for the expansion of the City’s wastewater collection system, in order to provide necessary infrastructure for projected urban growth through 2040.

12-P-3.3: Work with Delta Diablo in planning for expansion of the wastewater treatment plant and conveyance infrastructure to accommodate projected growth.

12-P-3.4: Maintain environmentally appropriate wastewater management practices.

12-P-3.5: Maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.

12-P-3.6: Maintain the existing wastewater system on a regular basis to increase the lifespan of the system and ensure public health and safety.

12-P-3.7: Reduce rainfall-dependent infiltration and inflow to maintain capacity of existing collection system and prevent sanitary sewer overflows.

#### **ACTIONS – COMMUNITY FACILITIES ELEMENT**

12-A-3.a: Continue to assess a sanitary system development fee on all new commercial, industrial, residential, and other development sufficient to fund system-wide conveyance, treatment, and capacity improvements.

12-A-3.b: Address deficiencies in the capacity, safety and reliability of the collection system as identified in the 1990 and subsequent Collection System Master Plans.

12-A-3.c: Work with Delta Diablo to promote the use of recycled water for irrigation of large, planted areas, such as business/industrial campus projects, City parks, and street medians.

12-A-3.d: Work with Delta Diablo to ensure that industrial discharge is monitored and that wastewater quality continues to meet various Federal, State, and regional standards.

12-A-3.e: Restrict construction of sensitive receptors, such as residential units, schools, or churches within 1000 feet of wastewater treatment units. Prohibit construction of sensitive receptors within 0.5 miles of the wastewater treatment plant.

12-A-3.f: Require that all wastewater dischargers within the City conform to Delta Diablo standards.

**Impact 3.15-4: General Plan implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)**

Development contemplated under the 2040 General Plan would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment facilities and conveyance infrastructure, as described above.

As described in the City's Sewer System Management Plan, the City completed a Wastewater Collection System Master Plan (2003 Master Plan) in April 2003. The master planning effort included flow monitoring and the development of a hydraulic model. Flows were monitored at seven locations (four permanent and three temporary metering sites). The flows were estimated for gravity sewers 10 inches in diameter and larger. The 2003 Master Plan identified three capacity deficiencies: Highway 4 Trunk, West Leland Road, and Bailey Road. The three projects are needed to serve new developments in the southwest portion of the City. These three projects will be funded by the facility reserve charges collected from new development and they will be implemented as the developments proceed.

The Master Plan was updated in February 2007, using revised peak wet weather design flows derived from the modified base wastewater flow projections. The model results suggest that no new capacity relief is required beyond those improvements noted in the 2003 Master Plan. The projects identified in the Master Plan and Amendment No. 2 provide sufficient relief to the major problem areas. However, after the current planned projects are implemented, portions of the Highway 4 trunk would still be flowing full at design peak weather flow. Any additional development above the levels envisioned as part of the Master Plan will therefore result in need for further upsizing. The Master Plan will be updated as needed to address changes in the General Plan. The CIP will be reviewed and updated annually and the Master Plan will be updated every five years, or as needed to address changes in the General Plan. As such, future updates of the City's Wastewater Collection System Master Plan will also address any future wastewater infrastructure projects needed to serve the proposed 2040 General Plan. In addition, during the annual review of sanitary sewer overflow data, any identified capacity-related overflows will be evaluated and addressed.

The infrastructure and facilities necessary to serve new growth would involve development of some facilities on new development sites, some facilities off-site, such as at existing wastewater treatment facilities, on appropriately designated land, and may also involve improvements to other existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded facilities cannot be determined at this time, as the General Plan does not propose or approve development nor does it designate specific sites for new or expanded public facilities.

## 3.15 UTILITIES AND SERVICE SYSTEMS

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Wastewater treatment and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the 2040 General Plan. For example, trenching and wastewater line placement would be required to serve future development associated with the 2040 General Plan. Extension of wastewater lines would be required to serve areas where these facilities do not currently exist. The wastewater lines currently located in roadways and developed areas would be extended to serve development projects. In some cases, construction of new wastewater lines in previously undeveloped areas would be required. As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this impact would be less than significant, and no additional mitigation is required.

The 2040 General Plan includes policies designed to ensure adequate wastewater treatment capacity is available to serve development and to minimize the potential adverse effects of wastewater treatment. These policies are listed in Impact 3.15-3.

### 3.15.3 STORMWATER DRAINAGE

The information in this section focuses on the potential for the General Plan to result in the demand for new or expanded stormwater drainage facilities. Section 3.10 (Hydrology) includes an expanded analysis of water quality, flooding, and other stormwater related issues.

#### STORMWATER AND FLOOD CONTROL FACILITIES

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##### **Stormwater flows and Storm Drains**

The City's existing drainage system is comprised primarily of channelized creeks fed by surface runoff and underground storm drains. The City maintains the system within incorporated areas. In the unincorporated parts of the Planning Area, the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) maintains major channels and creeks over which they hold land rights, while the County Department of Public Works maintains road drainage systems and several detention basins.

Storm drains throughout the city are used to collect rainwater and divert it, untreated, into the Delta. The City's storm drains do not connect to the sewer system, and all stormwater that flows into a storm drain system flows directly into the Delta. As discussed previously, The SFBRWQCB requires all municipalities within Contra Costa County (and the County itself) to develop restrictive surface water control standards for new development projects as part of the municipal regional NPDES Permit. Known as "Provision C.3," new development or redevelopment projects that disturb one or more acres of land area must contain and treat stormwater runoff from the site.

##### **Flooding and Floodplain Mapping**

FEMA identifies Special Flood Hazard Areas (SFHA). FEMA publishes Flood Insurance Rate Maps that depict floodplains. Flooding and flood hazards are addressed in greater detail in Section 3.9, Hydrology and Water Quality, of this Draft EIR. The FEMA 100-year flood plain is shown on Figure 3.9-2 in Section 3.9.

#### REGULATORY SETTING - STORMWATER DRAINAGE

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##### **Federal**

###### **CLEAN WATER ACT (CWA)**

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

## 3.15 UTILITIES AND SERVICE SYSTEMS

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- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites”: subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if “the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas”: subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California SWRCB and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters. The cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, Contra Costa County, and the Contra Costa County Flood Control and Water Conservation District (the Contra Costa Permittees) have joined together to form the Contra Costa Clean Water Program. The Contra Costa Permittees are currently subject to National Pollutant Discharge Elimination System (NPDES) Permit No. CAS612008, issued by Order No. R2-2009-0074 on October 14, 2009, which pertains to stormwater runoff discharge from storm drains and watercourses within their jurisdictions.

### FEDERAL EMERGENCY MANAGEMENT AGENCY

The City is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations. The City adopted the Model Floodplain Management Ordinance within the City in order to maintain eligibility within the National Flood Insurance Program.

### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the CWA, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the CWA and its implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

### State

#### CALIFORNIA WATER CODE

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may

## 3.15 UTILITIES AND SERVICE SYSTEMS

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include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

### DEPARTMENT OF WATER RESOURCES

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

### WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY

The watershed of the Bay-Delta Estuary provides drinking water to two-thirds of the State's population and water for a multitude of other urban uses, and it supplies some of the State's most productive agricultural areas, both inside and outside of the Estuary. The Bay-Delta Estuary itself is one of the largest ecosystems for fish and wildlife habitat and production in the United States.



The Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and actions. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

#### STATE WATER RESOURCE CONTROL BOARD STORM WATER STRATEGY

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the SWRCB’s role in storm water resources management. The Storm Water Strategy developed guiding principles to serve as the foundation of the storm water program; identified issues that support or inhibit the program from aligning with the guiding principles; and proposed and prioritized projects that the Water Boards could implement to address those issues. The SWRCB staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the SWRCB’s Storm Water Program.

### **Local**

#### CONTRA COSTA CLEAN WATER PROGRAM STORMWATER C.3 GUIDEBOOK

The 8<sup>th</sup> Edition of the Contra Costa Clean Water Program Stormwater C.3 Guidebook (2017) helps to ensure that applicable projects comply with the C.3 requirements in the California Regional Water Quality Control Boards’ Municipal Regional Permit. The Guidebook provides detailed information about how to prepare a Stormwater Control Plan. In addition, there are two Guidebook Addendums, “Contra Costa Clean Water Program Technical Criteria for Non-LID Facilities” and “Preparing a Stormwater Control Plan for a Small Land Development Project”. Provision C.3 compliance must be demonstrated at the time of application for a development project, including rezoning, tentative map, parcel map, conditional use permit, variance, site development review, design review, development agreement, or building permit. All Regulated Projects require a Stormwater Control Plan showing the location and footprint of proposed

## 3.15 UTILITIES AND SERVICE SYSTEMS

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impervious surfaces and of proposed stormwater facilities, and a description of how runoff will flow from impervious surfaces to the facilities.

### BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION - START AT THE SOURCE: DESIGN GUIDANCE MANUAL FOR STORMWATER QUALITY PROTECTION

This document is intended for use in the planning and design phases of residential, commercial, institutional, and industrial development and redevelopment. It recognizes that one of the best opportunities to reduce the generation of urban runoff or “nonpoint source pollution” from development is through planning and design. This document provides Best Management Practices including principles and techniques for basic siting and design considerations, construction phase strategies, and post construction property management practices.

### CITY OF PITTSBURG MUNICIPAL CODE

Chapter 13.28 (Stormwater Management and Discharge Control) of the Pittsburg Municipal Code addresses stormwater and water quality. In compliance with the City’s National Pollutant Elimination System (NPDES) permit, and consistent with the Porter-Cologne Water Quality Control Act, and the Federal Clean Water Act, the intent of this chapter is to protect and enhance the water quality in the City of Pittsburg’s watercourses. In addition, this chapter also requires projects to prepare a stormwater control plan and construct and implement stormwater management and discharge control measures and comply with best management practices during project construction and operation.

### CITY OF PITTSBURG CLEAN WATER PROGRAM

As a member of the Contra Costa Clean Water Program, the City is governed by the City’s NPDES permit. The NPDES permit limits and controls the types and amounts of pollutants entering our waterways to keep them safe and clean. The City’s program includes:

- Public Outreach and Education
- Oversight of New Developments
- Illicit Discharge Inspection and Response
- Trash Load Reduction
- Heavy metals and Legacy Pollutant Controls
- Street Sweeping
- Storm Drainage Cleaning and Maintenance
- Creek Clean Up and Protection.

## THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

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## IMPACTS AND MITIGATION MEASURES

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### **Impact 3.15-5: General Plan implementation may require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)**

Development under the 2040 General Plan would result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded drainage facilities cannot be determined at this time, as the General Plan does not propose or approve any specific development project nor does it designate specific sites for new or expanded public facilities.

Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects allowed under the 2040 General Plan.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this is a **less than significant** impact and no additional mitigation is required.

The 2040 General Plan policies and actions listed below would further ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-P-2.17: Work with industrial property-owners along the waterfront to improve urban runoff and water quality levels within the Bay wetlands.

10-P-3.1: Require development to use best management practices (BMPs) to minimize the runoff and erosion caused by earth movement.

##### **ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-2.g: Intermix areas of pavement with naturally vegetated infiltration sites to minimize the concentration of stormwater runoff from pavement and structures.

## 3.15 UTILITIES AND SERVICE SYSTEMS

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10-A-2.h: Require an encroachment permit from Contra Costa Water District (CCWD) for any storm drain facility crossing or encroaching onto Contra Costa Canal rights-of-way.

10-A-2.i: Require all crossings to be constructed in accordance with CCWD standards and requirements.

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.k: Establish regulations as part of the Zoning Code to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.

10-A-3.a: Require evaluation and implementation of appropriate measures as part of development plans for creek bank stabilization as well as necessary BMPs to reduce erosion and sedimentation.

10-A-3.b: See also Safety and Resiliency 11-A-4.c: During development review, ensure that new development on unstable slopes is designed to avoid potential soil creep and debris flow hazards. Avoid concentrating runoff within swales and gullies, particularly where cut-and-fill has occurred.

### 3.15.4 SOLID WASTE

#### KEY TERMS

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**Class I landfill:** A landfill that accepts for disposal 20 tons or more of municipal solid waste daily (based on an annual average); or one that does not qualify as a Class II or Class III municipal solid waste landfill.

**Class II landfill:** A landfill that (1) accepts less than 20 tons daily of municipal solid waste (based on an annual average); (2) is located on a site where there is no evidence of groundwater pollution caused or contributed by the landfill; (3) is not connected by road to a Class I municipal solid waste landfill, or, if connected by road, is located more than 50 miles from a Class I municipal solid waste landfill; and (4) serves a community that experiences (for at least three months each year) an interruption in access to surface transportation, preventing access to a Class I landfill, or a community with no practicable waste management alternative.

**Class III landfill:** A landfill that is not connected by road to a Class I landfill or a landfill that is located at least 50 miles from a Class I landfill. Class III landfills can accept no more than an average of one ton daily of ash from incinerated municipal solid waste or less than five tons daily of municipal solid waste.

**Transfer station:** A facility for the temporary deposition of some wastes. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal or treatment.

**Waste Management Plan:** A Waste Management Plan (WMP) is a completed WMP form, approved by the City for the purpose of compliance with Chapter 8.40 of the Brentwood Municipal Code, submitted by the applicant for any covered project. Prior to project start, the WMP shall identify the types of construction and demolition (C&D) debris materials that will be generated for disposal and recycling. A completed WMP contains actual weight or volume of the material disposed recycled receipts.

#### WASTE DISPOSAL FACILITIES

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Pittsburg is served by Mt. Diablo Resource Recovery (MDRR - Pittsburg) formally known as Pittsburg Disposal Service, for solid waste pick-up and disposal services. Republic Services (formally Allied Industries) provides disposal services for some areas in Bay Point.

The Environmental Services Department, in conjunction with MDRR - Pittsburg, coordinates the curbside recycling, and green waste programs. MDRR - Pittsburg provides a container for garbage, recycling and green waste separately.

**Keller Canyon Landfill**

Keller Canyon Landfill disposes of industrial non-recyclable waste from Pittsburg. The Keller Canyon Landfill has a maximum permitted throughput of 3,500.00 tons per day, and a maximum permitted capacity of 75,018,280 cubic yards with a remaining capacity of 63,408,410 cubic yards.

Keller Canyon Landfill is a Class II facility designed to accept mixed municipal, Construction/demolition, agricultural, sludge (Bio-Solids), and other designated industrial solid waste. Although the total acreage of the site is 1,399 acres, the allotted disposal footprint is 244 acres to allow for a boundary between the facility and surrounding developments. The estimated cease of operation date for this facility is 2050.

**Recycling Center & Transfer Station**

Located at 1300 Loveridge Road, the Mt. Diablo Resource Recovery Park accepts and recycles all types of material. The facility also accepts regular household waste, wood, green waste, and construction debris.

The RCTS contains Mt. Diablo Recycling the area’s largest state-of-the-art recycling processing center, with a goal of keeping all recyclable items, including paper, metals, cardboard, yard waste, urban wood waste, construction materials and used oil, out of the landfill so as much material as possible can be recycled and reused. The facility also includes the region’s largest construction and demolition recycling operation, resulting in thousands of tons of material being kept out of the landfill. The facility serves residential and commercial collection services to the cities of Concord, Pittsburg, Oakley, Rio Vista and unincorporated areas throughout Contra Costa and Solano Counties.

**SOLID WASTE GENERATION RATES AND VOLUMES**

The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. Per capita solid waste generation rates and total annual solid waste disposal volumes for the City between 2015 and 2017 are shown in Table 3.15-8.

**TABLE 3.15-8: SOLID WASTE GENERATION RATES**

YEAR	WASTE GENERATION RATE (LBS/PERSON/DAY)	POPULATION	TOTAL DISPOSAL TONNAGE (TONS/YEAR)
2016	5.45	68,133	67,707
2017	5.53	71,342	72,064
2018	7.68	73,138	102,458
2019	6.07	72,541	80,331
2020	6.49	76,242	90,371
2021	6.01	75,633	82,988

SOURCE: CAL RECYCLE (ACCESSED: OCTOBER 2023); CA DOF, TABLES E-5 AND E-4.

As shown in Table 315-8, the 2021 per capita disposal rate in Pittsburg, which is the most recently approved disposal rate, was 6.01 pounds per day (ppd) per resident.

The per capita waste generation rate increased from 5.4 to 6.0 lbs/person/day over the six-year (2016-2021) period, and, the total annual disposal tonnage in the city increased by 15,281 tons over the 2016 to 2021 time span. With the passage of SB 1016, per capita disposal rate is used to determine the diversion progress of a city and not the jurisdictional diversion rates. Therefore, a population increase resulting in the generation of more overall city waste does not affect the jurisdiction’s ability to meet its waste goals. The City’s waste disposal rate targets are shown in Table 3.15-9.

**TABLE 3.15-9: CITY OF PITTSBURG WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)**

YEAR	POPULATION		EMPLOYMENT	
	TARGET	ACTUAL	TARGET	ACTUAL
2016	6.7	5.4	40.0	26.50
2017	6.7	5.5	40.0	27.80
2018	6.7	7.8	40.0	38.7
2019	6.7	6.4	40.0	28.9
2020	6.7	6.6	40.0	33.8
2021	6.7	6.0	40.0	32.4

SOURCE: CAL RECYCLE (ACCESSED: OCTOBER 2023)

The City’s target rate on the above table represents a 50 percent diversion rate. In accordance with AB 939, which required municipalities to aggressively pursue MSW source reduction and recycling, the City continues to meet and exceed all AB 939 goals. The various solid waste management actions adopted by the City include, but are not limited to, recycling and yard waste programs for residents and businesses, public education and public outreach awareness events, and school recycling and composting.

### HAZARDOUS WASTE DISPOSAL

Delta Household Hazardous Waste Collection Facility located at 2550 Pittsburg-Antioch Hwy in Pittsburg is open Thursdays, Fridays and Saturdays from 9 a.m. – 4 p.m. The facility is available to the residents of the East Contra Costa County communities including: Antioch, Bay Point, Bethel Island, Brentwood, Byron, Discovery Bay, Knightsen, Oakley, and Pittsburg. Proof of residency is required to use this facility. Table 3.15-10 shows examples of hazardous waste accepted.

**TABLE 3.15-10: HAZARDOUS WASTE ACCEPTED**

HOME & GARDEN PRODUCTS	AUTOMOTIVE CARE PRODUCTS	PAINT & PAINT RELATED PRODUCTS	PERSONAL CARE PRODUCTS	MISC. PRODUCTS
Liquid cleaners	Oil	Latex paint	Pharmaceuticals	Light Bulbs (all types)
Aerosols	Oil Filters	Oil based paint	Hair care products	Electronic Waste
Drain openers	Antifreeze	Stains	Lotions	(TV's computers, etc.)
Solvents	Brake Fluid	Varnishes	Soaps	
Grouts	Transmission Fluid	Glazes	Cosmetics	
Cements	Gasoline	Waxes	Nail polish remover	Mercury
Caulking	Car Wax	Wood oils	Perfumes	thermometers
Sealants	Car Polish	Paint thinner	Colognes	Thermostats

## 3.15 UTILITIES AND SERVICE SYSTEMS

<i>HOME &amp; GARDEN PRODUCTS</i>	<i>AUTOMOTIVE CARE PRODUCTS</i>	<i>PAINT &amp; PAINT RELATED PRODUCTS</i>	<i>PERSONAL CARE PRODUCTS</i>	<i>MISC. PRODUCTS</i>
Adhesives Lighter fluid Pesticides Insecticides Herbicides Pool chemicals Fertilizers	Car Batteries Degreasers Solvents Wheel Cleaners Road Flares	Epoxy resins Wallpaper products	Insect Repellent	Sharps Propane tanks Helium Tanks Household batteries Cooking Oil

*SOURCE: DELTA DIABLO HOUSEHOLD HAZARDOUS WASTE INFORMATION*

Unacceptable Hazardous Waste includes:

- Appliances (see Contra Costa Waste Recycling Center & Transfer Station)
- Asbestos (contact Altamont Landfill)
- Compressed Gas Cylinders, except propane and helium (contact local gas suppliers)
- Infectious or Biologically Active Materials (contact Contra Costa County Environmental Health Department)
- Radioactive Materials (contact Contra Costa County Environmental Health Department)
- Railroad Ties/Treated Wood (contact Altamont Landfill)
- Tires (Call 1.800.750.4096 or visit <http://www.cccrecycle.org>.)
- Explosives or Ammunition (contact local law enforcement agency)

### REGULATORY SETTING – SOLID WASTE

#### **Federal**

##### RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the current Act governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA was an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

#### **State**

##### CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT (AB 939 AND SB 1322)

The California Integrated Waste Management Act of 1989 (AB 939 and SB 1322) requires every city and county in the state to prepare a Source Reduction and Recycling Element to its Solid Waste



Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25% by 1995 and 50% by 2000. The purpose of AB 939 and SB 1322 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.” The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows: Source Reduction; Recycling; Composting; Transformation; and Disposal.

#### AB 341 (75 PERCENT SOLID WASTE DIVERSION)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

#### SB 1374 (CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERSION)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

#### AB 2176 (MONTANEZ, CHAPTER 879, STATUTES OF 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. *Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and*
2. *Charges an admission price or is run by a local agency.*

The bill specifically includes public, nonprofit, or privately owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

*A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).*

## 3.15 UTILITIES AND SERVICE SYSTEMS

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Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

### CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD MODEL ORDINANCE

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.” For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

### CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

CALGreen became mandatory on January 1, 2011. The 2012 Supplement became effective on July 1, 2012, the 2013 CALGreen became effective on January 1, 2014, and the 2016 CALGreen became effective on January 1, 2017.

As of January 1, 2017, in all jurisdictions including those without a construction and debris ordinance requiring the diversion of 65 percent of construction waste, the owners/builder of construction projects within the covered occupancies are required to divert 65 percent of the construction waste materials generated during the project. Additionally, CALGreen allows a disposal reduction option that can be met when the project’s disposal rate is less than 2.0 pounds per square foot for non-residential and high rise residential, or less than 3.4 pounds per square foot for low-rise residential.

### ASSEMBLY BILL 1826 MANDATORY COMMERCIAL ORGANICS RECYCLING

In October 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (please note, however, that multi-family dwellings are not required to have a food waste diversion program). Organic waste (also referred to as organics) means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste

generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Starting on January 1, 2019, businesses that generate 4 cubic yards or more of commercial solid waste per week shall arrange for organic waste recycling services. By Summer/Fall 2021, if CalRecycle determines that the statewide disposal of organic waste in 2020 has not been reduced by 50 percent of the level of disposal during 2014, the organic recycling requirements on businesses will expand to cover businesses that generate 2 cubic yards or more of commercial solid waste per week. Additionally, certain exemptions may no longer be available if this target is not met.

#### CALIFORNIA MANDATORY COMMERCIAL RECYCLING LAW (AB 341)

Assembly Bill (AB) 341 directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. The purpose of AB 341 is to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California.

Beginning on July 1, 2012, businesses have been required to recycle, and each jurisdiction has implemented programs that include education, outreach, and monitoring. Jurisdictions were required to start reporting on their 2012 Electronic Annual Report (due August 1, 2013) on their initial education, outreach, and monitoring efforts, and, if applicable, on any enforcement activities or exemptions implemented by the jurisdiction.

In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not written as a 75 percent diversion mandate for each jurisdiction. The 50 percent disposal reduction mandate still stands for cities, counties, and State agencies (including community colleges) under AB 939. CalRecycle continues to evaluate program implementation as it has in the past through the Annual Report review process for entities subject to either AB 939.

#### SENATE BILL 1383 SHORT-LIVED CLIMATE POLLUTANTS: ORGANIC WASTE METHANE EMISSIONS REDUCTIONS

In September 2016, Governor Brown signed SB 1383, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The bill codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605, in order to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to solid waste, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent

reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

### Local

CITY OF PITTSBURG MUNICIPAL CODE, TITLE 8 HEALTH AND SANITATION

Title 8 of the Pittsburg Municipal Code includes the following chapters related to solid waste topics and standards: Chapter 8.04 (Rubbish Removal and Disposal), Chapter 8.05 (Solid Waste Facility Regulation), Chapter 8.06 (Collection of Recyclable Waste Materials), and Chapter 8.07 (Plastic Bag Regulation).

### THRESHOLDS OF SIGNIFICANCE

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Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with Utilities if it would:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

### IMPACTS AND MITIGATION MEASURES

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**Impact 3.15-6: General Plan implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals (Less than Significant)**

The development of future land uses under the 2040 General Plan would increase solid waste disposal needs and could have the potential to require the construction of new landfill facilities, or expansion of existing facilities.

Future development as accommodated under the 2040 General Plan may increase the population within the Planning Area by approximately 20,470 persons. As described above, the City has a disposal rate of 6.0 PPD per resident in 2021. Assuming these disposal rates remain constant throughout the life of the 2040 General Plan, the new growth under General Plan buildout would result in an increase of approximately 122,820 pounds per day of solid waste, which equals 61.41 tons per day or 23,510 tons of solid waste per year.

As noted previously, the Keller Canyon Landfill has a maximum permitted throughput of 3,500.00 tons per day, and a maximum permitted capacity of 75,018,280 cubic yards with a remaining capacity of 63,408,410 cubic yards. The estimated cease of operation date for this facility is 2050.

The additional solid waste generation associated with the 2040 General Plan, approximately 61.41 tons per day at total buildout, to the Keller Canyon Landfill would not exceed the landfill's remaining and additional capacity until landfill closure in 2050.

The 2040 General Plan would not exceed the permitted capacity of the landfill serving the city, and the General Plan complies with regulations related to solid waste. Future projects within the Planning Area would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. While there is adequate permitted landfill capacity to accommodate future growth, the 2040 General Plan includes actions to further reduce the project's impact on solid waste services, as identified below. For example, Policy 12-P-4.1 requires the City to enforce solid waste reduction, diversion, and recycling standards to divert increasingly larger portions of the waste stream from landfills serving the region. Additionally, Policy 12-P-4.2 requires the City to ensure that the State's solid waste reduction and diversion goals are met or exceeded. Further, Policy 12-P-4.3 requires a reduction of municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

With the implementation of the following policies and payment of a solid waste connection fees for project within the Planning Area, solid waste impacts would be **less than significant**.

#### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

##### **POLICIES – COMMUNITY FACILITIES ELEMENT**

12-P-4.1: Enforce solid waste reduction, diversion, and recycling standards to divert increasingly larger portions of the waste stream from landfills serving the region.

12-P-4.2: Ensure that the State's solid waste reduction and diversion goals are met or exceeded.

12-P-4.3: Reduce municipal waste generation by increasing recycling, on-site composting, and mulching, where feasible, at municipal facilities, as well as using resource efficient landscaping techniques in new or renovated medians and parks.

12-P-4.4: Encourage residential, commercial, and industrial recycling and reuse programs through providing information on the City's website, public education campaigns, and other outreach techniques.

12-P-4.5: Encourage builders to incorporate interior storage areas for recyclables into new or remodeled residential, commercial, and industrial structures.

## 3.15 UTILITIES AND SERVICE SYSTEMS

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### ACTIONS – COMMUNITY FACILITIES ELEMENT

12-A-4.a: Work with Mt. Diablo Resource Recovery to ensure that service levels are adequate and to increase participation in green waste collection and curbside recycling programs for residential neighborhoods.

12-A-4.b: Expand educational and outreach efforts, in partnership with state, regional, local agencies, relevant organizations, businesses, schools, etc. to promote recycling and waste reduction for homes, businesses, and industrial uses, as well as addressing methods of safe disposal of hazardous materials.

12-A-4.c: Expand the provision of recycling and organic waste collection containers and services at all City facilities, including parks.

12-A-4.d: Include standard language in requests for services and in City agreements requiring contractors to use best management practices to maximize diversion of waste from the landfill.

This section provides a background discussion of the hazards associated with wildfires in the City of Pittsburg. The discussion of fire suppression resources is located within Chapter 3.13, Public Services and Recreation, of this report.

No comments were received during the NOP comment period regarding this environmental topic.

### 3.16.1 ENVIRONMENTAL SETTING

#### FIRE HAZARD SEVERITY ZONES

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The state has charged the California Department of Forestry and Fire Protection (CalFire) with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas (SRAs). In addition, CalFire must classify Very High Fire Hazard Severity Zones (VHFHSZs) identified within any Local Responsibility Areas (LRAs). The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. Figure 3.16-1 illustrates the City's FHSZs and Responsibility Areas.

As shown in Figure 3.16-1, the majority of the Planning Area is not located in a "moderate", "high", or "very high" FHSZs. However, small portions of the Planning area are located in "moderate" and "high" FHSZs, including areas in the southeast, southwest, and western portions of the Planning Area. Within the current City limits, small areas containing "moderate" or "high" FHSZs are located only in the southeast and southwest portions of the City. No areas within the Planning Area are categorized as containing a VHFHSZs by CalFire.

As shown in Figure 3.16-1, the majority of the Planning Area is located within a Local Responsibility Area. A small portion in the western section of the Planning Area located near Port Chicago Highway is in a Federal Responsibility Area. Additionally, portions of the City are located in an SRA. The areas within the City Limits located in an SRA are located (2) west of Somersville Road and south of Buchanan Road (2) south of Buchanan Road near Kirker Pass Road, and (3) north of the SOI along Bailey Road. Furthermore, the area to the south and southeast of the City limits and the SOI, but within the Planning Area, is currently located in an SRA.

#### FIRE THREAT AREAS

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CalFire's Fire Threat Model identifies fire threats using fuel rank, which is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index, and modeled characteristics regarding fire probability and behaviors.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0 to 10 percent, 11 to 25 percent, 26 to 40 percent, 41 to 55 percent, 56 to 75 percent, and greater than 75 percent. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank reflects the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme.

As shown in Figure 3.16-2, the City of Pittsburg contains areas with “moderate”, “high”, and “very high” fire threats. “Very high” fire threats are located in the southern and western portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater. CalFire data for the areas immediately south and west of the Planning Area also include “very high” fire threats. CalFire data for the areas immediately north and east of the Planning Area include “moderate” and “high” fire threats.

### 3.16.2 REGULATORY SETTING

#### FEDERAL ---

##### **FY 2001 Appropriations Act**

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

##### **Disaster Mitigation Act (2000)**

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) enacted Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which created incentives for state and local entities to coordinate hazard mitigation planning and implementation efforts and is an important source of funding for fuels mitigation efforts through hazard mitigation grants.

##### **National Incident Management System (NIMS)**

The City adopted NIMS, which provides a systematic, proactive approach to guide government agencies, nongovernmental organizations, and the private sector to work together to prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment. NIMS improves the City’s ability to prepare for and respond to potential incidents and hazard scenarios.



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### **National Fire Plan (NFP) 2000**

The summer of 2000 marked a historic milestone in wildland fire records for the United States. Dry conditions across the western United States led to destructive wildfire events on an estimated 7.2 million acres, nearly double the 10-year average. Costs in damages including fire suppression activities were approximately 2.1 billion dollars. Congressional direction called for substantial new appropriations for wildland fire management. This resulted in action plans, interagency strategies, and the Western Governor's Association's "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment – A 10-Year Comprehensive Strategy - Implementation Plan", which collectively became known as the National Fire Plan. This plan places a priority on collaborative work within communities to reduce their risk from large-scale wildfires.

### **Healthy Forest Initiative 2002/Healthy Forest Restoration Act 2003**

In August 2002, the Healthy Forests Initiative (HFI) was launched with the intent to reduce the severe wildfires risks that threaten people, communities, and the environment. Congress then passed the Healthy Forests Restoration Act (HFRA) on December 3, 2003, to provide the additional administrative tools needed to implement the HFI. The HFRA strengthened efforts to restore healthy forest conditions near communities by authorizing measures such as expedited environmental assessments for hazardous fuels projects on federal land. This HFRA emphasized the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects and places priority on fuel treatments identified by communities themselves in their Community Wildfire Protection Plans.

### **Department of the Interior Department Manual Part 620**

Wildland Fire Management, Part 620 of the Department of the Interior Departmental Manual, pertains to wildland fire management policies, with the goal of providing an integrated approach to wildland fire management. The guiding principles of the plan emphasize the need for public health and safety considerations, risk management protocols, inter-agency collaboration, and economic feasibility of wildfire management practices, as well as the ecological role of wildfires.

## STATE

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### **California Strategic Fire Plan**

This statewide plan is a strategic document, which guides fire policy for much of California. The plan is aimed at reducing wildfire risk through pre-fire mitigation efforts tailored to local areas through assessments of fuels, hazards, and risks.

### **California State Multi-Hazard Mitigation Plan**

The purpose of the State Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural- and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, state, and federal agencies as well as the private sector.

### **California Government Code Section 65302**

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements. This section describes that a Safety Element shall include protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards, identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The Safety Element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

The Safety Element is also required to:

- Identify information regarding flood hazards;
- Establish a set of comprehensive goals, policies, and objectives for the protection of the community from the unreasonable risks of flooding;
- Establish a set of feasible implementation measures designed to carry out the applicable goals, policies, and objectives;
- Be reviewed and updated as necessary to address the risk of fire for land classified as state responsibility areas and land classified as very high fire hazard severity zones;

Be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county.

### **California Public Resource Code**

The State's Fire Safe Regulations are set forth in Public Resources Code Section 4290, which include the establishment of SRAs. An SRA is the area where the State of California is financially responsible for the prevention and suppression of wildfires. An SRA does not include lands within city boundaries or in federal ownership. Areas in federal ownership are under Federal Responsibility Areas (FRA), and areas within city boundaries are included in LRAs.

Public Resources Code Section 4291 sets forth defensible space requirements, which are applicable to anyone that ...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material (Section 4291(a)). These requirements include:

- Maintenance of defensible space of 100 feet from each side and from the front and rear of the structure, not beyond the property line except as required by state law, local ordinance, rule, or regulation;
- An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert,

designated by the director, provides findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure.

- Removal of the portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe;
- Maintenance of a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood;
- Maintenance of the roof of a structure free of leaves, needles, or other vegetative materials;
- Prior to constructing a new building or structure or rebuilding a building or structure damaged by a fire in an area subject to this section, the construction or rebuilding of which requires a building permit, the owner shall obtain a certification from the local building official that the dwelling or structure, as proposed to be built, complies with all applicable state and local building standards.

### **Assembly Bill 337**

Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify “Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire-resistant materials in fire hazard severity zones are also established.

### **California Fire Code**

The California Fire Code establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the California Fire Code range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials.

### **California Code of Regulations Title 8**

In accordance with California Code of Regulations Title 8, Sections 1270 and 6773 (*Fire Prevention and Fire Protection and Fire Equipment*), the Occupational Safety and Health Administration (Cal OSHA) establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

### **California Code of Regulations Title 14 (Natural Resources)**

Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.

### **California Code of Regulations Title 19 (Public Safety)**

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

**California Code of Regulations Title 24 (CA Building Standards Code)**

The California Fire Code is set forth in Part 9 of the Building Standards Code. The California Fire Code, which is pre-assembled with the International Fire Code by the International Code Council, contains fire-safety building standards referenced in other parts of Title 24.

**California Health and Safety Code and UBC Section 13000 et seq.**

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the California Fire Code and mandate the abatement of fire hazards. The Health and Safety Code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, like as childcare facilities and high-rise structures.

**California Public Utilities Code Section 8367 et seq.**

State regulations relating to wildfire mitigation are set forth in Section 8387 of the California Public Utilities Code. The regulations provide that each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment. The local publicly owned electric utility or electrical cooperative is also required to prepare a wildfire mitigation plan.

**LOCAL**

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**City of Pittsburg Municipal Code**

Chapter 15.20, Fire Code – Regulations, includes the adoption of the 2018 International Fire Code and the adoption of additional amendments.

Chapter 15.92, Community Facility Fees – Fire Protection Facilities, provides a method for financing fire protection facilities required by the goals and policies of the general plan and necessitated by the needs of new construction and development for adequate fire protection facilities and services. Pursuant to Chapter 15.92 of the Municipal Code, a fire protection facilities fee shall be paid as a condition precedent to the issuance of a building permit for new construction. The fee shall be in the amount established by resolution of the city council.

**3.16.3 IMPACTS AND MITIGATION MEASURES****THRESHOLDS OF SIGNIFICANCE**

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Consistent with Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to wildfire, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, if it would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

It is noted that there are no areas identified as VHFHSZs in the Planning Area. However, some areas within the City Limits and City's SOI are within SRAs. Consistent with Appendix G of the CEQA Guidelines, the following impact discussion focuses on the impacts related to the areas in the City Limits and City's SOI which are within an SRA.

## IMPACTS AND MITIGATION MEASURES

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### **Impact 3.16-1: General Plan implementation would not substantially impair an adopted emergency response plan or emergency evacuation plan. (Less than Significant)**

As shown in Figure 3.16-1 and noted previously, the majority of the Planning Area is located within a Local Responsibility Area. Portions of the City Limits are located in an SRA. The areas within the City Limits located in an SRA are located (2) west of Somersville Road and south of Buchanan Road (2) south of Buchanan Road near Kirker Pass Road, and (3) north of the SOI along Bailey Road. Furthermore, the area to the south and southeast of the City limits and the SOI, but within the Planning Area, is currently located in a SRA.

Overall, the General Plan would allow a variety of new development in the future, including residential, commercial, industrial, and public service projects, which would result in increased jobs and population in Pittsburg. The area within an SRA west of Somersville Road and south of Buchanan Road is designated for Low Density Residential, High Density Residential, Park, and Industrial uses by the proposed General Plan Land Use Map. Additionally, the area within an SRA south of Buchanan Road near Kirker Pass Road is designated for Low Density Residential and Open Space uses by the proposed General Plan Land Use Map. Further, the area within an SRA north of the SOI along Bailey Road is designated for Hillside Low Density Residential, Park, and Open Space uses by the proposed General Plan Land Use. Road and infrastructure improvements would occur throughout the Planning Area, including the areas within an SRA, to accommodate the new growth as further discussed in Chapter 3.14 (Transportation). Future projects are not anticipated to remove or impede evacuation routes, and the General Plan does not include land uses, policies, or other components that conflict with adopted emergency response or evacuation plans. The City is a member of the Contra Costa Operational Area. This entity provides mutual aid to communities via the Contra Costa County Sheriff's Department, Contra Costa County Fire Protection District, and the State of California Office of Emergency Services.

The proposed Pittsburg General Plan is a policy document that does not include any site-specific designs or proposals and does not propose any entitlements for development that would have the potential to impair or conflict with an adopted emergency response or evacuation plan. Any future development projects that would implement the General Plan, including buildout of uses contemplated under the proposed Land Use Map, would be subject to all applicable City regulations, reviews, and requirements pertaining to emergency response, emergency access, and maintaining emergency evacuation routes, as well as further CEQA analysis of project-specific impacts.

Additionally, the proposed General Plan includes policies and actions related to emergency response and emergency response routes. For example, Policy 11-P-1.8 aims to ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments. Policy 11-P-1.11 requires new residential development and high-occupancy development, such as hospitals, residential care facilities, schools, and churches, are located in hazard areas to have at least two emergency evacuation routes. Additionally, Action 11-A-1.c aims to improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes. Further, Action 11-A-1.d aims to seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

The General Plan ensures that the City's emergency access routes and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. Important new critical facilities would also be located to ensure resiliency and functionality in the event of a natural disaster. Implementation of the General Plan would have a **less than significant** impact with regard to this issue.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.

11-P-1.2: Ensure emergency response equipment and personnel training are adequate to follow the procedures contained within the Emergency Operations Plan for a major earthquake, wildland fire, flood, or hazardous materials release event.

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-1.4: Maintain, modernize, and designate new sites for emergency response facilities, including fire and police stations, as needed to accommodate population growth.

11-P-1.5: Prepare and disseminate information to local residents, businesses, and schools about emergency preparedness, including for flooding, fire, hazardous material releases, and seismic activity, and evacuation routes.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, and facilities shown on Figure 11-1, as well as school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

11-P-1.8: Ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments.

11-P-1.9: Maintain effective mutual aid agreements for fire, police, medical response, mass care, heavy rescue, and other functions as appropriate.

11-P-1.10: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

11-P-1.11: Require new residential development and high-occupancy development, such as hospitals, residential care facilities, schools, and churches, located in hazard areas to have at least two emergency evacuation routes.

#### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-1.a: Implement and periodically review and update, as necessary, emergency response and planning documents, including the Emergency Operations Plan (EOP) and the local Hazard Mitigation Plan (HMP) and HMP to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity.

11-A-1.b: Identify and pursue strategies to increase the city's resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the city and particularly the waterfront's unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-1.c: Improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes.

11-A-1.d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

11-A-2.d: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate

(e.g., increased drought, wildfires, flooding, and extreme heat). Incorporate these into all relevant plans, including the EOP and HMP.

**Impact 3.16-2: General Plan implementation could, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. (Less than Significant)**

Wildfires generally ignite structures in several ways: burning embers landing on the structure or flammable material next to the structure; direct flame contact; and radiant heat from fire close to the structure (IBHS 2018). Embers are the most important cause of home ignition. Embers ignite structures by entering through attic vents, igniting flammable materials around the home (litter in the roof gutter, wood stacks, or wood fencing), or finding their way under roofing materials (California Chaparral Institute 2018).

A wildland urban interface (WUI) is any area where structures and other human developments meet or intermingle with wildland vegetative fuels—the shrubs, trees and grasses. These plants and wildland areas have evolved over time to burn. Developments in the WUI exacerbate fire occurrence and fire spread in several ways:

- Increased numbers of human-caused wildfires.
- Wildfires become harder to fight.
- Firefighting resources are diverted from containing the wildfire to protecting lives and homes.
- Letting natural fires burn becomes impossible, leading to build-up of fuel and increasing wildfire hazard further. (Radeloff, Volker, et al., 2018)
- Increased fire frequency tends to eliminate native shrubs, which are replaced by weedy, highly flammable annual grasslands. (USGS 2012)

Air pollution from wildfire smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn. The biggest health threat from smoke is from fine particles. These microscopic particles can penetrate deep into the lungs. They can cause a range of health problems, from burning eyes and a runny nose to aggravated chronic heart and lung diseases. Some populations are more sensitive than others to smoke—for instance, people with heart or lung diseases, the elderly, children, people with diabetes, and pregnant women (CARB 2005, and Airnow 2018).

The rate of wildfire spread due to slope and wind is generally proportional to the grade upslope and wind speed and associated location downwind.

Fire threat determination is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). These two factors are combined to create four threat classes ranging from moderate to extreme. Fire threat can be used to estimate the potential for impacts on various assets and values susceptible to fire. Impacts are more likely to occur and/or be of increased severity for the higher threat classes. As shown in Figure 3.16-2,



the City of Pittsburg contains areas with “moderate”, “high”, and “very high” fire threats. “Very high” fire threats are located in the southern and western portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater. CalFire data for the areas immediately south and west of the Planning Area also include “very high” fire threats. CalFire data for the areas immediately north and east of the Planning Area include “moderate” and “high” fire threats.

Development under the General Plan would allow development to place people and/or structures in currently developed areas that are identified as having a significant risk of wildland fires. The areas which are located in VHFHSZs (discussed in Impact 3.16-1) have “low” to “very high” fire threats. Any future projects contemplated under the General Plan would be required to comply with the provisions of federal, state, and local requirements related to wildland fire hazards, including state fire safety regulations associated with WUIs, fire-safe building standards, and defensible space requirements as part of the project’s approval process. As future development and infrastructure projects are considered by the City, each project would be evaluated for potential impacts, on a project-by-project basis, associated with wildland fire hazards as required under CEQA. The City Planning Area does not contain any Very High FHSZs. The General Plan and General Plan Land Use Map do not designate any new urban and/or residential uses in the areas of the City designated as Moderate FHSZs. The majority of the areas within Pittsburg designated as a Moderate FHSZ SRAs are designated for open space or park uses, which would preclude new development.

The Pittsburg General Plan is a policy document that does not include site specific designs or proposals and does not propose any entitlements for development that would have the potential to expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Any future development projects that would implement the General Plan, including buildout of uses allowed under the proposed Land Use Map, would be subject to all applicable City regulations, reviews, and requirements pertaining to emergency response, emergency access, and maintaining emergency evacuation routes, as well as being subject to all applicable building code and fire code requirements, including further CEQA analysis of project-specific impacts for individual development projects.

Chapter 15.20, Fire Code – Regulations, of the City of Pittsburg Municipal Code, includes the adoption of the 2018 International Fire Code and the adoption of additional amendments. Additionally, Chapter 15.92, Community Facility Fees – Fire Protection Facilities, provides a method for financing fire protection facilities required by the goals and policies of the general plan and necessitated by the needs of new construction and development for adequate fire protection facilities and services. Pursuant to this Chapter of the Code, a fire protection facilities fee shall be paid as a condition precedent to the issuance of a building permit for new construction. The fee shall be in the amount established by resolution of the City Council.

Further, the General Plan includes policies and actions pertaining to emergency response and fire protection. For example, Policy 11-P-1.8 aims to ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments. Policy 11-P-1.11 requires new residential development and high-occupancy development, such as

hospitals, residential care facilities, schools, and churches, are located in hazard areas to have at least two emergency evacuation routes. Additionally, Policy 11-P-1.3 requires that new essential public facilities are located outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage. Policy 12-P-6.1 requires the City to promote and cooperate with Contra Costa Fire Protection District to ensure adequate staffing and station locations, a maximum five-minute travel response time 90% of the time for fire and emergency calls, an overall fire insurance (ISO) rating of 3 or better for all developed areas within the City, and a minimum staffing of 3 personnel for all fire stations. Policy 12-P-6.2 requires that adequate road widths, turnarounds, and emergency access for development projects for fire response trucks. Further, Policy 12-P-6.3 requires development in areas of high fire hazard to be designed and constructed to minimize potential losses and maximize the ability of fire personnel to suppress fire incidents.

Nothing in the General Plan would substantially alter the slope, prevailing winds, or other factors that would increase exposure to Pittsburg residents, employees or visitors to increased pollutant concentrations from wildfire or result in the uncontrollable spread of a wildfire. General Plan implementation would not exacerbate wildfire risks in FHSZs; therefore, these impacts would be **less than significant**. Because impacts are less than significant, no mitigation is required. Nonetheless, General Plan Policies related to minimizing wildfire risk are included below.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **POLICIES – SAFETY & RESILIENCY ELEMENT**

11-P-1.1: Ensure Pittsburg is prepared to effectively respond to any emergency or disaster, including flooding, fire, hazardous material releases, and seismic activity, in cooperation with other public agencies and appropriate organizations.

11-P-1.2: Ensure emergency response equipment and personnel training are adequate to follow the procedures contained within the Emergency Operations Plan and Emergency Response and Emergency Operations Plan for a major earthquake, wildland fire, flood, or hazardous materials release event.

11-P-1.3: Locate new essential public facilities outside of high hazard areas, including high fire risk areas, special flood hazard areas, and areas at high risk for geologic or soil instability, to the extent feasible. Where it is not feasible to locate essential public facilities outside of high hazard areas, require site design, construction, and other methods to minimize damage.

11-P-1.4: Maintain, modernize, and designate new sites for emergency response facilities, including fire and police stations, as needed to accommodate population growth.

11-P-1.5: Prepare and disseminate information to local residents, businesses, and schools about emergency preparedness, including for flooding, fire, hazardous material releases, and seismic activity, and evacuation routes.

11-P-1.6: Ensure that critical facilities, including medical centers, police and fire stations, and facilities shown on Figure 10-1, as well as school facilities, and other structures that are important to protecting health and safety in the community, remain operative during emergencies.

11-P-1.8: Ensure that all areas of the city are accessible to emergency response providers. Keep emergency access routes free of traffic impediments.

11-P-1.9: Maintain effective mutual aid agreements for fire, police, medical response, mass care, heavy rescue, and other functions as appropriate.

11-P-1.10: Require development to provide additional access roads when necessary to provide for safe access of emergency equipment and civilian evacuation concurrently.

#### ACTIONS – SAFETY & RESILIENCY ELEMENT

11-A-1.a: Implement and periodically review and update, as necessary, emergency response and planning documents, including the Emergency Operations Plan (EOP) and the local Hazard Mitigation Plan (HMP) and HMP to ensure appropriate procedures are maintained preparing for disasters, including educating the public about emergency preparedness and ensuring the plans address current information regarding disaster risks and severity.

11-A-1.b: Identify and pursue strategies to increase the city's resilience to emergencies and disasters, including sea level rise, floods, seismic events, and wildfires, while protecting the city and particularly the waterfront's unique historic, maritime, cultural, and ecological assets and environment to the maximum feasible extent.

11-A-1.c: Improve local evacuation capacity through maintaining City roadways, emergency access, and evacuation routes, and provide signage to clearly identify emergency access and evacuation routes.

11-A-1.d: Seek funding from State, Federal, and other sources to assist in emergency management planning, including community education and outreach describing public procedures and evacuation routes in the event of an emergency or natural disaster.

11-A-2.d: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding, and extreme heat). Incorporate these into all relevant plans, including the EOP and HMP.

#### POLICIES – COMMUNITY FACILITIES ELEMENT

12-P-6.1: Promote and cooperate with Contra Costa Fire Protection District to ensure adequate staffing and station locations, a maximum five-minute travel response time 90% of the time for fire and emergency calls, an overall fire insurance (ISO) rating of 3 or better for all developed areas within the City, and a minimum staffing of 3 personnel for all fire stations.

12-P-6.2: Require adequate road widths, turnarounds, and emergency access development projects for fire response trucks.

12-P-6.3: Require development in areas of high fire hazard to be designed and constructed to minimize potential losses and maximize the ability of fire personnel to suppress fire incidents.

12-P-6.4: Require existing and new development in or adjacent to high and very high fire hazard severity zones, wildland urban interface zones, and State Responsibility Areas to maintain defensible space zones, landscape using native, fire-resistant plants and fire-resistant materials, abate weeds, and, where feasible, harden structures and infrastructure against fires.

### ACTIONS – COMMUNITY FACILITIES ELEMENT

12-A-6.a: Annually monitor response times and provide the City Council with an annual report on the results of the monitoring.

12-A-6.b: Continue to enforce the California Building Code and the California Fire Code, with amendments to address local conditions, to ensure that all construction and development implements fire-safe techniques, including fire resistant materials, where required.

12-A-6.c: Coordinate with Contra Costa Fire Protection District to periodically review, and if necessary amend, the criteria for determining the circumstances under which fire service will be enhanced and ensure adequate levels of service are provided to older, low income, and disadvantaged areas.

12-A-6.d: Review and amend the Municipal Code to include fire safe requirements, including defensible space zones, structure hardening, fire-resistant materials and landscaping, and, where appropriate, community firebreaks, for development in or adjacent to high and very high fire hazard severity zones and wildland urban interface zones.

12-A-6.e: Cooperate with Contra Costa County Fire Protection District in obtaining sites to either relocate or establish new fire stations within City limits to provide more efficient response times and to ensure new growth receives adequate levels of fire protection.

### **Impact 3.16-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. (Less than Significant)**

Development in or near FHSZs would require the construction and installation of infrastructure, including roads water and sewer and power lines. Development of such infrastructure may increase wildfire risks in the affected areas. Infrastructure required to serve development allowed under the General Plan would generally be located in and along established City roadways and would be located in areas that are already urbanized and are currently served by infrastructure. As such, implementation of the General Plan would not exacerbate wildfire risks.

The area south of the City limits is within the Moderate FHSZ, and the majority of the developable lands in those portions of the Plan Area are designated for park or open space uses by the proposed General Plan.

CPUC General Order (GO) 95 regulates all aspects of design, construction, and operation and maintenance of overhead electrical power lines and fire safety hazards for utilities subject to its jurisdiction. GO 165 imposes inspection requirements for transmission and distribution lines, and GO 166 requires emergency response procedures to respond to electric system failures, major outages, or hazards posed by damage to electric utility facilities. Rule 11 enables electric utilities to suspend customer service when minimum vegetation clearance requirements are not met. On February 5, 2014, the CPUC adopted its Decision Adopting Regulations to Reduce the Fire Hazards Associated with Overhead Electric Utility Facilities and Aerial Communications Facilities (Decision 14-02-015). In addition to updating various GO 95 requirements and ordering further study, the decision called for creation by the CPUC of a High Fire-Threat District (HFTD) map identifying zones of high hazard, elevated risk and extreme risk for destructive utility-associated wildfires.

On December 21, 2017, the CPUC issued its Decision Adopting Regulations to Enhance Fire Safety in the High Fire Threat District, adding statewide HFTD map requirements to GO 95 and enhancing GO 95's fire safety regulations within HFTD areas. (Decision 17-12-024.) As described in the CPUC's HFTD) maps the City of Pittsburg is within Tier 2 – Elevated, and Tier 3 – Extreme risk for destructive utility-associated wildfires.

Future development accommodated under the General Plan would be required to comply with the City's Municipal Code, which ensures that development design will comply with the applicable provisions of the California Building Code (CBC) and Uniform Fire Code (UFC). Future developments utility infrastructure would also be subject to the requirements established in the additional Public Resources Code including PRC Section 4292, which requires clearing of flammable fuels for a minimum 10-foot radius from the outer circumference of poles and towers; and PRC Section 4293, which sets basic requirements for clearances around electrical conductors. Furthermore, the future projects would be required to meet vegetation clearance requirements outlined in CCR Title 14, Section 1104.1(d) for single overhead facilities, and in CPUC General Order 95 requirements for overhead utility lines in high-fire-threat areas.

The General Plan includes requirements for adequate water supply and water flow availability, emergency access, fire protection services, fire safe design site standards, and ensuring public awareness regarding fire safety. All future development projects would be required to be consistent with the City's municipal code standards related to development in high fire hazard areas as described previously and would also be subject to CCR and PUC standard outlined above.

As described previously, the Pittsburg General Plan is a long-range policy document that does not include site specific designs or proposals, and does not, in and of itself, propose or approve any entitlements for development. The majority of all future development would occur within existing developed areas.

The potential for future projects to impact environmental resources to meet compliance with fire development standards such as fuel breaks and clearance requirements) would require project-specific environmental review under CEQA to identify any site-specific impacts. As demonstrated throughout this EIR, implementation of the various policies and actions contained in the General Plan would reduce potential impacts associated with the construction and expansion of infrastructure. Implementation of the General Plan policies and actions listed in Impacts 3.16-1 and 3.16-2, combined with local and state requirements, as discussed previously, would ensure that wildland fire hazards would not be exacerbated by local infrastructure, and this impact would be **less than significant**.

**Impact 3.16-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. (Less than Significant)**

Debris flows and post-fire earthflow hazards include fast-moving, highly destructive debris flows that can occur in the years immediately after wildfires in response to high intensity rainfall events, and flows that are generated over longer time periods that are accompanied by root decay and loss of soil strength. Post-fire debris flows are particularly hazardous because they can occur with little warning, exert great impulsive loads on objects in their paths, strip vegetation, block drainage ways, damage structures, and endanger human life. Debris flows differ from mudflows in that debris flows are composed of larger particles. Fires increase the potential for debris flows in two ways:

1. Fires may bake soil into a hard crust that repels water.
2. Fires destroy vegetation that would slow and absorb rainfall and whose roots would help stabilize soil. (USGS 2018)

Post-fire debris flows are most common in the two years after a fire. It takes much less rainfall to trigger debris flows from burned basins than from unburned areas. In southern California, as little as 0.3 inch of rainfall in 30 minutes has triggered debris flows, and any storm that has intensities greater than about 0.4 inch per hour can produce debris flows (USGS 2017). The burning of vegetation and soil on slopes more than doubles the rate that water will run off into watercourses (CGS 2018a).

Expansion of man-made developments into fire-prone wildlands has created situations where fast-moving, highly destructive debris flows triggered by intense rainfall are one of the most dangerous post-fire hazards. Such debris flows are particularly dangerous because they tend to occur with little warning.

After fire events, local creeks, steep slopes and seasonal drainages may become susceptible to increased runoff, landslides and debris flows as a result of cover changes as a result of wildfire. Landslide and slope stability is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance,

vegetation removal, wildfires, etc. The landslide potential is relatively low in the northern and eastern portion of the City, where elevation change is relatively low. However, the landslide potential increases in the southern and southwestern portions of the City, which contain areas with increased elevation change. FEMA mapping provides important guidance for the City in planning for flooding events and regulating development within identified flood hazard areas. FEMA's NFIP is intended to encourage state and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on Figure 3.9-2 (located in the Hydrology and Water Quality Chapter of this DEIR).

As shown on Figure 3.9-2, the Planning Area is subject to limited flooding problems along the natural creeks, drainages, and along the Bay in the Planning Area. Specifically, portions of the Planning Area are within the 100-year or 500-year FEMA flood zones or regulatory floodways. The 100-year floodplain is largely confined to the northern portion of the City limits and the creeks traveling downslope from Mt. Diablo. Similarly, the 500-year floodplain is located along a section of Kirker Creek, which travels downslope from Mt. Diablo, and along the border with the tidal marsh zone in the northern portion of the City limits. No major fires have recently impacted the Planning Area or adjacent communities. As such, the potential for local debris flows on local waterways within Pittsburg is low.

The General Plan would allow development and improvement projects that would involve some land clearing, grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. The majority of intensified development would occur in areas of the city that are currently developed with urban uses and are generally not subject to severe flooding or erosion. As required by the Clean Water Act, each subsequent development project or improvement project will require an approved Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices for grading and preservation of topsoil. SWPPPs are designed to control storm water quality degradation to the extent practicable using best management practices during and after construction.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the CBC, Zoning Ordinance, and other regulations. In addition to compliance with City standards and policies, the RWQCB will require a project specific SWPPP to be prepared for each project that disturbs an area of one acre or larger. The SWPPPs will include project specific best management measures that are designed to control drainage and erosion. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

In the event that a significant wildfire were to burn in the hillsides south of the City limits, within the watershed area that drains into and through Pittsburg, portions of Pittsburg may be exposed to potential risks associated with landslides and flooding in the weeks, months, and years following the fire as a result in changes to the vegetative cover of the land and the rain absorption capacity of the soil. It is important to note that the areas within the City at-risk of exposure to these potential flooding and landslide impacts are largely urbanized, developed, and/or entitled already.

Adoption of the proposed General Plan would not increase or exacerbate these risks, however, areas of the City would still remain at risk in the event of a significant wildfire up-slope from the City.

The proposed General Plan includes policies and actions related to creek bank stability, downstream drainage assessment, and methods to reduce sedimentation. General Plan Action 10-A-2.j aims to establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction. General Plan 10-A-4.b requires an assessment of downstream drainage (creeks and channels) and City storm-water facilities impacted by potential project runoff as part of project water quality review and CEQA documentation. General Plan Action 10-A-4.i requires new development to use BMPs to minimize creek bank instability, runoff of construction sediment, and flooding.

While the City cannot state with certainty that future risks associated with post-fire flooding and debris flow would not occur in Pittsburg, for the reasons explained above, implementation of the General Plan would not exacerbate this risk. Implementation of the proposed General Plan would result in a **less than significant** impact.

### **GENERAL PLAN POLICIES AND ACTIONS THAT REDUCE THE POTENTIAL FOR IMPACTS**

#### **ACTIONS – RESOURCE CONSERVATION & OPEN SPACE ELEMENT**

10-A-2.j: Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include: - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period. - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

10-A-2.j: Establish regulations as part of the Zoning Code Update to require that:

- (a) Revegetation of cut-and-fill slopes for new development includes native plant species
- (b) Mature trees are preserved, including measures for the replacement of all mature trees removed
- (c) Building pads and structural elements are located at least 150 feet (horizontally) away from the crest of a major ridgeline in order to preserve viewsheds of the southern hills
- (d) Creek setbacks are established along riparian corridors. Development standards shall include expanded setback buffers as needed to preserve habitat areas of identified special status species and wetlands (50-150 feet on each side), prohibition of development within creek setback areas (except as part of greenway (trails and bikeways, etc.) enhancement), and preservation of land where endangered species habits exist.



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10-A-3.a: Require evaluation and implementation of appropriate measures as part of development plans for creek bank stabilization as well as necessary BMPs to reduce erosion and sedimentation.

10-A-4.b: Require an assessment of downstream drainage (creeks and channels) and City storm-water facilities impacted by potential project runoff as part of project water quality review and CEQA documentation.











10-A-4.i: Require new development to use BMPs to minimize creek bank instability, runoff of construction sediment, and flooding.

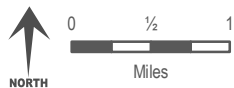
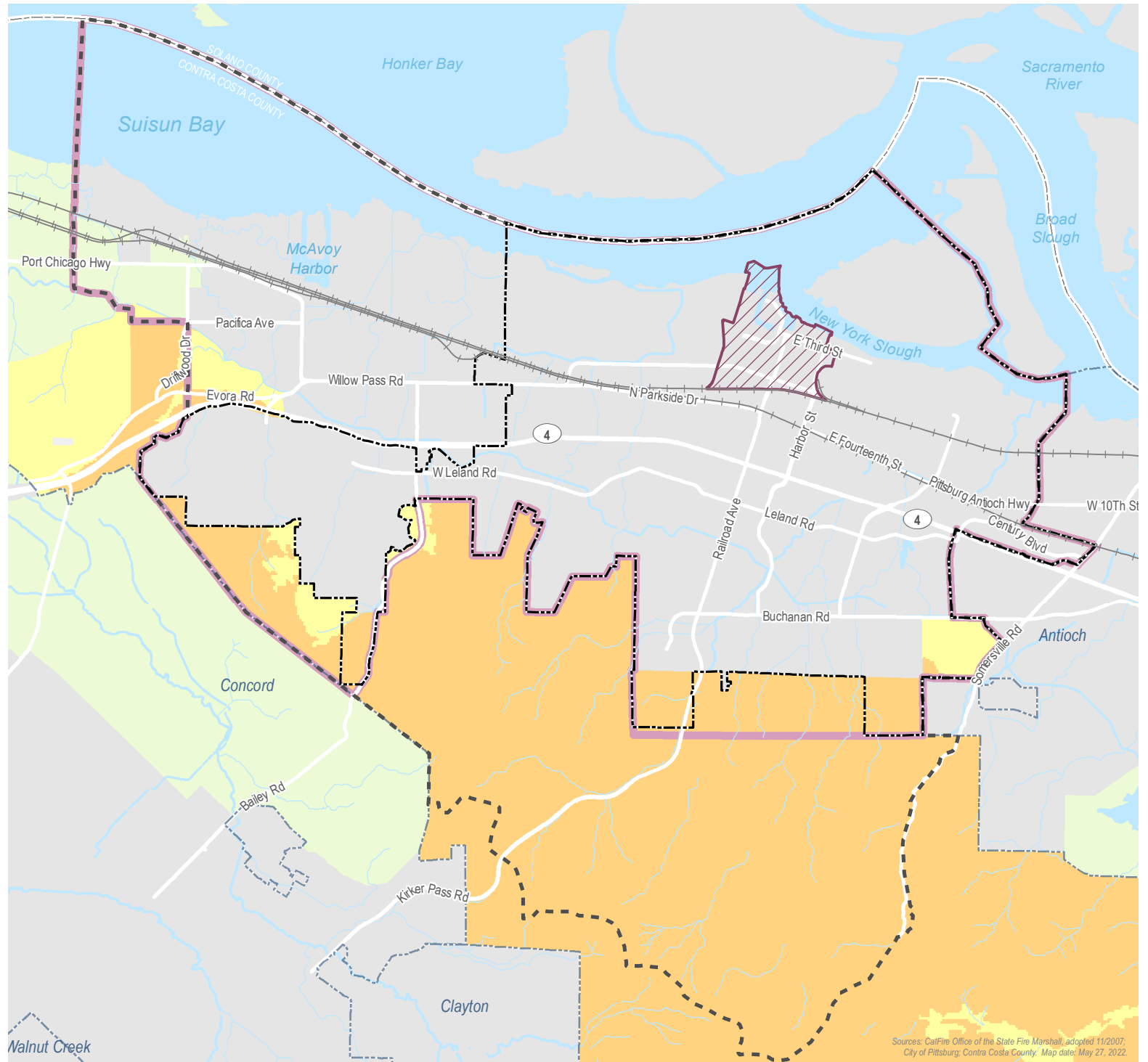
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Figure 3.16-1:

# FIRE HAZARD SEVERITY ZONES

## Legend

-  Pittsburg City Limits
  -  Pittsburg Sphere of Planning
  -  Planning
  -  Downtown Subarea
  -  Neighboring City
  -  Federal Responsibility Area
  -  Local Responsibility Area
- Fire Hazard Severity Zones in State Responsibility Areas**
-  Moderate
  -  High
  -  Very High (none within the mapped extent)

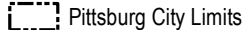
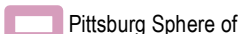

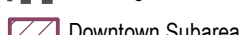
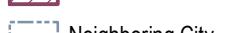


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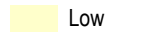



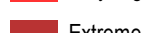
Figure 3.16-2:

# FIRE THREAT

## Legend

-  Pittsburg City Limits
-  Pittsburg Sphere of Planning
-  Planning
-  Downtown Subarea
-  Neighboring City

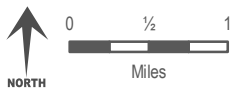
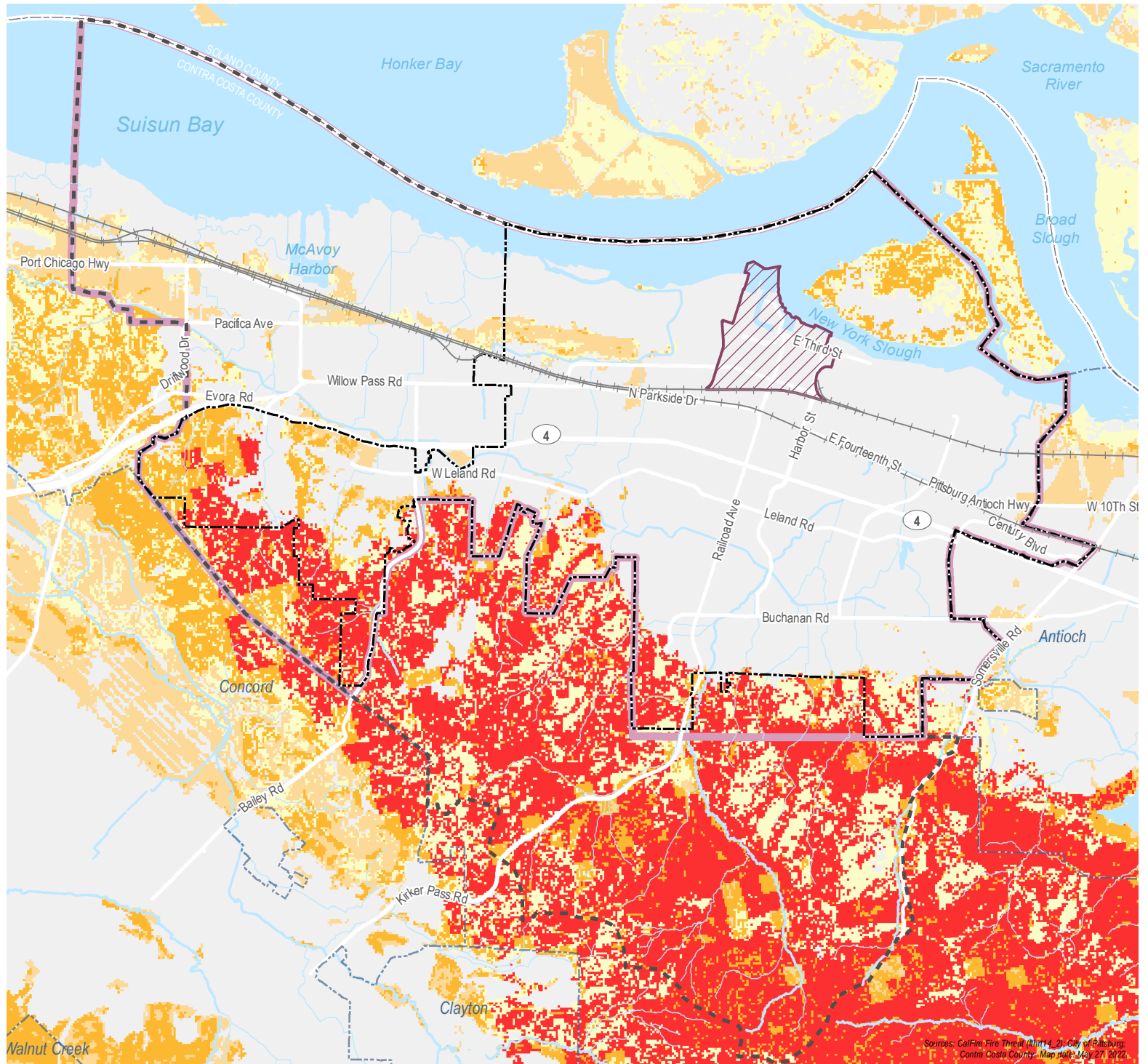
## Fire Threat Class\*

-  Low
-  Moderate
-  High
-  Very High
-  Extreme

\* Fire Threat is a combination of two factors:

- 1) fire probability (likelihood of an area burning)
- 2) potential fire behavior

These two factors are combined to create five threat classes ranging from low to extreme.



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CEQA requires an EIR to evaluate a project's effects in relationship to broader changes that are occurring or that may foreseeably occur, in the surrounding environment. Accordingly, this chapter presents discussion of CEQA-mandated analysis for cumulative impacts, irreversible impacts, and growth inducement associated with the proposed General Plan.

## 4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

### INTRODUCTION

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CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the General Plan. According to CEQA Guidelines Section 15130(a), “an EIR shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable.” “Cumulatively considerable,” as defined in section 15065(a)(3), means that “the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

*...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

## 4.0 OTHER CEQA-REQUIRED TOPICS

- 2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and
- 3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

### CUMULATIVE SETTING

Under CEQA, the discussion of cumulative impacts should focus on the severity of the impacts and the likelihood of their occurrence. The geographic scope for the cumulative analysis covers the entire Pittsburg Planning Area, which includes the City limits, the Sphere of Influence (SOI), and other land located south of the SOI, as shown on Figure 2.0-2 (see Chapter 2.0: Project Description). It should be noted that, for some environmental topics, the geographic scope for the cumulative analysis also covers the boundaries of Contra Costa County, the San Francisco Bay Area Air Basin, and/or other jurisdictional boundaries that are relevant to the particular environmental topic.

In most cases in this EIR, the buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan. The year 2045 is used as the benchmark year for the cumulative analysis contained in this EIR. This year was chosen based on the fact that the General Plan was developed as a 20-year plan for Pittsburg, and the General Plan is scheduled for adoption in early 2024.

### Land Use/Growth Projections

Existing land uses in the Pittsburg Planning Area can be characterized in broad terms of residential, commercial, industrial, institutional, and rural/agricultural land. Table 4.0-1 describes the existing land uses (as of 2023). The predominant land use in the Planning Area is Institutional, following by Single Family Residential.

**TABLE 4.0-1 EXISTING LAND USES IN THE PLANNING AREA**

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
<i>COMMERCIAL</i>				
Auto Agencies	29.23	--	--	29.23
Auto Repair	13.30	1.90	--	15.20
Boat Harbors	--	27.47	--	27.47
Commercial Stores (not supermarkets)	36.10	12.23	--	48.32
Community Facilities; Recreational; Swim Pool	5.14	--	--	5.14
Drive-In Restaurants	9.61	1.75	--	11.35



<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
Financial Buildings	3.17	--	--	3.17
Medical; Dental	5.74	--	--	5.74
Motels, Hotels & Mobile Home Parks	4.95	3.54	--	8.49
Multiple and Commercial; Miscellaneously Improved	20.68	5.02	--	25.71
Office Buildings	9.04	0.58	--	9.61
Restaurants (not drive-in; inside service only)	7.01	--	--	7.01
Service Stations; Car Washes; Bulk Plants; Mini Lube	8.79	5.44	--	14.23
Shopping Centers (including future shopping center)	156.16	3.81	--	159.98
Small Grocery Stores	0.42	--	--	0.42
Theaters	1.41	--	--	1.41
<i>Subtotal</i>	<i>310.75</i>	<i>61.74</i>	<i>0.00</i>	<i>372.48</i>
<i>INDUSTRIAL</i>				
Heavy Industrial	694.98	58.87	--	753.85
Industrial Park	95.11	30.58	--	125.69
Light Industrial	233.13	18.04	--	251.17
Mini-Warehouse	37.51	--	--	37.51
Research & Development	1.28	--	--	1.28
Miscellaneous Improvements on Light or Heavy Ind.	15.13	19.76	595.71	630.59
<i>Subtotal</i>	<i>1,077.14</i>	<i>127.25</i>	<i>595.71</i>	<i>1,800.09</i>
<i>INSTITUTIONAL</i>				
Cemeteries and Mortuaries	2.27	--	--	2.27
Churches	62.29	20.47	--	82.75
Fraternal/Service Organizations, Group Homes, Shelters	9.13	--	--	9.13
Intermediate Care Facilities	4.82	--	--	4.82
Parks and Playgrounds	27.39	4.47	534.83	566.69
Schools	333.21	84.41	--	417.62
<i>Subtotal</i>	<i>439.11</i>	<i>109.35</i>	<i>534.83</i>	<i>1,083.28</i>
<i>MULTIPLE-FAMILY RESIDENTIAL</i>				
Apartments, 13-24 units, inclusive	5.08	4.90	--	9.98
Apartments, 25-59 units, inclusive	3.11	5.67	--	8.77
Apartments, 5-12 units, inclusive	9.62	7.45	--	17.07
Apartments, 60 units or more	238.19	40.51	--	278.70
Combinations (i.e., single and double)	3.80	6.82	--	10.62
Condominiums, Cooperatives	8.19	2.10	--	10.30
Duplex	30.44	5.53	--	35.96
Fourplex	11.87	3.30	--	15.17
Triplex	1.42	0.72	--	2.14
<i>Subtotal</i>	<i>311.72</i>	<i>77.00</i>	<i>0.00</i>	<i>388.71</i>
<i>SINGLE-FAMILY RESIDENTIAL</i>				
Single Family 1 Res on 1 Site	2,277.99	468.30	--	2,746.30
Single Family 1 Res on 2 or More Sites	3.47	23.16	3.13	29.76

## 4.0 OTHER CEQA-REQUIRED TOPICS

<i>LAND USE</i>	<i>CITY LIMITS</i>	<i>SOI</i>	<i>PLANNING AREA</i>	<i>GRAND TOTAL</i>
Single Family 2 or More Res on 1 or More Sites	11.36	22.40	--	33.77
Single Family Attached Res, Townhouses, Duets	57.90	26.73	--	84.63
Single Family Detached Residential	104.48	26.54	--	131.03
Single Family on other than Single Family Land	99.45	79.48	--	178.93
Miscellaneous Improvements	27.59	0.84	--	28.43
<i>Subtotal</i>	<i>2,582.24</i>	<i>647.45</i>	<i>3.13</i>	<i>3,232.85</i>
<i>RURAL AND AGRICULTURAL LAND</i>				
Agricultural Preserves	--	482.81	1,893.39	2,376.20
Dry Farming, Grazing, Pasturing, 10 to 40 acres	22.86	15.30	14.75	52.91
Dry Farming, Grazing, Pasturing, 40 acres and over	236.20	--	1,283.28	1,519.48
Rural, Res Improved, 1 to 10 acres	--	5.79	10.04	15.83
Rural, w/wo Misc Structures, 1 to 10 acres	51.30	37.02	21.46	109.79
Urban Acreage, 10 to 40 acres	166.20	25.31	--	191.50
Urban Acreage, 40 acres and over	264.60	613.33	--	877.93
	<i>741.16</i>	<i>1,179.56</i>	<i>3,222.92</i>	<i>5,143.64</i>
<i>VACANT</i>				
Vacant Commercial Land	832.68	121.65	--	954.33
Vacant Industrial Land	491.94	240.65	831.92	1,564.50
Vacant Multifamily Land	115.74	12.86	--	128.60
Vacant Residential, 1 Site (includes PUD sites)	104.00	6.29	--	110.29
Vacant Residential, 2 or More Sites	460.33	11.64	--	471.97
Vacant, Unbuildable	49.59	25.20	--	74.78
<i>Subtotal</i>	<i>2,054.28</i>	<i>418.29</i>	<i>831.92</i>	<i>3,304.47</i>
<i>NON-TAXABLE / MISCELLANEOUS</i>				
Common Area (Open Spaces, Recreation Facilities)	149.30	68.50	--	217.80
Government-owned (Fed, State, City, BART)	1,662.46	828.69	2,017.78	4,508.94
Pipelines and Canals	7.09	2.08	--	9.16
Private Roads	8.64	0.52	--	9.16
Public and Private parking	2.54	0.26	--	2.80
State Board Assessed Parcels	376.01	901.23	157.58	1,434.82
Taxable Municipally-Owned Property	147.28	33.62	4.59	185.49
<i>Subtotal</i>	<i>2,353.32</i>	<i>1,834.90</i>	<i>2,179.95</i>	<i>6,368.17</i>
<i>NO USE CODE / UNCATEGORIZED</i>				
Uncategorized	115.93	70.65	13.54	200.13
<i>Subtotal</i>	<i>115.93</i>	<i>70.65</i>	<i>13.54</i>	<i>200.13</i>
<b><i>Grand Total</i></b>	<b><i>10,069.05</i></b>	<b><i>4,605.60</i></b>	<b><i>7,382.01</i></b>	<b><i>22,056.66</i></b>

SOURCE: CONTRA COSTA COUNTY ASSESSOR'S OFFICE, 2019; DE NOVO PLANNING GROUP, 2019.

Table 4.0-2 includes a comparison of existing conditions, the current General Plan Land Use Map, and the proposed General Plan Land Use Map in terms of housing units, population, nonresidential development square footage, jobs, and the jobs-to-housing ratio.

**TABLE 4.0-2: COMPARATIVE GROWTH PROJECTIONS, CURRENT GENERAL PLAN LAND USE MAP AND DRAFT LAND USE MAP**

	HOUSING UNITS	POPULATION	NONRESIDENTIAL SQUARE FOOTAGE	JOBS	JOBS PER HOUSING UNIT
<i>EXISTING CONDITIONS</i>					
Planning Area	25,570	77,572	8,198,820	10,890	0.43
<i>BUILDOUT CONDITIONS</i>					
Current General Plan	13,327	112,978	34,221,124	31,834	0.82
Draft Land Use Map	15,576	98,042	34,288,319	35,549	0.86
<i>NEW GROWTH (PROPOSED GENERAL PLAN)</i>					
Over Existing Conditions	15,576	20,470	26,089,499	24,659	-
Over Current General Plan	2,249	-14,936	67,195	3,715	-

SOURCE: U.S. CENSUS BUREAU; DE NOVO PLANNING GROUP, 2023.

Table 4.0-3 breaks down the Planning Area buildout potential by the existing General Plan Land Use Designation by associated housing units and non-residential building square footage. Table 4.0-4 breaks down the Planning Area buildout potential by 2040 General Plan Land Use Designation by associated housing units and non-residential building square footage.

**TABLE 4.0-3: POTENTIAL NEW GROWTH IN PLANNING AREA WITH EXISTING GENERAL PLAN**

RESIDENTIAL UNITS OR NONRESIDENTIAL SQUARE FOOTAGE	NEW DEVELOPMENT POTENTIAL			
	PROJECT PIPELINE	MID-TERM	BUILDOUT	TOTAL GROWTH
<i>RESIDENTIAL DESIGNATIONS</i>				
Single-Family Residential	3,993	1,184	280	5,457
Multiple-Family Residential	1,743	4,901	1,226	7,870
<b>TOTAL</b>	<b>5,736</b>	<b>6,085</b>	<b>1,506</b>	<b>13,327</b>
<i>NONRESIDENTIAL SQUARE FOOTAGE</i>				
Retail	187,942	1,212,063	335,096	1,735,101
Service	184,263	1,457,558	890,973	2,472,793
Office	-	810,027	645,490	1,455,518
Commercial Recreation	-	48,813	10,051	58,864
Hotel	109,071	224,769	10,051	343,891
Institutional	28,925	52,000	(2,016)	78,909
Light Industrial	4,726,660	4,172,512	64,649	8,834,523
Heavy Industrial	296,075	8,370,839	67,780	9,034,694
Public/Quasi-Public	(14,268)	1,827,267	195,011	2,008,011
<b>TOTAL</b>	<b>5,518,668</b>	<b>18,175,848</b>	<b>2,327,787</b>	<b>26,022,304</b>

SOURCE: DE NOVO PLANNING GROUP, 2019.

## 4.0 OTHER CEQA-REQUIRED TOPICS

**TABLE 4.0-4: POTENTIAL NEW GROWTH IN PLANNING WITH PROPOSED 2040 GENERAL PLAN**

<i>RESIDENTIAL UNITS OR NONRESIDENTIAL SQUARE FOOTAGE</i>	<i>CITY</i>	<i>SOI/PLANNING AREA</i>	<i>TOTAL GROWTH</i>
<i>RESIDENTIAL UNITS</i>			
Single-Family Residential	5,693	752	6,445
Multiple-Family Residential	8,056	1,055	9,111
Live Work Units	20	0	20
<b>TOTAL</b>	<b>13,769</b>	<b>1,807</b>	<b>15,576</b>
<i>NONRESIDENTIAL SQUARE FOOTAGE</i>			
Retail	1,562,037	103,696	1,665,732
Service	3,150,900	134,236	3,285,137
Office	1,753,368	65,666	1,819,034
Commercial Recreation	352,358	-	352,358
Hotel	449,495	(725)	448,770
Institutional	53,023	(1,633)	51,390
Heavy Industrial	3,901,988	2,522,901	6,424,889
Light Industrial	8,683,789	1,427,499	10,111,287
Public/Quasi-Public	1,437,870	493,032	1,930,902
<b>TOTAL</b>	<b>21,344,828</b>	<b>4,744,671</b>	<b>26,089,499</b>

SOURCE: CONTRA COSTA COUNTY GIS/ASSESSOR DATA, CITY OF PITTSBURG, DE NOVO PLANNING GROUP, 2022.

As shown in Table 4.0-3, buildout potential under the existing General Plan could result in 13,327 dwelling units and 26,022,304 square feet of non-residential uses. As shown in Table 4.0-4, buildout potential under the proposed 2040 General Plan could result in 15,576 dwelling units and 26,089,499 -square feet of non-residential uses.

### CUMULATIVE EFFECTS OF THE PROJECT

#### Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. Section 15130 of the CEQA Guidelines requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

In order to assess cumulative impacts, an EIR must analyze either a list of past, present, and probable future projects (referred to as the "list approach") or a summary of projections contained in an adopted general plan or related planning document (referred to as the "projection method"). Because of the programmatic nature of the Pittsburg General Plan, this Draft EIR uses the

**projection method** for the cumulative analysis and considers buildout of the proposed General Plan in addition to buildout of the other General Plans within Contra Costa County. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency for that specific project. The General Plans considered as part of this cumulative analysis include those for all jurisdictions in the County of Contra Costa, including:

- County of Contra Costa
- City of Antioch
- City of Brentwood
- City of Clayton
- City of Concord
- Town of Danville
- City of El Cerrito
- City of Hercules
- City of Lafayette
- City of Martinez
- City of Oakley
- City of Orinda
- City of Pinole
- City of Pleasant Hill
- City of Richmond
- City of San Pablo
- City of San Ramon
- City of Walnut Creek

The projection method serves as a guide to determine if the General Plan Update is consistent with the long-term population, employment, and household projections of the region. If the proposed General Plan Update is generally consistent with regional projections, then it would also generally be consistent with regional efforts to address environment problems such as air quality and traffic.

### **Cumulative Impacts**

Cumulative impacts for most issue areas are not quantifiable and are therefore discussed in general qualitative terms as they pertain to development patterns in the surrounding region. An exception to this is a topic like traffic, which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

#### AESTHETICS AND VISUAL RESOURCES

##### ***Impact 4.1: Cumulative degradation of the existing visual character of the region (Less than Cumulatively Considerable)***

While the Pittsburg Planning Area contains numerous areas and viewsheds with relatively high scenic value, there are no officially designated scenic vista points in the Planning Area. Visual and aesthetic resources in the City's Planning Area include open space, viewshed areas, ridgelines, hillsides, and creeks. Using the GIS ArcView software, four "viewpoints" throughout the City were selected, and digital elevation modeling used to determine what hills and ridgelines were visible from each. Areas visible from all four viewpoints include multiple small ridgelines in the southern hills, particularly areas southwest of existing development surrounding the Pittsburg/Bay Point BART station. These southern hills lend Pittsburg residents a sense of identity. Drivers recognize the transition into Pittsburg as they crest the ridgeline on Highway 4 from Concord. Views of the hills to the south, and Suisun Bay to the north create an identifiable entryway for the City. Views from the southern hills include vistas of cityscape and Suisun Bay beyond.

## 4.0 OTHER CEQA-REQUIRED TOPICS

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The City's current General Plan also notes that the Delta shoreline is one of the City's most identifiable resources, although it is not designated as a scenic resource or scenic vista. Views of the Delta shoreline from public spaces are limited. Additionally, the Contra Costa County General Plan identifies scenic resources in the region that include scenic ridges, hillsides, and rock outcroppings and the San Francisco Bay/Delta estuary system. Figure 9-1, Scenic Ridges and Waterways, of County's General Plan identifies one scenic area within the vicinity of the City's Planning Area: the scenic ridgeway area in the southern portion of Pittsburg and Antioch, some of which is within the City's Planning Area near Kirker Pass Road.

As noted in greater detail in the Project Description chapter (Chapter 2.0), implementation of the proposed General Plan could lead to new and expanded urban and suburban development throughout the city. This new development may result in changes to the skyline throughout the Planning Area, which may obstruct or interfere with views of visual features surrounding the Planning Area, including views of ridgelines and the Suisun Bay.

Furthermore, buildout under the proposed General Plan and implementation of the General Plan Land Use Map has the potential to result in new and expanded development along highway corridors with high scenic values, even though these corridors are not officially designated as State Scenic Highways.

While growth is anticipated to occur in the Pittsburg Planning Area and within the other cities within Contra Costa County, the majority of growth is anticipated to occur in and around existing urban development. Development of land uses and associated infrastructure is planned to occur in the future to accommodate growth envisioned in the general plans that are effective within the cumulative analysis area, including Contra Costa County and the nearby cities of Antioch and Clayton.

Regional growth has and will continue to result in a cumulative aesthetic effect by converting undeveloped land into developed and occupied areas and increasing overall levels of nighttime lighting. Cumulative development entails grading/landform alteration, the development of structures, and the installation of roadways and other infrastructure that has altered and will continue to permanently alter the region's existing visual character. This is considered a potentially significant cumulative impact. Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and actions of the proposed General Plan and adopted regulations pertaining to aesthetics and lighting in Pittsburg. With implementation of adopted policies and regulations provided in Section 3.1 (Aesthetics and Visual Resources), the proposed General Plan would not considerably contribute to permanent changes in visual character, such as obstruction of scenic views, conversion of existing visual character, and increased lighting. The policies and actions included within the General Plan would fully reduce the cumulative effect of the General Plan on visual character, to mitigate the proposed project's contribution to a less-than-significant level. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

## AGRICULTURAL AND FOREST RESOURCES

***Impact 4.2: Cumulative impact to agricultural lands and resources (Less than Cumulatively Considerable)***

As shown in Table 3.2-1 in Section 3.2, the Planning Area contains approximately 6,694.42 acres of grazing land and 16.02 acres of farmland of local importance. Prime farmland, unique farmland, or farmland of statewide importance is not found in the City's Planning Area. As shown on the General Plan Land Use Map (Figure 2.0-3), all of the land within the Planning Area is planned for urban development in one form or another, with the exception of areas designated for Open Space or Park uses. Therefore, it is assumed that the agricultural viability of lands within the City will eventually be lost upon full buildout of the Pittsburg General Plan. Future development consistent with the General Plan Land Use Map would not result in conversion of Farmland. Further, because Farmland is not located in or adjacent to the Planning Area, any future urbanization of the Planning Area, including those areas in the south of the City limits but within the Planning Area, would not lead to the direct or indirect conversion Farmland. Because no Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) is designated in the Planning Area, no mitigation is required and this impact would be less than significant.

However, as described in greater detail under Impact 3.2-2, animal husbandry and crop production are permitted uses within the City's Open Space District. Agricultural uses are allowed within the following Contra Costa County zoning districts: General Agriculture (A-2), General Agriculture-Railroad Combining District (A-2-X), Heavy Agriculture (A-3), and Agricultural Preserve (A-4). While lands within the city are not zoned for agricultural use, areas adjacent to the city include lands zoned for agricultural use by Contra Costa County. These City and County agricultural use zones are shown in Figure 3.2-2. There are approximately 1,736.53 acres of land under a Williamson Act contract in the Pittsburg Planning Area (with approximately 156.26 acres located in the Pittsburg SOI). Locations of the Williamson Act lands in the Planning Area are shown in Figure 3.2-2. As shown, the Williamson Act lands are primarily located outside the Pittsburg SOI, and all Williamson Act lands are located south of Leland Road. The 2040 General Plan would maintain open space and park designations on the majority of lands under Williamson Act contract, with a small portion designated for Hillside Low Density Residential in the SOI.

The 2040 General Plan includes policies and actions that are intended to reduce conflict between existing agricultural zones and reduce conflicts between existing agricultural and Williamson Act lands with new development as a result of the 2040 General Plan. The policies and actions identified under Impact 3.2-2 would reduce this impact. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.

## AIR QUALITY

***Impact 4.3: Cumulative impact on the region's air quality (Considerable Contribution and Significant and Unavoidable)***

The cumulative air quality impacts are analyzed based on development within the Planning Area. No specific development projects are proposed or would be approved as part of the 2040 General

## 4.0 OTHER CEQA-REQUIRED TOPICS

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Plan. Construction of the individual development projects allowed under the land use designations of the 2040 General Plan have the potential to result in construction-related air quality impacts. Further, impacts resulting from future development accommodated by the 2040 General Plan could include substantial grading, site preparation, and an increase in urbanized development. Additionally, increased development in the County, including the Planning Area, would contribute to cumulative operational air quality impacts, including from increases in mobile source emissions, energy consumption, and other contributors to air quality impacts.

While some cumulative impacts would occur in the region as individual projects are constructed, the 2040 General Plan policies and implementation measures, as well as State and federal regulations, would substantially reduce the project's contribution to impacts. Considering the protection granted by local, State, and federal agencies and their permit and monitoring requirements, as discussed under Impacts 3.3-1 through 3.3-4 in Section 3.3, and with implementation of the policies and actions included in the 2040 General Plan, the overall cumulative impact would be reduced. However, there is the potential for cumulative future development to result in a cumulatively considerable net increase in criteria pollutants for which the region is in nonattainment. As a result, the 2040 General Plan's incremental contribution to cumulative air quality impacts would be considered **cumulatively considerable** and **significant and unavoidable**.

### BIOLOGICAL RESOURCES

#### ***Impact 4.4: Cumulative loss of biological resources, including habitats and special status species (Less than Cumulatively Considerable)***

Cumulative development anticipated throughout the greater Contra Costa County region will result in impacts to biological resources, including the permanent loss of habitat for special status species, corridor fragmentation, direct and indirect impacts to special status species, and reduction and degradation of sensitive habitat. Biological resources are limited resources and the cumulative loss is considered significant.

Subsequent projects implemented under the proposed General Plan would be required to be consistent with the policies and actions of the proposed General Plan. The implementation of an individual project would require a detailed and site-specific review of the site to determine the presence or absence of movement corridors, special-status species, and sensitive habitat on a given project site. If movement corridors, special-status species, or sensitive habitat are present and disturbance is required, Federal and State laws require measures to reduce, avoid, or compensate for impacts to these resources. The requirements of these Federal and State laws are implemented through the permit process. However, as provided under Section 3.4 (Biological Resources), with implementation of the policies and actions included within the General Plan, implementation of the General Plan would not generate a significant impact on biological resources. Therefore, the proposed General Plan's incremental contribution to this cumulative impact would be **less than cumulatively considerable**.



## CULTURAL AND TRIBAL RESOURCES

***Impact 4.5: Cumulative impacts on known and undiscovered cultural resources (Less than Cumulatively Considerable)***

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. The proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to resources in the region. As discussed in Section 3.5 (Cultural and Tribal Cultural Resources), each project would require specific surveys for potential resources and the evaluation of any resources discovered during construction activities. Other policies and actions designed to reduce impacts to cultural and tribal cultural resources within the Planning Area and the the region as a whole are also provided in Section 3.5. Adherence to these policies, actions, and regulations will avoid and/or minimize a cumulative loss of these important resources if they are found during project-specific surveys or construction. Therefore, the proposed General Plan's incremental contribution to cumulative cultural resource impacts would be **less than cumulatively considerable**.

## GEOLOGY AND SOILS

***Impact 4.6: Cumulative impacts related to geology and soils (Less than Cumulatively Considerable)***

Construction of the individual development projects allowed under the land use designations of the proposed General Plan will result in risks associated with geology and soils. For example, there is an ongoing possibility that a fault located anywhere in the state (or region) could rupture and cause seismic ground shaking. Additionally, grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Other geologic risks such as liquefaction, landsliding, lateral spreading, and soil expansion are also geologic risks that are present.

While some cumulative impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the risk to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for seismic design, as discussed in Section 3.6 (Geology and Soils), the overall cumulative impact would not be significant. As a result, the proposed General Plan's incremental contribution to cumulative geologic and soil impacts would be **less than cumulatively considerable**.

## GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

***Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy (Considerable Contribution and Significant and Unavoidable)***

The cumulative greenhouse gas (GHG) and energy impacts are analyzed based on development within the Planning Area. No specific development projects are proposed or would be approved as part of the 2040 General Plan. Construction of the individual development projects allowed under

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the land use designations of the 2040 General Plan have the potential to result in construction-related GHG and energy impacts. Further, impacts accommodated by the 2040 General Plan could occur as a result of substantial grading, site preparation, and an increase in urbanized development. Additionally, increased development in the Planning Area would contribute to cumulative operational GHG and energy impacts, including from increases in mobile source emissions, energy consumption, and other contributors to GHG and energy impacts.

As future development projects are received and reviewed by the City, those projects would be reviewed for consistency with the 2040 General Plan and all relevant state-level programs and requirements. All future projects must implement the most current CalGreen energy efficiency requirements, as required by state law. Consistency with the 2040 General Plan and other mandatory state-level programs would ensure that future project-level contributions to inefficient, wasteful or unnecessary energy use would be less than significant. Moreover, as identified above, buildout of the 2040 General Plan would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As a result, the 2040 General Plan's incremental contribution to cumulative energy impacts would be less than cumulatively considerable.

The topic of GHG emissions is inherently a cumulative impact. Though significance thresholds can be developed by air districts, as well as state and federal regulatory agencies, these thresholds and their related goals are ultimately designed to effect change at a global level. As demonstrated in the analysis provided above, the proposed Project may not be able to demonstrate consistency with California's long-term climate goal of achieving carbon neutrality by 2045 and would, therefore, result in a significant and unavoidable impact, even with the implementation of 2040 General Plan goals, policies and actions. As a result, the 2040 General Plan's incremental contribution to cumulative GHG impacts would be considered **cumulatively considerable and significant and unavoidable**.

### HAZARDS AND HAZARDOUS MATERIALS

#### ***Impact 4.8: Cumulative impacts related to hazardous materials and human health risks (Less than Cumulatively Considerable)***

Construction of the individual development projects allowed under the land use designations of the proposed General Plan may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels or diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the General Plan, some future land uses will inevitably transport or use hazardous materials within ¼ mile of a school, or other sensitive receptors such as hospitals and residences.

New development would inevitably increase the use of some hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. Any use of hazardous materials must be managed in accordance with federal, State, and local (including Contra Costa County) regulations to minimize any risk.

Hazardous materials incidents, if any, are typically site-specific and involve accidental spills or inadvertent releases. Associated health and safety risks generally are limited to those individuals using the materials or to persons in the immediate vicinity of the materials. Hazard-related impacts tend to be site-specific and project-specific. While some cumulative impacts, such as those associated with increases in the use of hazardous materials in the City associated with additional development, will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will reduce the project's contribution to risks to people in the region. Considering the protection granted by local, State, and Federal agencies and their requirements for the use of hazardous materials in the region, as discussed in Section 3.8 (Hazards and Hazardous Materials), the overall cumulative impact for most hazard impacts would not be significant. Therefore, this impact is considered **less than cumulatively considerable**.

#### HYDROLOGY AND WATER QUALITY

***Impact 4.9: Cumulative impacts related to hydrology and water quality (Less than Cumulatively Considerable)***

Construction of the individual development projects allowed under the land use designations of the proposed General Plan has the potential to result in construction-related water quality impacts, impacts to groundwater recharge, and cause flooding, erosion, or siltation from the alteration of drainage patterns.

While some cumulative impacts will occur in the region as individual projects are constructed, the proposed General Plan policies and actions, as well as State and Federal regulations, will substantially reduce the impacts. Considering the protection granted by local, State, and Federal agencies and their permit and monitoring requirements, as discussed in Section 3.9 (Hydrology and Water Quality), and with implementation of the policies and actions included within the General Plan, the overall cumulative impact would not be significant. As a result, the General Plan's incremental contribution to cumulative hydrology impacts would be **less than cumulatively considerable**.

#### LAND USE, POPULATION, AND HOUSING

***Impact 4.10: Cumulative impacts related to local land use, population, and housing (Less than Cumulatively Considerable)***

Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site and project-specific. It may be determined in the project-specific design phase of a development project that an individual project may require removal of homes and result in the displacement of people and housing; however, these effects are not cumulatively considerable because there is adequate replacement housing available under the proposed General Plan. Additionally, any removal of homes would require adequate compensation to the homeowner in accordance with Federal and State laws.

## 4.0 OTHER CEQA-REQUIRED TOPICS

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The land uses allowed under the proposed General Plan provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas, as well as limited new growth within the Planning Area, but would not create physical division within existing communities. New development and redevelopment projects would be designed to complement the character of existing neighborhoods and provide connectivity between existing development and new development within the cumulative analysis area. The proposed General Plan does not include any new roadways, infrastructure, or other features that would divide existing communities. Moreover, with implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Lastly, General Plan implementation would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the proposed General Plan's incremental contribution to cumulative land use and population impacts would be **less than cumulatively considerable**.

### MINERAL RESOURCES

#### ***Impact 4.11: Cumulative impacts related to mineral resources (Less than Cumulatively Considerable)***

Within the Planning Area, there are no significant mineral deposits or active mining operations in the City's Planning Area. The hills south of City limits may contain mineral deposits, though their significance is not known. The majority of the northern portion of the Planning Area is designated Mineral Resource Zone (MRZ) 1 (MRZ-1) indicating areas where no significant mineral deposits are present or there is little likelihood for their presence. The City also contains areas designated MRZ-3 and MRZ-4. These areas are located mainly in the southern portion of the Planning Area near the hillsides. The areas of the City designated MRZ-3 and MRZ-4 are largely developed with residential or park uses. As such, these currently developed areas are no longer available for mining. Portions of the MRZ-4 designated land in the southern portion of the Planning Area and SOI are designated for Open Space uses by the proposed Land Use Map.

The Planning Area does not contain a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed project would not result in loss of a mineral resource. As a result, the General Plan's incremental contribution to cumulative mineral resource impacts would be **less than cumulatively considerable**.

### NOISE

#### ***Impact 4.12: Cumulative impacts related to noise (Considerable Contribution and Significant and Unavoidable)***

**Automobile Noise:** Table 3.12-11 in Section 3.11 (Noise) shows the future noise levels and the increase in noise levels associated with traffic on the local roadway network under the proposed 2040 General Plan, versus the existing (Baseline 2022) conditions. As shown in Table 3.12-11, the traffic noise increases associated with the proposed 2040 General Plan exceed the applicable test of significance. According to Tables 3.12-11, the noise level increase due to Proposed General Plan

Buildout (2040) traffic is predicted to be up to 3.6 A-weighted decibels (dBA) day/night average sound level ( $L_{dn}$ ). For the segment of West 10th Street, the existing traffic noise level at the nearest sensitive receptor is approximately 65.6 dBA. Therefore, an increase of +1.5 dB would be required to be considered a significant impact. The proposed 2040 General Plan buildout would result in an increase of 3.2 dBA, therefore, would be considered significant under this scenario. All other roadway segments analyzed in the traffic study do not result in significant impacts under the proposed 2040 General Plan Buildout.

**Railroad Noise:** Table 3.12-6 indicates that the 60 dBA  $L_{dn}$  railroad noise contours for the Union Pacific Railroad line may extend up to 461 feet from the railroad centerline. Future development located along these railroad lines could, therefore, be exposed to unacceptable exterior noise levels. Implementation of these General Plan policies and actions would ensure that development allowed under the proposed General Plan is not exposed to noise levels associated with railroad operations in excess of the City's established standards.

**Stationary Noise:** While no specific projects are proposed under the General Plan update, changes in land use zoning may allow for more intensive noise-generating uses in closer proximity to noise-sensitive uses. Where this occurs, detailed noise studies would be required to ensure that noise control measures are implemented into the project design. Such measures could include facing loading docks of industrial buildings away from sensitive uses, construction of sound walls or berms between loading docks and sensitive uses, using buildings to create additional buffer distance and screening, or other site design measures to ensure that non-transportation (stationary) noise sources do not cause exterior noise levels to exceed allowable standards at sensitive receptors.

For example, a typical busy loading dock for a warehouse might generate noise levels of approximately 66 dBA equivalent or energy-averaged sound level ( $L_{eq}$ ) at a distance of 100 feet, as shown in Table 3.12-5. This would exceed the City's proposed stationary noise standards of 55 dBA  $L_{eq}$  (daytime) and 45 dBA  $L_{eq}$  (nighttime). Construction of a 12-foot-tall sound wall would reduce loading dock noise levels to approximately 53 dBA  $L_{eq}$ . For a daytime use loading dock, this would be sufficient to meet the City's 55 dBA  $L_{eq}$  daytime noise standard. For a loading dock which requires nighttime operation, a sound wall would not be sufficient to achieve the 45 dBA  $L_{eq}$  nighttime noise standard. To achieve the nighttime noise standard, the distance from the loading dock would need to be increased to 250 feet for the 12-foot-tall wall to achieve the 45 dBA  $L_{eq}$  nighttime standard. Alternatively, the loading docks could face internal to the project site and the industrial building could be used to screen loading dock noise. In this case the loading dock could be located 150 feet from a sensitive receptor, assuming it was screened by a 20-foot-tall building. This would achieve the City's 45 dBA  $L_{eq}$  nighttime noise standard. While this is just a theoretical scenario, it illustrates that use of site design measures, screening walls, etc. can be sufficient to achieve compliance with the City's stationary noise standards, even when more intensive uses are proposed in closer proximity to sensitive receptors.

The General Plan includes policies and actions that are intended to reduce noise associated with stationary sources. Specifically, Policy 13-P-1.9 and Actions 13-A-1.a and 13-A-1.b. would ensure

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that new development mitigates potential noise impacts through incorporating the noise control treatments necessary to achieve acceptable noise levels.

Construction Noise: Activities involved in construction would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. Construction could result in periods of significant ambient noise level increases and the potential for annoyance. However, the proposed 2040 General Plan includes policies and actions that are intended to reduce noise associated with construction noise (listed below). Specifically, Policy 13-P-1.7 would reduce noise associated with construction noise.

Additionally, it is noted that City's Municipal Code Chapter 9.44, Noise, regulates construction noise in order to ensure that construction noise is limited to certain daytime hours. As discussed previously, operation between the hours of 10:00 p.m. and 7:00 a.m. of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other appliance, the use of which is attended by loud or unusual noise, except in case of emergency. However, even with implementation of Policy 13-P-1.7 and complying with the City's Municipal Code regulations to reduce construction noise, there remains the potential for future development and redevelopment projects to generate temporary construction noise in excess of City standards, which may cause temporary nuisance noise impacts to adjacent land uses. As a result, the 2040 General Plan's incremental contribution to cumulative construction noise impacts would be considered **cumulatively considerable** and **significant and unavoidable**.

### PUBLIC SERVICES AND RECREATION

#### ***Impact 4.13: Cumulative impacts to public services and recreation (Less than Cumulatively Considerable)***

Development and growth facilitated by the General Plan would result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. The General Plan includes policies and actions to ensure that public services are provided at acceptable levels and to ensure that development and growth does not outpace the provision of public services.

Cumulative growth that would occur within Contra Costa County and other cities within Contra Costa County over the life of the proposed General Plan will result in increased demand for public services, including fire protection, law enforcement, schools, parks, libraries, and other public and governmental services. As the demand for public services and recreation increases, there will likely be a need to address acceptable service ratios, response times, and other performance standards. New or expanded service structures (e.g., offices, maintenance and administrative buildings, schools, parks, fire facilities, libraries, etc.) will be needed to provide for adequate staffing, equipment, and appropriate facilities to serve growth within the cumulative analysis area.

The General Plan includes a range of policies and actions that would ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the City and appropriate service agency, and that new development funds its fair share of services. The General Plan includes policies to ensure that fire protection and law enforcement services keep pace with

new development and that school, library, and governmental services are adequately planned and provided. Payment of applicable impact fees, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the future projects, would ensure that the City maintains acceptable service ratios. The proposed General Plan's incremental contribution to cumulative public services and recreation impacts would be **less than cumulatively considerable**.

#### TRANSPORTATION AND CIRCULATION

##### ***Impact 4.14: Cumulative impacts on the transportation network (Considerable Contribution and Significant and Unavoidable)***

Table 3.14-11 shows the vehicle-miles-travelled (VMT) per capita, VMT per employee, per resident, and total VMT for General Plan buildout conditions, as well as for the baseline condition. As shown in the table, the proposed General Plan would result in increased total VMT but show a decrease in both VMT per capita and VMT per employee. The 2040 General Plan would result in a decrease in citywide VMT both per capita and per employee. When comparing the 2040 General Plan to the VMT threshold, the 2040 General Plan would exceed the VMT threshold. While the residential VMT would be less than the VMT threshold, employment-related uses would exceed the VMT threshold as shown in Table 3.14-11.

Although not part of the formal impact significance criterion, Table 3.14-11 shows the total VMT generation under existing conditions and with the buildout of the 2040 General Plan. Total VMT shows an expected 34.4 percent increase when comparing baseline and 2040 General Plan forecast conditions. The reasonableness of this increase can be evaluated by comparing increases in land use.

In addition, Table 3.14-11 shows residential VMT per capita is expected to decrease by 0.9 percent at a citywide level, while VMT per employee decreases by 0.8 percent at a citywide level. Both decreases can be explained by denser developments within the 2040 General Plan. Total VMT would increase by 34.4 percent, which is in line with the land use changes and increases in population and employment for the 2040 General Plan. While both VMT per capita and VMT per employee are decreasing compared to existing citywide conditions, the 2040 General Plan would result in an overall increase in total VMT and would exceed the VMT baseline threshold as shown in Table 3.14-11.

The General Plan policies and action achieve meaningful reductions in VMT generated by land uses within the City. The City at this time cannot demonstrate that VMT will be reduced to the degree that it meets these thresholds. Although large changes in the proposed 2040 General Plan land use could potentially reduce the total VMT of the City further, those changes would also affect the achievement of other goals the City seeks to achieve with the General Plan. VMT reduction also depends on factors such as demographic change, household preferences for housing types and locations, the cost of fuel, and the competitiveness of regional transit relative to driving, which relates to congestion along vehicular commute routes that are not under the City's jurisdiction, as well as transit provided by agencies other than the City. The feasibility and effectiveness of a local

## 4.0 OTHER CEQA-REQUIRED TOPICS

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or regional VMT impact bank or exchange are unknown at this time. While the 2040 General Plan includes measures to reduce VMT, the City cannot demonstrate definitively at this time that implementation of these policies and actions would achieve VMT reductions to meet the VMT thresholds. As a result, the 2040 General Plan's incremental contribution to cumulative VMT would be considered **cumulatively considerable** and **significant and unavoidable**.

### UTILITIES

#### ***Impact 4.15: Cumulative impacts related to utilities (Cumulatively Considerable and Significant and Unavoidable)***

**Water:** As noted in Section 3.15, Utilities and Services Systems, the City currently provides domestic water to residential, commercial, industrial, and institutional customers within the City limits. The demand projections for the various hydrologic water years are summarized in Tables 3.15-3 through 3.15-5. These tables include the total projected water demands through 2045, and estimates for total estimated water supply based on the hydrologic water years. These tables document the estimated total supply and demand during normal water years. As indicated in Table 3.15-5, deficiencies ranging from 33 acre-feet (AF) (fourth year dry year in 2040) to 863 AF (fifth year dry year in 2045) may occur. Under multiple year drought conditions, the City may be required to implement water reduction actions to mitigate potential supply shortfalls. For the analysis, groundwater supply has been assumed to be at the average 1,480 AF per year of groundwater extraction between 1993 and 2020. However, the maximum annual extraction in this period was 2,092 AF in 2008, so additional groundwater extraction could be used to account for supply deficits in multiple dry years, as necessary. In addition, the per capita water use used for the demand projections is based on a rebound from drought restrictions and the economic recession, and future projections do not account for potential decreases in demand resulting from increased savings from passive conservation (that is, the future projections do not account for future increases in the use of water-saving appliances). The City and Contra Costa Water District have demonstrated in recent years that, during extended dry periods, they can address deficits by reducing demand in their service areas.

Projected water demands associated with 2040 General Plan buildout would not exceed the projected available water supplies during normal years, and the 2040 General Plan includes a comprehensive set of goals, policies, and actions to ensure an adequate and reliable source of clean potable water. Nevertheless, as described in the 2020 Urban Water Management Plan, it is anticipated that the City, would have a slight deficiency in water supplies during multiple dry years.

Additionally, future development in the Planning Area will need to be extended to serve future development. Future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network. However, any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure are anticipated to be



similar to those associated with new development, redevelopment, and infrastructure projects under the 2040 General Plan, as discussed in Sections 3.1 through 3.16, and 4.0 of this Draft EIR.

Given that it is anticipated that the City, would have a slight deficiency in water supplies during multiple dry year, impacts associated with water supplies would be considered **cumulatively considerable** and **significant and unavoidable**.

**Wastewater:** As noted in Section 3.15, Utilities and Services Systems, sewer services in the Planning Area are provided by the City and the Delta Diablo. The City maintains and owns the local sewage collection system that serves the City's municipal users and the City's wastewater is conveyed to Delta Diablo facilities for treatment. The Delta Diablo has adopted a district Master Plan that includes phased treatment plant expansion to ultimately provide 24.0 million gallons per day (mgd) (average dry weather flow) capacity in order to accommodate anticipated General Plan buildout for the communities of Pittsburg, Antioch, and unincorporated Bay Point. Delta Diablo updated its Master Plan in 2022. According to the Delta Diablo Resources Recovery Facility 2022 Master Plan, the projected average dry weather flow in 2050 is projected to be 23.7 mgd, and 25.3 mgd at buildout. The WWTP hydraulic flow capacity is not anticipated to be reached in the 20-year planning horizon (2040). However, BOD treatment capacity (53,200 pounds per day) is projected to be exceeded between 2030 and 2037, which necessitates expansion of the WWTP. The District's discharge permit requires that planning for expansion begin when the plant is at 80 percent of its capacity. It should be noted that the tower trickling filters have a limitation of 200 lb BOD/1000 cf media or 46,100 lbs/day of BOD, less than the total secondary system capacity. The BOD treatment capacity limitation is corroborated by findings from the 2011 Master Plan Study and 2014 WWTP Capacity Assessment Update Study.

Projected wastewater generation volumes associated with General Plan buildout is not anticipated to exceed the capacity of the wastewater treatment provider to have adequate capacity. The proposed General Plan's incremental contribution to cumulative wastewater impacts would be **less than cumulatively considerable**.

**Stormwater:** As noted in Section 3.15, Utilities and Services Systems, the City's existing drainage system is comprised primarily of channelized creeks fed by surface runoff and underground storm drains. The City maintains the system within incorporated areas. In the unincorporated parts of the Planning Area, the Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) maintains major channels and creeks over which they hold land rights, while the County Department of Public Works maintains road drainage systems and several detention basins.

Development under the proposed General Plan would result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way.

## 4.0 OTHER CEQA-REQUIRED TOPICS

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Stormwater drainage and conveyance facilities would be evaluated at the project-level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects allowed under the 2040 General Plan.

As future development and infrastructure projects are considered by the City, each project will be evaluated for conformance with the General Plan, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA.

The policies and actions listed in Section 3.15 would ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts. The proposed General Plan's incremental contribution to cumulative wastewater impacts would be **less than cumulatively considerable**.

**Solid Waste:** As noted in Section 3.15, Utilities and Services Systems, development under the proposed General Plan would increase solid waste disposal needs and could have the potential to require the construction of new landfill facilities, or expansion of existing facilities. Future development as accommodated under the 2040 General Plan may increase the population within the Planning Area by approximately 20,470 persons. As described above, the City has a disposal rate of 6.0 pounds per day per resident in 2021. Assuming these disposal rates remain constant throughout the life of the 2040 General Plan, the new growth under General Plan buildout would result in an increase of approximately 122,820 pounds per day of solid waste, which equals 61.41 tons per day or 23,510 tons of solid waste per year.

The Keller Canyon Landfill has a maximum permitted throughput of 3,500.00 tons per day, and a maximum permitted capacity of 75,018,280 cubic yards with a remaining capacity of 63,408,410 cubic yards. The estimated cease of operation date for this facility is 2050. The additional solid waste generation associated with the 2040 General Plan, approximately 61.41 tons per day at total buildout, to the Keller Canyon Landfill would not exceed the landfill's remaining and additional capacity until landfill closure in 2050.

Future projects within the Planning Area would be required to comply with applicable state and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. While there is adequate permitted landfill capacity to accommodate future growth, the proposed General Plan includes actions to further reduce the project's impact on solid waste services. The General Plan would not exceed the permitted capacity of the landfill serving the City, and the General Plan complies with regulations related to solid waste. The proposed General Plan's incremental contribution to cumulative solid waste impacts would be **less than cumulatively considerable**.

## WILDFIRE

### ***Impact 4.16: Cumulative impact related to wildfire (Less than Cumulatively Considerable)***

There are no areas identified as Very High Fire Hazard Severity Zones (VHFHSZs) in the Planning Area. However, some areas within the City Limits and City's SOI are within State Responsibility Areas (SRAs). As shown in Figure 3.16-1 in Section 3.16, Wildfires, the majority of the Planning Area is located within a Local Responsibility Area. Portions of the City Limits are located in an SRA. The areas within the City Limits located in an SRA are located (2) west of Somersville Road and south of Buchanan Road (2) south of Buchanan Road near Kirker Pass Road, and (3) north of the SOI along Bailey Road. Furthermore, the area to the south and southeast of the City limits and the SOI, but within the Planning Area, is currently located in a SRA.

The General Plan ensures that the City's emergency access routes and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. Important new critical facilities would also be located to ensure resiliency and functionality in the event of a natural disaster.

Furthermore, the proposed Pittsburg General Plan is a policy document that does not include any site-specific designs or proposals and does not propose any entitlements for development that would have the potential to impair or conflict with an adopted emergency response or evacuation plan. Any future development projects that would implement the General Plan, including buildout of uses contemplated under the proposed Land Use Map, would be subject to all applicable City regulations, reviews, and requirements pertaining to emergency response, emergency access, and maintaining emergency evacuation routes, as well as further CEQA analysis of project-specific impacts.

Implementation of the policies and actions provided in Section 3.16 (Wildfire) would ensure that the proposed General Plan's incremental contribution to cumulative solid waste impacts would be **less than cumulatively considerable**.

## 4.2 GROWTH-INDUCING EFFECTS

### INTRODUCTION

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

*The way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth...It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

## 4.0 OTHER CEQA-REQUIRED TOPICS

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Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors*). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The General Plan is a long-term plan intended to accommodate projected population, housing, and employment growth, including the appropriate balance among these factors with the necessary public services and infrastructure. The proposed General Plan would serve as a comprehensive, long-term plan for the physical development of Pittsburg. Projected growth is described in Section 3.10 (Land Use Planning and Population/Housing), and the environmental consequences related to the potential growth are fully assessed in each topical section. By definition, the proposed Pittsburg General Plan is intended to provide for and address future growth in the City.

Because the proposed General Plan provides a framework for development through its Land Use Map, land use designations, goals, policies, and actions, it would directly induce population and employment growth in the Pittsburg Planning Area by designating land for development that is more intense, in some instances, than current designations allow. The analysis of the indirect growth-inducing impacts for the proposed General Plan focuses on the following factors: inducement of unanticipated population growth; encouragement of economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and resulting service, facility, or infrastructure demands in excess of existing and planned growth.

The proposed General Plan accommodates future growth in Pittsburg, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to accommodate future growth. The General Plan is oriented toward the economic growth of the City, with emphasis given to encouraging development of a broader array of businesses, increasing local employment opportunities, and providing residential development as necessary to serve economic growth. The cumulative development scenario addressed in this Draft EIR is the maximum projected development that could occur within the existing city limits and the Planning Area, if every parcel in the city and the Planning Area developed at or near the higher end of densities and intensities allowed under the proposed General Plan.

As described in Chapter 2.0, approximately 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions. This new growth would result in a population increase of approximately 20,470 persons, assuming 3.34 persons per household based on U.S. Census 2016-2020 American Community Survey household size data, and approximately 24,659 new jobs, based on U.S. Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey data released March 18, 2016. Depending on growth rates, the actual growth during the life of the General Plan could be lower or higher, but would not exceed the theoretical maximum buildout described in Chapter 2.0.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Pittsburg during the planning period of the proposed General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. As future development occurs under the proposed General Plan, new roads, infrastructure, and services would be necessary to serve the development and this infrastructure would accommodate planned growth. However, growth under the proposed General Plan would remain within the general growth levels projected statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. The proposed General Plan is intended to accommodate the City's fair share of statewide housing needs, based on regional numbers provided by the California Department of Housing and Community Development on a regular basis (every five to eight years).

The proposed General Plan includes policies and actions that mitigate environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality. Additionally, this Draft EIR identifies General Plan policies and actions, where appropriate, that would serve to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Chapters 3.1 through 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan.

With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact.

### 4.3 SIGNIFICANT IRREVERSIBLE EFFECTS

#### LEGAL CONSIDERATIONS

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CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), requires that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

#### **Consumption of Nonrenewable Resources**

Consumption of nonrenewable resources refers to the loss of physical features within the natural environment, including the conversion of agricultural lands and nonrenewable energy use. The Pittsburg Planning Area has multiple nonrenewable resources, including biological resources, water resources, and energy resources.

One of the objectives of the proposed General Plan is to promote a sustainable, healthy future for Pittsburg that conserves and protects natural and cultural resources and provides residents with access to a network of diverse, safe, and accessible open spaces. Many of these policies and actions aimed at preserving natural resources are contained within the Resource Conservation & Open Space Element, and have been identified throughout this EIR. Additionally, the proposed General Plan directs most new development to infill areas, and areas surrounding existing neighborhoods and urbanized areas. As a result, the proposed General Plan will minimize the potential for impacts to the nonrenewable resources in the Planning Area, including biological resources, water resources, and energy resources, to the greatest extent feasible. More detailed

and focused discussions of potential impacts to these nonrenewable resources are contained throughout this Draft EIR.

Nonrenewable energy resources such as electricity, natural gas, propane, gasoline, and diesel would be consumed during the construction and operation of development projects contemplated under the General Plan buildout. The proposed General Plan includes a variety of policies that seek to conserve, protect, and enhance energy resources. These policies focus on energy efficiency in the design, materials, construction, and use of buildings, the use of alternative energy systems, and alternative transportation modes.

### **Irretrievable Commitments/Irreversible Physical Changes**

Implementation of the proposed General Plan would result in a commitment of land uses designated for the foreseeable future. Land use and development consistent with the General Plan would result in irretrievable commitments by introducing development onto sites that are presently undeveloped. The conversion of agricultural lands to urban uses would result in an irretrievable loss of agricultural land, wildlife habitat, and open space. Additionally, development will physically change the environment in terms of aesthetics, air emission, noise, traffic, open space, and natural resources. These physical changes are irreversible after development occurs. Therefore, the proposed General Plan would result in changes in land use within the Planning Area that would commit future generations to these uses.

#### ***Impact 4.17: Irreversible effects (Significant and Unavoidable)***

In summary, the proposed General Plan includes an extensive policy framework that is designed to address land use and environmental issues to the greatest extent feasible, while allowing growth and economic prosperity for the City. However, even with the policies and actions that will serve to reduce potential significant impacts, the proposed General Plan will result in significant irreversible changes. This impact is considered a **significant and unavoidable** impact under CEQA.

## **4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS**

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the General Plan are discussed in Chapter 3 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- Impact 3.3-2: General Plan implementation could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard
- Impact 3.3-3: General Plan implementation would expose sensitive receptors to substantial pollutant concentrations
- Impact 3.7-1: Project implementation could generate greenhouse gas emissions that could have a significant impact on the environment and could conflict with an applicable plan,

## 4.0 OTHER CEQA-REQUIRED TOPICS

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policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

- Impact 3.12-4: General Plan implementation may result in an increase in construction noise sources
- Impact 3.14-1: General Plan implementation would result in VMT per employee that is greater than 85 percent of Baseline conditions
- Impact 3.14-2: General Plan implementation would conflict with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities
- Impact 3.14-3: General Plan implementation would increase hazards due to a design feature, incompatible uses, or inadequate emergency access
- Impact 3.15-1: General Plan implementation would result in insufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry and multiple dry years
- Impact 4.3: Cumulative impact on the region's air quality
- Impact 4.7: Cumulative impacts related to greenhouse gases, climate change, and energy
- Impact 4.12: Cumulative impacts related to noise
- Impact 4.15: Cumulative impacts related to utilities
- Impact 4.14: Cumulative impacts on the transportation network
- Impact 4.17: Irreversible effects



## 5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all of the project objectives while potentially reducing or avoiding one or more environmental effects of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must “set forth only those alternatives necessary to permit a reasoned choice.” (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a “range of reasonable alternatives” and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency’s fundamental underlying purpose in proposing a project. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, “feasible” is defined as:

*... capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.* (CEQA Guidelines 15364)

## 5.2 FACTORS GUIDING SELECTION OF ALTERNATIVES

### PROJECT OBJECTIVES

The alternatives to the General Plan Update selected for analysis in the EIR were developed to minimize significant environmental impacts while fulfilling the basic objectives of the project, and address public and elected officials’ input with respect to potential land use and growth scenarios that may be appropriate for consideration as part of the General Plan Update. Significant impacts are summarized in Chapter 4.0 and described in greater detail in Sections 3.1 through 3.16. As described in Chapter 2.0 (Project Description), the following objectives have been identified for the proposed project:

- maintaining and enhancing Pittsburg’s character;
- managing the location, type, and amount of growth and ensuring that the community’s infrastructures and services are planned to keep pace with growth;
- managing the location, type, and amount of growth to ensure a variety of housing choices, including a variety of unit types and costs, are available and housing capacity to accommodate current and future housing need allocations;

- providing for high-quality employment opportunities;
- providing recreation, entertainment, shopping, restaurants, and services for the City's households, with an emphasis on increasing opportunities for the City's youth;
- addressing environmental justice, including identifying and reducing any adverse effects to disadvantaged communities and identifying opportunities to improve equity and access to resources and amenities necessary for a high quality of life; and
- conserving natural resources; and addressing environmental effects, including methods to adapt to the effects of a changing climate and sea level rise.

### NOP COMMENTS

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A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review and comment period.

### SIGNIFICANT AND UNAVOIDABLE IMPACTS

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The proposed General Plan Update would result in the following significant and unavoidable impacts, which are described in Sections 3.1 through 3.16 and Chapter 4.0:

- **Impact 3.3-2:** General Plan implementation could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard
- **Impact 3.3-3:** General Plan implementation would expose sensitive receptors to substantial pollutant concentrations
- **Impact 3.7-1:** Project implementation could generate greenhouse gas emissions that could have a significant impact on the environment and could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases
- **Impact 3.12-4:** General Plan implementation may result in an increase in construction noise sources
- **Impact 3.14-1:** General Plan implementation would result in VMT per employee that is greater than 85 percent of Baseline conditions
- **Impact 3.14-2:** General Plan implementation would conflict with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities
- **Impact 3.14-3:** General Plan implementation would increase hazards due to a design feature, incompatible uses, or inadequate emergency access
- **Impact 3.15-1:** General Plan implementation would result in insufficient water supplies available to serve the City and reasonably foreseeable future development during normal, dry and multiple dry years
- **Impact 4.3:** Cumulative impact on the region's air quality

- **Impact 4.7:** Cumulative impacts related to greenhouse gases, climate change, and energy
- **Impact 4.12:** Cumulative impacts related to noise
- **Impact 4.15:** Cumulative impacts related to utilities
- **Impact 4.14:** Cumulative impacts on the transportation network
- **Impact 4.17:** Irreversible effects

### 5.3 ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER EVALUATION

#### REDUCED DENSITY ALTERNATIVE

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A reduced density alternative that decreased the maximum units per acre allowed under each land use designation, except for mixed use designations within one mile of a BART station, by 15 percent was considered. This alternative would result in reduced residential growth and would result in improvements to impacts associated with water supply, vehicle-miles-travelled (VMT), greenhouse gas emissions, air quality, and construction noise.

This alternative was rejected from further consideration as the objectives of the 2040 General Plan include planning for growth, including growth to continue accommodating Pittsburg's share of the regional housing needs allocation. Reducing density and reducing growth potential limits the City's ability to plan for growth and to reduce the potential for sprawl, inefficient use of land, and inefficient extensions of utilities and services. Further, reducing development capacity limits the City's ability to accommodate its share of regional housing needs in future housing cycles and promote robust economic development to increase high-quality jobs.

#### MODIFIED GROWTH ALTERNATIVE

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Several modifications to growth were considered, in conjunction with input from TJKM regarding potential methods to reduce VMT in order to achieve improvements to impacts associated with transportation, greenhouse gas, and air quality. TJKM recommended that modifications to growth to reduce single family units and increase multifamily and mixed use units and employment opportunities be made in traffic analysis zones (TAZs) exhibiting the higher levels of household-based and employment-based VMT. Based on this recommendation, modifications to growth in TAZs were made as summarized below in Table 5.0-1. However, the modifications resulted either in minor reductions to VMT or an increase in VMT. As this alternative did not achieve a meaningful reduction in VMT and would result in worse impacts associated with air quality, noise, and utilities, it was dismissed from further consideration.

**TABLE 5.0-1: MODIFIED GROWTH ALTERNATIVE**

<i>TAZ</i>	<i>SINGLE FAMILY UNITS</i>	<i>MULTIFAMILY/ MIXED USE UNITS</i>	<i>JOBS</i>
30600	-139	+199	+65 retail, 91 service, 173 office, and 11 public/quasi-public
30059	-1	+60	-
30065	0	+80	-
30070	-74	+49	+8 retail jobs, 18 service jobs, 45 office jobs, and 2 public/quasi-public jobs
30430	0	+100	-
30619	-60	+60	+10 retail jobs, 20 service jobs, and 20 public/quasi-public
30641	-4	+8	+2 retail jobs, 4 service jobs, and 9 public/quasi-public
	-278	556	+468 jobs

### 5.4 ALTERNATIVES ANALYZED IN THIS EIR

Three alternatives to the General Plan Update were considered based on the analysis performed to identify the environmental effects of the proposed project. Since the General Plan Update was prepared with the intent to be a self-mitigating document, project alternatives focused on amending land uses to potentially address impacts. The alternatives analyzed in this EIR include the following:

- Alternative A: No Project.** Under Alternative A, the City would not adopt the General Plan Update. The existing Pittsburg General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or actions would occur. Changes to address environmental justice, sustainability, climate adaptation, economic development, greenhouse gases, and VMT would not be implemented. Subsequent projects, such as amending the Municipal Code (including the zoning map), would not occur. The existing General Plan Land Use Map is provided as Figure 5.0-1.
- Alternative B: Core Area Employment.** Alternative B continues to provide for a balance of job-creating and residential development land uses throughout the City and Planning Area and increases jobs in the core area. This alternative would allow a 100% increase in FAR in the Downtown Mixed Use, Community Commercial, and Public/Quasi-public land use designations in the core area, resulting in an additional 264 jobs and 88,563 square feet of employment-generating uses. This alternative was developed to potentially reduce the severity of impacts associated with air quality, greenhouse gases, energy, and transportation.

Figure 5.0-2 depicts the Land Use Map for Alternative B.

- Alternative C: Reduced Intensity.** Alternative C would revise the General Plan Land Use Map to update the North Central River subarea to reflect the proposed Bay Walk project. This modification affects approximately 1,000 acres and would place more emphasis on residential land uses, open space preservation, and brownfields

remediation. This Alternative would result in a reduction of 266 housing units, 6.3 million square feet of employment-generating uses, and 5,479 jobs in comparison to the General Plan. This alternative was developed to potentially reduce the severity of less than significant impacts related to biological resources, public services, and utilities and to reduce impacts associated with air quality, greenhouse gases, energy, and transportation.

Figure 5.0-3 depicts the Land Use Map for Alternative C.

A summary of the type of growth for the 2040 General Plan and each alternative is shown as Table 5.0-2.

**TABLE 5.0-2: GROWTH PROJECTIONS BY ALTERNATIVE**

<i>RESIDENTIAL UNITS OR NONRESIDENTIAL SQUARE FOOTAGE</i>	<i>PROPOSED 2040 GENERAL PLAN</i>	<i>ALTERNATIVE A</i>	<i>ALTERNATIVE B</i>	<i>ALTERNATIVE C</i>
<i>RESIDENTIAL NET NEW GROWTH (UNITS)</i>				
Single-Family Residential	6,445	1,464	6,445	6,867
Multiple-Family Residential	9,111	6,127	9,111	8,423
Live Work Units	20	0	20	20
<b>TOTAL</b>	<b>15,576</b>	<b>7,591</b>	<b>15,576</b>	<b>15,310</b>
<i>NONRESIDENTIAL NET NEW GROWTH (SQUARE FEET)</i>				
Retail	1,665,732	1,547,159	1,711,877	1,278,493
Service	3,285,137	2,288,530	3,368,198	2,278,682
Office	1,819,034	1,455,518	1,819,034	1,380,825
Commercial Recreation	352,358	58,864	375,524	145,142
Hotel	448,770	234,820	467,154	353,358
Institutional	51,390	49,984	51,390	51,390
Heavy Industrial	6,424,889	8,738,619	6,424,889	5,108,055
Light Industrial	10,111,287	4,107,863	10,111,287	7,786,602
Public/Quasi-Public	1,930,902	2,022,279	1,965,210	1,387,219
<b>TOTAL</b>	<b>26,089,499</b>	<b>20,503,636</b>	<b>26,294,563</b>	<b>19,769,767</b>

SOURCE: DE NOVO PLANNING GROUP, 2023

A summary of the growth projections, including population growth, housing units, jobs, and the resultant job/housing balance for the project and each alternative is shown in Table 5.0-3.

## 5.0 ALTERNATIVES

**TABLE 5.0-3: GROWTH PROJECTIONS BY ALTERNATIVE**

ALTERNATIVE	DWELLING UNITS	POPULATION	NON-RESIDENTIAL SQUARE FEET OF DEVELOPMENT	JOBS	JOBS PER HOUSING UNIT
<i>EXISTING CONDITIONS</i>					
City/Planning Area	25,570	77,572	8,198,820	10,890	0.43
<i>NEW GROWTH</i>					
Proposed General Plan	15,576	52,335	26,089,499	24,663	1.58
Alternative A: No Project	7,591	25,506	20,503,636	19,582	2.58
Alternative B: Core Area Employment	15,576	52,335	26,294,563	24,927	1.60
Alternative C: Reduced Intensity	15,310	51,441	19,769,767	19,183	1.26
<i>TOTAL BUILDOUT GROWTH: EXISTING PLUS NEW GROWTH</i>					
Proposed General Plan	41,146	129,907	34,288,319	35,553	0.86
Alternative A: No Project	33,161	103,078	28,702,456	30,472	0.92
Alternative B: Core Area Employment	41,146	129,907	34,493,383	35,817	0.87
Alternative C: Reduced Intensity	40,880	129,013	27,968,587	30,073	0.74

SOURCE: DE NOVO PLANNING GROUP, 2023

A summary of the VMT, including VMT per capita and VMT per employee, for the project and each alternative is shown in Table 5.0-4.

**TABLE 5.0-4: VEHICLE-MILES-TRAVELED BY ALTERNATIVE**

	PROPOSED 2040 GENERAL PLAN	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
VMT Per Capita	17.21	16.31	17.07	17.39
Difference from 2040 General Plan	--	-0.90	-0.14	+0.18
VMT Per Employee	12.21	13.18	12.15	11.89
Difference from 2040 General Plan	--	+0.97	-0.06	-0.32

SOURCE: TJKM, 2023

### 5.5 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-8 summarizes the comparative effects of each alternative.

The primary difference between the proposed General Plan and each alternative is the Land Use Maps associated with each alternative. The goals, policies, and actions contained in the

proposed General Plan would also apply and be implemented under Alternatives B and C. Therefore, changes to the Land Use Map are the only variables that may increase or decrease the severity of one or more of the significant environmental impacts identified in this Draft EIR. It is important to note, however, that all of the Land Use Maps, across all of the Alternatives analyzed in this EIR, include essentially the same urban footprint. In other words, none of the Alternatives introduce new urban land uses within areas of the City that are not already designated for such uses by the existing General Plan.

Throughout the preparation of the General Plan Update, the City Council, Planning Commission, and Working Group all expressed a desire and commitment to ensuring that the General Plan not only reflect the community's values and priorities, but also serve as a self-mitigating document and avoid significant environmental impacts to the greatest extent feasible. To further this goal of crafting a self-mitigating General Plan, the environmental analysis contained in this Draft EIR was completed concurrently with the development of the General Plan Elements and Land Use Map in order to foster informed decision making regarding the Land Use Map and the General Plan goals, policies, and actions as they were being developed. As the Land Use Map was crafted, refined, and revised throughout the course of the General Plan Update, changes were made on a continuous basis in order to incrementally and substantially reduce potentially significant environmental impacts that were identified. The result of this approach and this process is a proposed General Plan Land Use Map that has reduced potentially significant impacts to the environment, while still meeting the project objectives identified by the City of Pittsburgh.

As demonstrated in the discussion below, Alternative C is the environmentally superior alternative, as it was developed and refined to reduce as many environmental effects as possible, while still meeting all of the project objectives.

## ALTERNATIVE A – NO PROJECT

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### **Description**

Under Alternative A, the City would continue to implement the existing General Plan and no changes would be made to address updated General Plan Guidelines, or the requirements of State law. Since adoption of the existing General Plan, State legislation has been passed requiring the City to address new safety and circulation requirements in the General Plan, to further address greenhouse gas emissions, and to meet specific requirements regarding planning for future housing growth. The General Plan goals, policies, and actions, as well as the Land Use Map, would not be updated to address the vision and concerns of the City's residents, property owners, decision-makers, and other stakeholders that actively participated in the visioning and goal and policy development process.

Alternative A would result in the continuation of existing conditions and development levels, as described in Chapter 3.10 (Land Use and Population). New growth would be allowed as envisioned under the existing General Plan, with land uses required to be consistent with the existing General Plan Land Use Map as shown on Figure 5.0-1. Table 5.0-5 shows the acreages

## 5.0 ALTERNATIVES

of each land use designation for the existing General Plan Land Use Map compared to the proposed Land Use Map.

**TABLE 5.0-5: ALTERNATIVE A V. PROPOSED GENERAL PLAN LAND USE DESIGNATIONS COMPARISON**

<i>LAND USE DESIGNATION</i>	<i>PROPOSED GENERAL PLAN</i>	<i>ALTERNATIVE A</i>	<i>DIFFERENCE</i>
<i>RESIDENTIAL DESIGNATIONS</i>			
Hillside Low Density Residential	212.3	212.3	0.0
Low Density Residential	3,896.6	3,915.7	-19.1
Medium Density Residential	557.2	557.1	0.1
High Density Residential	374.1	374.1	0.0
Very High Density Residential	18.7	18.7	0.0
Downtown Low Density Residential	50.6	50.6	0.0
Downtown Medium Density Residential	111.3	111.3	0.0
Downtown High Density Residential	14.1	14.1	0.0
<i>Subtotal Residential</i>	<i>5,234.9</i>	<i>5,253.8</i>	<i>-18.9</i>
<i>MIXED USE DESIGNATIONS</i>			
Mixed Use (Community Commercial)	21.3	21.3	0.0
Mixed Use (Downtown)	18.5	18.5	0.0
Mixed Use (General)	30.2	30.2	0.0
Mixed Use (P/BP BART)	52.7	52.7	0.0
Mixed Use (Railroad Ave SPA)	110.1	110.1	0.0
<i>Subtotal Mixed Use</i>	<i>232.8</i>	<i>232.8</i>	<i>0.0</i>
<i>COMMERCIAL AND INDUSTRIAL DESIGNATIONS</i>			
Business Commercial	0.0	0.0	0.0
Community Commercial	237.1	237.1	0.0
Downtown Commercial	8.9	8.9	0.0
Employment Center Industrial	708.6	708.7	-0.1
Industrial	1,364.5	1,364.4	0.1
Marina Commercial	141.3	142.1	-0.8
Regional Commercial	174.9	174.9	0.0
Service Commercial	115.8	115.8	0.0
<i>Subtotal Commercial and Industrial</i>	<i>2,751.1</i>	<i>2,751.8</i>	<i>-0.7</i>
<i>OTHER DESIGNATIONS</i>			
Landfill	195.7	195.7	0.0
Public/Institutional	1,182.3	1,182.2	0.1
Park	2,866.1	2,847.8	18.3
Open Space	8,647.0	8,647.0	0.0
Roadway	68.1	68.2	-0.1
Utility/ROW	659.2	659.2	0.0
Water	572.7	572.7	0.0
<i>Subtotal Other</i>	<i>14,191.1</i>	<i>14,172.8</i>	<i>18.3</i>
<b>TOTAL</b>	<b>22,409.9</b>	<b>22,411.2</b>	<b>-1.3</b>

SOURCE: DE NOVO PLANNING GROUP, 2023.



As shown in Table 5.0-5, Alternative A would provide for approximately 19 fewer acres of low density residential land uses compared to the proposed Project.

Under Alternative A at full buildout, there would be an increase over existing conditions in residential growth (approximately 7,591 dwelling units) and jobs (approximately 19,582 jobs). Under cumulative conditions, development in Planning Area combined under Alternative A would result in a population of 103,078 and 30,472 jobs. Under Alternative A, the existing General Plan policy framework would still be in effect, which would constitute a status quo approach to land use regulation in the City. The Proposed Land Use Map, along with the policy framework proposed by the General Plan Update, encourages and aims to achieve a community with a balanced land use pattern that meets the City's long-term housing, employment, and civic needs. The land uses allowed under the proposed General Plan provide opportunities for cohesive new growth at in-fill locations within existing urbanized areas of the city, as well as new growth adjacent to existing urbanized areas. A mix and balance of uses to provide an improved ratio of local jobs to population, would ensure that development pays its fair-share of necessary roadway, public service, and other infrastructure improvements, and that provides for increased protection of natural resources would occur. The proposed General Plan was prepared in conformance with State laws and regulations associated with the preparation of general plans, including requirements for environmental protection.

Alternative A would not include updated policies, particularly those related to housing, greenhouse gases, and complete streets policies to address safety, access, and mobility for all roadway users, as required by State law. This alternative would not include various policies proposed in the General Plan update to ensure protection of environmental resources, both at a project level and under cumulative conditions, consistent with the objectives of CEQA.

## **Comparative Analysis of Environmental Effects**

### *IMPACTS IDENTIFIED AS BEING THE SAME AS OR SIMILAR TO THOSE OF THE PROPOSED PROJECT*

Because Alternative A would have the same size Planning Area as the proposed Project, future development facilitated by Alternative would be the same total area as the proposed Project. As such, impacts determined by the development footprint of future projects would be substantially the same as the proposed Project. These impacts would include the following:

- adverse effects on a scenic vista, damage scenic resources within a State scenic highway, conflict with applicable zoning and other regulations governing scenic quality, or creation of new sources of light and glare (Impacts 3.1-1 through 3.1-4);
- conversion of Prime Farmland, conflicts with agricultural zoning or Williamson Act contracts, or other conversion of Farmland to non-agricultural uses (Impacts 3.2-1 through 3.2-3);
- adverse effects to special-status species, adverse effects on riparian habitat or other sensitive natural communities, adverse effects on wetlands, interference with the movement of wildlife, conflicts with local policies which protect biological resources, or

conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (Impacts 3.4-1 through 3.4-6);

- adverse changes to historical, archaeological, or tribal cultural resources, or disturbance of human remains (Impacts 3.5-1 through 3.5-4);
- exposure of people or structures to known earthquake faults, ground shaking, or seismic related ground failure, soil erosion, unstable or expansive soils, soils incapable of supporting septic systems, or destruction of paleontological resources (Impacts 3.6-1 through 3.6-6);
- transport, use or disposal of hazardous materials, emission of hazardous materials, Government Code Section 65962.5 sites, conflicts with an airport land use plan, emergency response or evacuation, or wildland fires (Impacts 3.8-1 through 3.8-6);
- violation of water quality standards, depletion of groundwater supplies, alteration of drainage patterns, or release of pollutants due to project inundation by flood hazard, tsunami, or seiche (Impacts 3.9-1 through 3.9-4);
- physical division of an established community (Impact 3.10-1);
- loss of known mineral resources or loss of a locally-important mineral resource recovery site (Impacts 3.11-1 and 3.11-2);
- exposure to excessive railroad noise, generation of excessive stationary noise sources, construction noise sources, excessive aircraft noise sources, construction vibration, or groundborne vibration (Impacts 3.12-2 through 3.12-7);
- the need for new fire, police, school, park, recreation, or other public facilities or the need for new or physically altered fire protection facilities (Impact 3.13-1 through 3.13-6);
- conflicts with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities, or increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Impacts 3.14-2 and 3.14-3); or
- impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment, or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Impacts 3.16-1 through 3.16-4).

Additionally, as shown in Table 5.0-4, VMT per capita would decrease from 17.21 under the proposed project to 16.31 under Alternative A, and 0.90 VMT per capita decrease. However, VMT per employee would increase from 12.21 under the proposed project to 13.18 under Alternative A, a 0.97 VMT per employee increase. Overall, VMT would be comparable to the project. As such, impacts related to VMT (Impact 3.14-1) would be comparable to the project. This would result in a similar quantity of mobile air quality (Impact 3.3-1) and greenhouse gas emissions (Impact 3.7-1).

#### *IMPACTS IDENTIFIED AS BEING MORE SEVERE THAN THOSE OF THE PROPOSED PROJECT*

Under Alternative A, potential effects related to air quality and transportation could be greater. As noted previously, Alternative A would not include updated policies, particularly those related to housing, greenhouse gases, and complete streets policies to address safety, access, and mobility for all roadway users, as required by State law. This alternative would not include various policies proposed in the General Plan update to ensure protection of environmental resources, both at a project level and under cumulative conditions. The proposed 2040 General Plan includes ample policies to address transportation and air quality impacts. Although difficult to quantify, these secondary environmental impacts could be significant and would be more severe than the impacts of the proposed project.

### **Relationship to Significant and Unavoidable Impacts**

Under Alternative A, significant population and employment growth would occur as a result of the increase in residential and non-residential growth allowed under the existing General Plan. Therefore, the significant and unavoidable impacts of the proposed project would also occur under Alternative A. However, as noted previously, Alternative A would not include updated policies, particularly those related to housing, greenhouse gases, and complete streets policies to address safety, access, and mobility for all roadway users, as required by State law. This alternative would not include various policies proposed in the General Plan update to ensure protection of environmental resources, both at a project level and under cumulative conditions, consistent with the objectives of CEQA. As such, the secondary effects of Alternative A could result in different significant and unavoidable impacts than those of the proposed project, including significant levels of VMT and associated criteria air pollutant and GHG emissions.

### **Relationship to Plan Objectives**

Alternative A fails to meet several of the basic project objectives, including the following: managing the location, type, and amount of growth and ensuring that the community's infrastructures and services are planned to keep pace with growth; managing the location, type, and amount of growth to ensure a variety of housing choices, including a variety of unit types and costs, are available and housing capacity to accommodate current and future housing need allocations; addressing environmental justice, including identifying and reducing any adverse effects to disadvantaged communities and identifying opportunities to improve equity and access to resources and amenities necessary for a high quality of life; and conserving natural resources; and addressing environmental effects, including methods to adapt to the effects of a changing climate and sea level rise.

Therefore, Alternative A (No Project) is rejected from further consideration as a CEQA alternative, as it fails to meet several of the project objectives.

**ALTERNATIVE B – CORE AREA EMPLOYMENT**

**Description**

Alternative B would revise the General Plan Land Use Map to place more emphasis on providing for a balance of job-creating and residential development land uses throughout the City and Planning Area and increases jobs in the core area. This alternative would allow a 100% increase in FAR in the Downtown Mixed Use, Community Commercial, and Public/Quasi-public land use designations in the core area, resulting in an additional 264 jobs and 88,563 square feet of employment-generating uses. This alternative was developed to potentially reduce the severity of impacts associated with air quality, greenhouse gases, energy, and transportation.

Land use designations under Alternative B would be modified as shown on Figure 5.0-2 and summarized in Table 5.0-6. The goals, policies, and actions of the General Plan Update would apply to subsequent development, planning, and infrastructure projects under this alternative.

As shown in 5.0-3, Alternative B would result in the same amount of housing units and associated population as the proposed Project. As noted above, nonresidential square feet would be increased by 88,563 square feet and employment opportunities would be slightly increased (an additional 264 jobs) under this alternative when compared to the proposed General Plan.

As shown in Table 5.0-6, Alternative B would provide for approximately 18.9 fewer acres of residential land uses, and approximately 18 more acres of other land uses within the City, when compared to the Proposed Land Use Map.

**TABLE 5.0-6: ALTERNATIVE B V. PROPOSED GENERAL PLAN LAND USE DESIGNATIONS COMPARISON**

<i>LAND USE DESIGNATION</i>	<i>PROPOSED GENERAL PLAN</i>	<i>ALT B</i>	<i>DIFFERENCE</i>
<i>RESIDENTIAL DESIGNATIONS</i>			
Hillside Low Density Residential	212.3	212.3	0.0
Low Density Residential	3,896.6	3,915.7	-19.1
Medium Density Residential	557.2	557.1	0.1
High Density Residential	374.1	374.1	0.0
Very High Density Residential	18.7	18.7	0.0
Downtown Low Density Residential	50.6	50.6	0.0
Downtown Medium Density Residential	111.3	111.3	0.0
Downtown High Density Residential	14.1	14.1	0.0
<i>Subtotal Residential</i>	<i>5,234.9</i>	<i>5,253.8</i>	<i>-18.9</i>

<i>LAND USE DESIGNATION</i>	<i>PROPOSED GENERAL PLAN</i>	<i>ALT B</i>	<i>DIFFERENCE</i>
<i>MIXED USE DESIGNATIONS</i>			
Mixed Use (Community Commercial)	21.3	21.3	0.0
Mixed Use (Downtown)	18.5	18.5	0.0
Mixed Use (General)	30.2	30.2	0.0
Mixed Use (P/BP BART)	52.7	52.7	0.0
Mixed Use (Railroad Ave SPA)	110.1	110.1	0.0
<i>Subtotal Mixed Use</i>	<i>232.8</i>	<i>232.8</i>	<i>0.0</i>
<i>COMMERCIAL AND INDUSTRIAL DESIGNATIONS</i>			
Community Commercial	237.1	237.1	0.0
Downtown Commercial	8.9	8.9	0.0
Employment Center Industrial	708.6	708.7	-0.1
Industrial	1,364.5	1,364.4	0.1
Marina Commercial	141.3	142.1	-0.8
Regional Commercial	174.9	174.9	0.0
Service Commercial	115.8	115.8	0.0
<i>Subtotal Commercial and Industrial</i>	<i>2,751.1</i>	<i>2,751.8</i>	<i>-0.7</i>
<i>OTHER DESIGNATIONS</i>			
Landfill	195.7	195.7	0.0
Public/Institutional	1,182.3	1,182.2	0.1
Park	2,866.1	2,847.8	18.3
Open Space	8,647.0	8,647.0	0.0
Roadway	68.1	68.2	-0.1
Utility/ROW	659.2	659.2	0.0
Water	572.7	572.7	0.0
<i>Subtotal Other</i>	<i>14,191.1</i>	<i>14,172.8</i>	<i>18.3</i>
<b>TOTAL</b>	<b>22,409.9</b>	<b>22,411.2</b>	<b>-1.3</b>

SOURCE: DE NOVO PLANNING GROUP, 2023.

## Comparative Analysis of Environmental Effects

### *IMPACTS IDENTIFIED AS BEING THE SAME AS OR SIMILAR TO THOSE OF THE PROPOSED PROJECT*

Because Alternative B would have the same size Planning Area as the proposed Project, future development facilitated by Alternative would be the same total area as the proposed Project. As such, impacts determined by the development footprint of future projects would be substantially the same as the proposed Project. These impacts would include the following:

- damage scenic resources within a State scenic highway, conflict with applicable zoning and other regulations governing scenic quality, or creation of new sources of light and glare (Impacts 3.1-2 through 3.1-4);

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- conversion of Prime Farmland, conflicts with agricultural zoning or Williamson Act contracts, or other conversion of Farmland to non-agricultural uses (Impacts 3.2-1 through 3.2-3);
- adverse effects to special-status species, adverse effects on riparian habitat or other sensitive natural communities, adverse effects on wetlands, interference with the movement of wildlife, conflicts with local policies which protect biological resources, or conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (Impacts 3.4-1 through 3.4-6);
- adverse changes to historical, archaeological, or tribal cultural resources, or disturbance of human remains (Impacts 3.5-1 through 3.5-4);
- exposure of people or structures to known earthquake faults, ground shaking, or seismic related ground failure, soil erosion, unstable or expansive soils, soils incapable of supporting septic systems, or destruction of paleontological resources (Impacts 3.6-1 through 3.6-6);
- transport, use or disposal of hazardous materials, emission of hazardous materials, Government Code Section 65962.5 sites, conflicts with an airport land use plan, emergency response or evacuation, or wildland fires (Impacts 3.8-1 through 3.8-6);
- violation of water quality standards, depletion of groundwater supplies, alteration of drainage patterns, or release of pollutants due to project inundation by flood hazard, tsunami, or seiche (Impacts 3.9-1 through 3.9-4);
- physical division of an established community (Impact 3.10-1);
- loss of known mineral resources or loss of a locally-important mineral resource recovery site (Impacts 3.11-1 and 3.11-2);
- exposure to excessive railroad noise, generation of excessive stationary noise sources, construction noise sources, excessive aircraft noise sources, construction vibration, or groundborne vibration (Impacts 3.12-2 through 3.12-7);
- the need for new fire, police, school, park, recreation, or other public facilities or the need for new or physically altered fire protection facilities (Impact 3.13-1 through 3.13-6);
- conflicts with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities, or increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Impacts 3.14-2 and 3.14-3); or

- impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment, or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Impacts 3.16-1 through 3.16-4).

Additionally, conflicts with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would be similar to the proposed project as Alternative B would, similar to the project, include an updated policy documents which addresses recent legislation for General Plans (Impact 3.10-2).

#### *IMPACTS IDENTIFIED AS BEING LESS SEVERE THAN THOSE OF THE PROPOSED PROJECT*

Alternative B was developed to potentially reduce the severity of significant impacts associated with air quality, greenhouse gases, energy, and transportation. As shown in Table 5.0-4, VMT per capita would slightly decrease from 17.21 under the proposed project to 17.07 under Alternative B, a 0.14 VMT per capita decrease. Additionally, VMT per employee would slightly decrease from 12.21 under the proposed project to 12.15 under Alternative B, a 0.06 VMT per employee decrease. Overall, VMT would slightly decrease. As such, impacts related to VMT (Impact 3.14-1) would slightly decrease compared to the project. This would result in a slight reduction in mobile air quality (Impact 3.3-1), transportation noise (Impact 3.12-1), and greenhouse gas emissions (Impact 3.7-1).

Additionally, as shown in Table 5.0-2, Alternative B would result in less residential and nonresidential growth than the Proposed General Plan, but more growth than Alternative A, the existing General Plan, and less residential, but more nonresidential growth than Alternative C (Reduced Intensity Alternative). As such, impacts related to population growth would be slightly reduced compared to the Project.

For these reasons, these impacts under Alternative B would be less severe than under the proposed Project.

#### *IMPACTS IDENTIFIED AS BEING MORE SEVERE THAN THOSE OF THE PROPOSED PROJECT*

Under Alternative B, an 100% increase in FAR would be allowed in the Downtown Mixed Use, Community Commercial, and Public/Quasi-public land use designations in the core area, resulting in an additional 264 jobs and 88,563 square feet of employment-generating uses. This could result in increased building heights in an area of the City located near the waterfront. As such, building heights and increased massing allowed by this alternative could impact views of the waterfront and other scenic vistas to a greater extent than the project (Impact 3.1-1).

### **Relationship to Significant and Unavoidable Impacts**

Under Alternative B, significant population and employment growth would occur as a result of the increase in residential and non-residential growth allowed under the Alternative. Therefore,

the significant and unavoidable impacts of the proposed project would also occur under Alternative B. Although this alternative was developed to potentially reduce the severity of impacts associated with air quality, greenhouse gases, energy, and transportation, the increase in employment-generating uses compared to the Project would likely result in unavoidable impacts in the same areas as the proposed Project.

### **Relationship to Plan Objectives**

Alternative B would meet the majority of the basic project objectives, including the following: managing the location, type, and amount of growth to ensure a variety of housing choices, including a variety of unit types and costs, are available and housing capacity to accommodate current and future housing need allocations; providing for high-quality employment opportunities; providing recreation, entertainment, shopping, restaurants, and services for the City's households, with an emphasis on increasing opportunities for the City's youth; addressing environmental justice, including identifying and reducing any adverse effects to disadvantaged communities and identifying opportunities to improve equity and access to resources and amenities necessary for a high quality of life; and conserving natural resources; and addressing environmental effects, including methods to adapt to the effects of a changing climate and sea level rise.

However, under this alternative, the large increase in density allowed in an area of the City which has aging infrastructure. Additionally, the area of the City which would allow for increased densities under this alternative currently contain low to medium density uses. As a result of the increased density allowed in the City's older core area, the following two objectives would be partially met: the maintaining and enhancing Pittsburg's character; and managing the location, type, and amount of growth and ensuring that the community's infrastructures and services are planned to keep pace with growth.

Therefore, Alternative B (Core Area Employment) is rejected from further consideration as a CEQA alternative, as it fails to meet several of the project objectives.

## **ALTERNATIVE C – REDUCED INTENSITY ALTERNATIVE**

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### **Description**

Alternative C would revise the General Plan Land Use Map to update the North Central River subarea to reflect the proposed Bay Walk project. This modification affects approximately 1,000 acres and would place more emphasis on residential land uses, open space preservation, and brownfields remediation. This Alternative would result in a reduction of 266 housing units, 6.3 million square feet of employment-generating uses, and 5,479 jobs in comparison to the General Plan. This alternative was developed to potentially reduce the severity of less than significant impacts related to biological resources, public services, and utilities and to reduce impacts associated with air quality, greenhouse gases, energy, and transportation.



Under full buildout conditions, this alternative would result in a total population within the Planning Area of approximately 123,013, which is slightly lower than the total population projection of 129,907 under the proposed General Plan.

As shown in Table 5.0-7, Alternative C would provide for approximately 11 more acres of residential land uses, approximately 43 fewer acres of commercial and industrial land uses, and approximately 58 acres fewer other designations when compared to the proposed Land Use Map.

**TABLE 5.0-7: ALTERNATIVE C V. PROPOSED GENERAL PLAN LAND USE DESIGNATIONS COMPARISON**

<i>LAND USE DESIGNATION</i>	<i>PROPOSED GENERAL PLAN</i>	<i>ALTERNATIVE C</i>	<i>DIFFERENCE</i>
<i>RESIDENTIAL DESIGNATIONS</i>			
Hillside Low Density Residential	212.3	212.3	0.0
Low Density Residential	3,896.6	3,915.7	-19.1
Medium Density Residential	557.2	462.0	95.2
High Density Residential	374.1	367.0	7.1
Very High Density Residential	18.7	2.1	16.6
Downtown Low Density Residential	50.6	50.6	0.0
Downtown Medium Density Residential	111.3	111.3	0.0
Downtown High Density Residential	14.1	14.1	0.0
<i>Subtotal Residential</i>	<i>5,234.9</i>	<i>5,135.1</i>	<i>99.8</i>
<i>MIXED USE DESIGNATIONS</i>			
Mixed Use (Community Commercial)	21.3	21.3	0.0
Mixed Use (Downtown)	18.5	18.5	0.0
Mixed Use (General)	30.2	30.2	0.0
Mixed Use (P/BP BART)	52.7	52.7	0.0
Mixed Use (Railroad Ave SPA)	110.1	110.1	0.0
<i>Subtotal Mixed Use</i>	<i>232.8</i>	<i>232.8</i>	<i>0.0</i>
<i>COMMERCIAL AND INDUSTRIAL DESIGNATIONS</i>			
Bay Walk Development	0.0	296.5	-296.5
Community Commercial	237.1	237.1	0.0
Downtown Commercial	8.9	8.9	0.0
Employment Center Industrial	708.6	585.4	123.2
Industrial	1,364.5	1,286.6	77.9
Marina Commercial	141.3	89.3	52.0
Regional Commercial	174.9	174.9	0.0
Service Commercial	115.8	115.8	0.0
<i>Subtotal Commercial and Industrial</i>	<i>2,751.1</i>	<i>2,794.4</i>	<i>-43.3</i>

<i>LAND USE DESIGNATION</i>	<i>PROPOSED GENERAL PLAN</i>	<i>ALTERNATIVE C</i>	<i>DIFFERENCE</i>
<i>OTHER DESIGNATIONS</i>			
Landfill	195.7	195.7	0.0
Public/Institutional	1,182.3	1,182.2	0.1
Park	2,866.1	2,839.9	26.2
Open Space	8,647.0	8,733.6	-86.6
Roadway	68.1	68.2	-0.1
Utility/ROW	659.2	656.7	2.5
Water	572.7	572.7	0.0
<i>Subtotal Other</i>	<i>14,191.1</i>	<i>14,248.8</i>	<i>-57.7</i>
<b>TOTAL</b>	<b>22,409.9</b>	<b>22,411.2</b>	<b>-1.3</b>

SOURCE: DE NOVO PLANNING GROUP, 2023.

**Comparative Analysis of Environmental Effects**

*IMPACTS IDENTIFIED AS BEING THE SAME AS OR SIMILAR TO THOSE OF THE PROPOSED PROJECT*

Because Alternative C would have the same size Planning Area as the proposed Project, future development facilitated by Alternative would be the same total area as the proposed Project. As such, impacts determined by the development footprint of future projects would be substantially the same as the proposed Project. These impacts would include the following:

- damage scenic resources within a State scenic highway, conflict with applicable zoning and other regulations governing scenic quality, or creation of new sources of light and glare (Impacts 3.1-2 through 3.1-4);
- conversion of Prime Farmland, conflicts with agricultural zoning or Williamson Act contracts, or other conversion of Farmland to non-agricultural uses (Impacts 3.2-1 through 3.2-3);
- adverse effects to special-status species, adverse effects on riparian habitat or other sensitive natural communities, adverse effects on wetlands, interference with the movement of wildlife, conflicts with local policies which protect biological resources, or conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan (Impacts 3.4-1 through 3.4-6);
- adverse changes to historical, archaeological, or tribal cultural resources, or disturbance of human remains (Impacts 3.5-1 through 3.5-4);
- exposure of people or structures to known earthquake faults, ground shaking, or seismic related ground failure, soil erosion, unstable or expansive soils, soils incapable of supporting septic systems, or destruction of paleontological resources (Impacts 3.6-1 through 3.6-6);

- Government Code Section 65962.5 sites, conflicts with an airport land use plan, emergency response or evacuation, or wildland fires (Impacts 3.8-2 through 3.8-6);
- violation of water quality standards, depletion of groundwater supplies, alteration of drainage patterns, or release of pollutants due to project inundation by flood hazard, tsunami, or seiche (Impacts 3.9-1 through 3.9-4);
- physical division of an established community (Impact 3.10-1);
- loss of known mineral resources or loss of a locally-important mineral resource recovery site (Impacts 3.11-1 and 3.11-2);
- exposure to excessive railroad noise, generation of excessive stationary noise sources, construction noise sources, excessive aircraft noise sources, construction vibration, or groundborne vibration (Impacts 3.12-2 through 3.12-7);
- the need for new fire, police, school, park, recreation, or other public facilities or the need for new or physically altered fire protection facilities (Impact 3.13-1 through 3.13-6);
- conflicts with a program, plan, policy, or ordinance addressing the circulation system, including transit, bicycle, and pedestrian facilities, or increase hazards due to a design feature, incompatible uses, or inadequate emergency access (Impacts 3.14-2 and 3.14-3); or
- impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment, or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (Impacts 3.16-1 through 3.16-4).

Additionally, conflicts with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would be similar to the proposed project as Alternative C would, similar to the project, include an updated policy documents which addresses recent legislation for General Plans (Impact 3.10-2).

*IMPACTS IDENTIFIED AS BEING LESS SEVERE THAN THOSE OF THE PROPOSED PROJECT*

Alternative C would revise the General Plan Land Use Map to update the North Central River subarea to reflect the proposed BayWalk project. This modification affects approximately 1,000 acres and would place more emphasis on residential land uses, open space preservation, and brownfields remediation. Because the amount of open space near the hillside areas of the City would be increased compared to the proposed Project, impacts related to adverse effects on a scenic vista would be slightly decreased compared to the Project.

Additionally, under Alternative C, much of the area surrounding the former PG&E Pittsburg Power Plant area (i.e., along the north-central portion of the Planning Area along the waterfront) is designated for Bay Walk Development by the Alternative C Land Use Map. The Bay Walk Mixed-Use Project is a previously approved project in the City of Pittsburg; The Bay Walk Development land use for Alternative C reflects the Bay Walk Project. As such, remediation of hazardous contaminants at the former PG&E Pittsburg Power Plant area could be completed more quickly than under the proposed Project, Alternative A, or Alternative B due to the under development Bay Walk project. As such, impacts related to the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Impact 3.8-1) could be reduced under this alternative.

Further, as shown in Table 5.0-2, Alternative C would result in up to 15,028 residential units, Alternative B would result in up to 15,576 residential units, and the proposed Project would result in up to 15,576 residential units. As such, impacts related to population growth would be slightly reduced compared to the Project and Alternative B.

Lastly, as shown in Table 5.0-4, VMT per capita would increase from 17.21 under the proposed project to 17.39 under Alternative C, a 0.18 VMT per capita increase. However, VMT per employee would increase from 12.21 under the proposed project to 11.89 under Alternative C, a 0.32 VMT per employee decrease. Overall, VMT would slightly decrease. As such, impacts related to VMT (Impact 3.14-1) would slightly decrease compared to the project. This would result in a slight reduction in mobile air quality (Impact 3.3-1), transportation noise (Impact 3.12-1), and greenhouse gas emissions (Impact 3.7-1).

For these reasons, impacts under Alternative C would be less severe than under the proposed Project.

### **Relationship to Significant and Unavoidable Impacts**

Under Alternative C, significant population and employment growth would occur as a result of the increase in residential and non-residential growth allowed under the Alternative. Therefore, the significant and unavoidable impacts of the proposed project would also occur under Alternative C. Although this alternative was developed to potentially reduce the severity of less than significant impacts related to biological resources, public services, and utilities and to reduce impacts associated with air quality, greenhouse gases, energy, and transportation, the increase in employment-generating uses compared to the Project would likely result in unavoidable impacts in the same areas as the proposed Project.

### **Relationship to Plan Objectives**

Alternative C would meet all of the basic project objectives, including the following: maintaining and enhancing Pittsburg's character; managing the location, type, and amount of growth and ensuring that the community's infrastructures and services are planned to keep pace with growth; managing the location, type, and amount of growth to ensure a variety of housing choices, including a variety of unit types and costs, are available and housing capacity to

accommodate current and future housing need allocations; providing for high-quality employment opportunities; providing recreation, entertainment, shopping, restaurants, and services for the City's households, with an emphasis on increasing opportunities for the City's youth; addressing environmental justice, including identifying and reducing any adverse effects to disadvantaged communities and identifying opportunities to improve equity and access to resources and amenities necessary for a high quality of life; and conserving natural resources; and addressing environmental effects, including methods to adapt to the effects of a changing climate and sea level rise.

## 5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed General Plan.

A comparative analysis of the proposed General Plan and each of the Project alternatives is provided in Table 5.0-8 below. The table includes a numerical scoring system, which assigns a score of 1 to 5 to each of the alternatives with respect to how each alternative compares to the proposed project in terms of the severity of the environmental topics addressed in this EIR. A score of "3" indicates that the alternative would have the same level of impact when compared to the proposed project. A score of "1" indicates that the alternative would have a better (or reduced) impact when compared to the proposed project. A Score of "2" indicates that the alternative would have a slightly better (or slightly reduced) impact when compared to the proposed project. A score of "4" indicates that the alternative would have a slightly worse (or slightly increased) impact when compared to the proposed project. A score of "5" indicates that the alternative would have a worse (or increased) impact when compared to the proposed project. The project alternative with the lowest total score is considered the environmentally superior alternative.

As shown in Table 5.0-8, Alternative A (the No Project Alternative) is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, Alternative C (the Reduced Intensity Alternative) is the environmentally superior alternative when looked at in terms of all potential environmental impacts. While Alternative C has the highest score, Alternative C fails to reduce the severity of any of the significant and unavoidable impacts of the proposed project.

Overall, Alternative C is the environmentally superior alternative as it is the most effective in terms of overall reductions of impacts compared to the proposed General Plan and all other alternatives. As such, Alternative C is the environmentally superior alternative for the purposes of this EIR analysis. Additionally, similar to the Proposed General Plan, Alternative C meets all project objectives.

## 5.0 ALTERNATIVES

**TABLE 5.0-8: COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT**

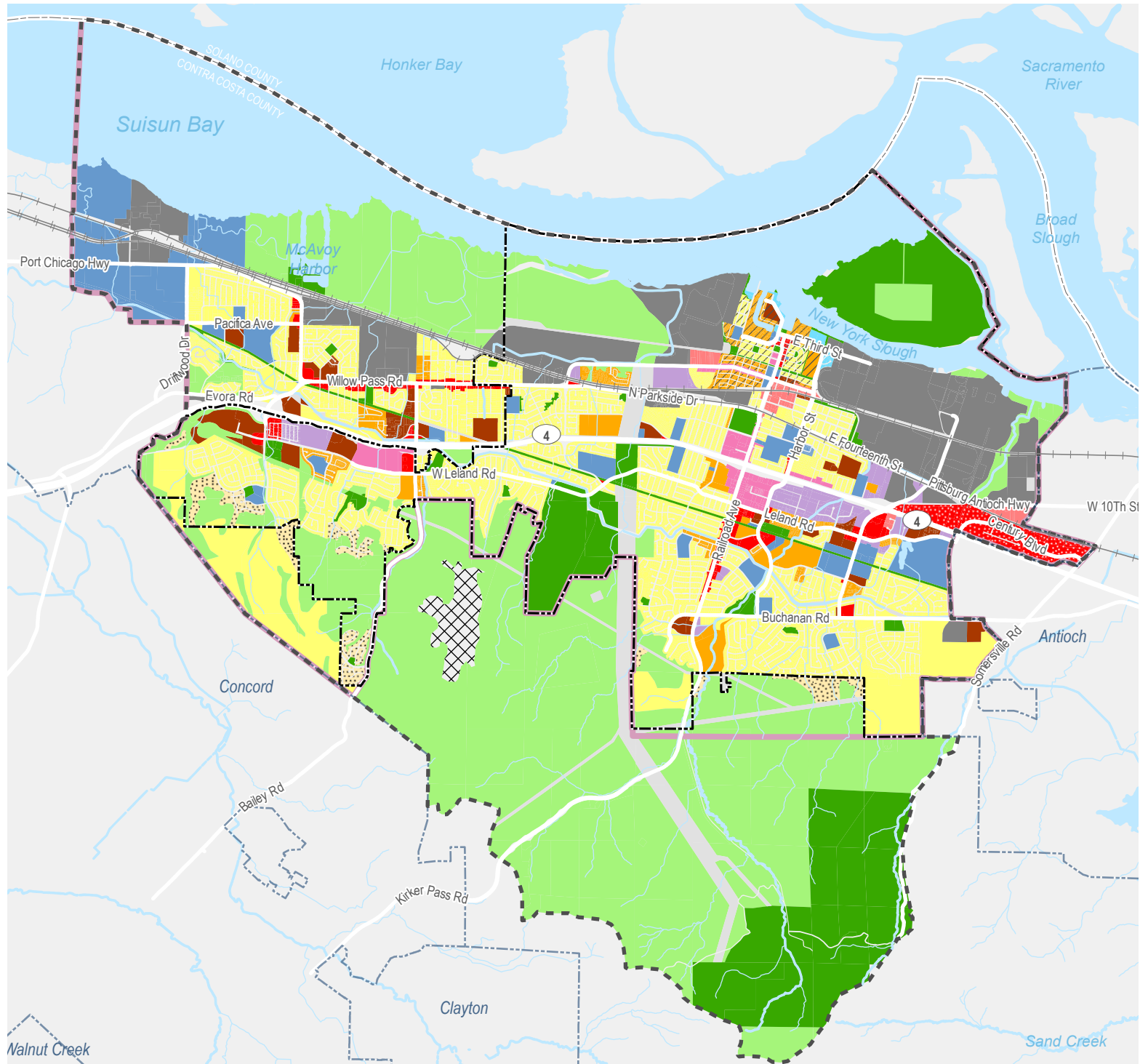
<i>ENVIRONMENTAL ISSUE</i>	<i>PROPOSED PROJECT</i>	<i>ALTERNATIVE A (NO PROJECT)</i>	<i>ALTERNATIVE B (CORE AREA EMPLOYMENT)</i>	<i>ALTERNATIVE C (REDUCED INTENSITY)</i>
Aesthetics	3 – Same	3 – Same	4 – Slightly Worse	2 – Slightly Better
Agricultural Resources	3 – Same	3 – Same	3 – Same	3 – Same
Air Quality	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Biological Resources	3 – Same	3 – Same	3 – Same	2 – Slightly better
Cultural Resources	3 – Same	3 – Same	3 – Same	3 – Same
Geology and Soils	3 – Same	3 – Same	3 – Same	3 – Same
Greenhouse Gases, Climate Change, and Energy	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Hazards and Hazardous Materials	3 – Same	3 – Same	3 – Same	3 – Same
Hydrology and Water Quality	3 – Same	3 – Same	3 – Same	2 – Slightly better
Land Use/Planning and Population/Housing	3 – Same	4 – Slightly Worse	3 – Same	3 – Same
Mineral Resources	3 – Same	3 – Same	3 – Same	3 – Same
Noise	3 – Same	3 – Same	2 – Slightly Better	2 – Slightly Better
Public Services and Recreation	3 – Same	3 – Same	3 – Same	3 – Same
Transportation and Circulation	3 – Same	2 – Slightly Better	2 – Slightly Better	2 – Slightly Better
Utilities	3 – Same	3 – Same	3 – Same	3 – Same
Wildfire	3 – Same	3 – Same	3 – Same	3 – Same
Irreversible Effects	3 – Same	3 – Same	3 – Same	3 – Same
<b>SUMMARY</b>	<b>51</b>	<b>49</b>	<b>48</b>	<b>44</b>

Figure 5.0-1:

# ALTERNATIVE A - EXISTING GENERAL PLAN LAND USE MAP

**Legend**

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Planning Area
- Neighboring City
- Hillside Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Business Commercial
- Community Commercial
- Service Commercial
- Regional Commercial
- Marine Commercial
- Industrial
- Landfill
- Mixed Use
- Open Space
- Park
- Public/Institutional
- Utility/ROW
- Downtown Low Density Residential
- Downtown Med Density Residential
- Downtown High Density Residential
- Downtown Commercial
- Water



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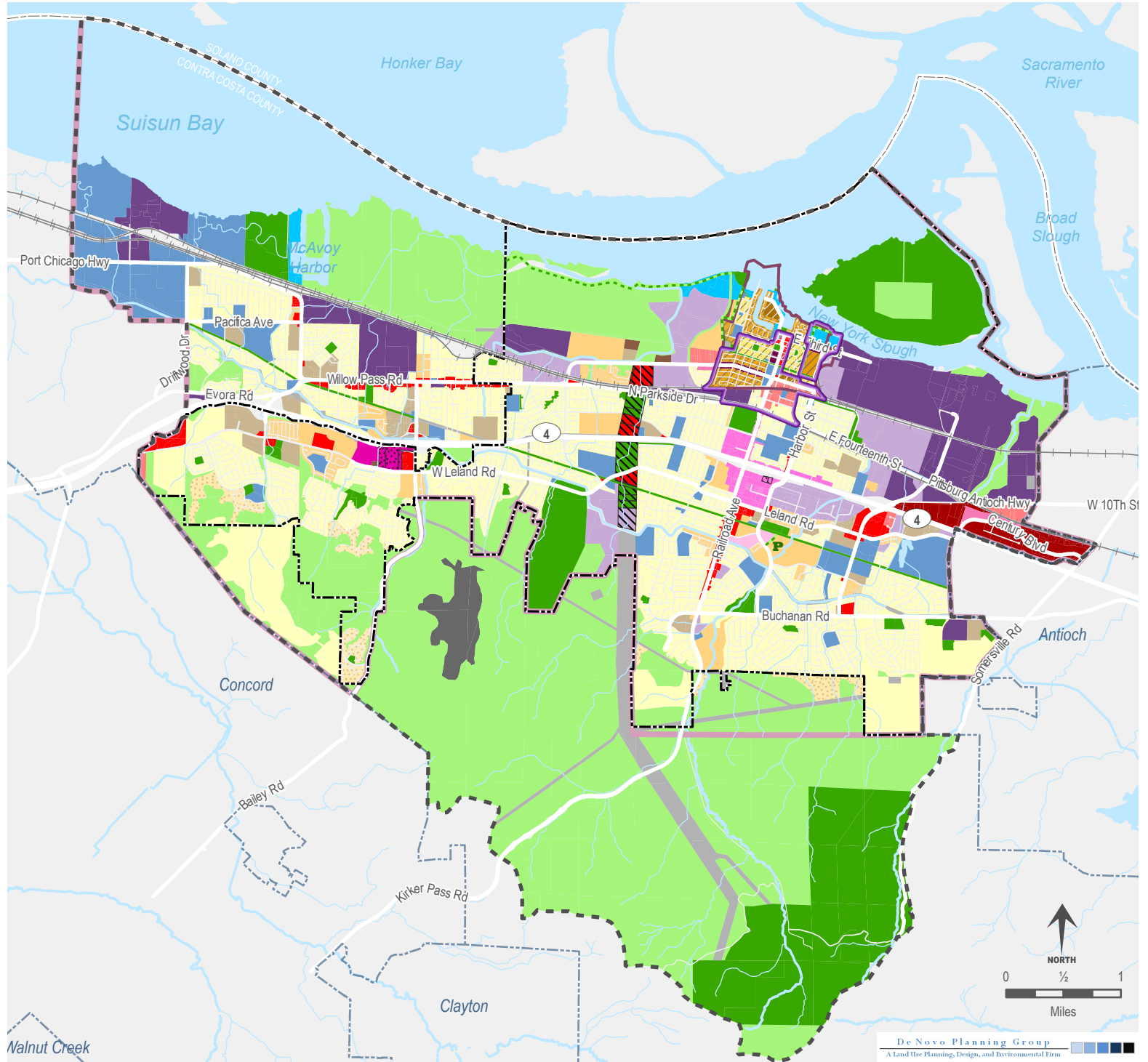


Figure 5.0-2:

# ALTERNATIVE B - CORE AREA EMPLOYMENT

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Downtown Subarea
- Planning Area
- Neighboring City
- General Plan Land Use Designation**
- Hillside Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Very High Density Residential
- Regional Commercial
- Service Commercial
- Community Commercial
- Mixed Use (General)
- Mixed Use (Community Commercial)
- Mixed Use (Downtown)
- Mixed Use (P/BP BART)
- Mixed Use (Railroad Ave SPA)
- Marina Commercial
- Employment Center Industrial
- Industrial
- Landfill
- Open Space
- Park
- Public/Institutional
- Utility/ROW
- Downtown Low Density Residential
- Downtown Medium Density Residential
- Downtown High Density Residential
- Downtown Commercial
- Water
- Core Area Overlay
- PG&E Corridor Conversion Overlay
- BART TOD Overlay
- Park/Greenway
- Future Park



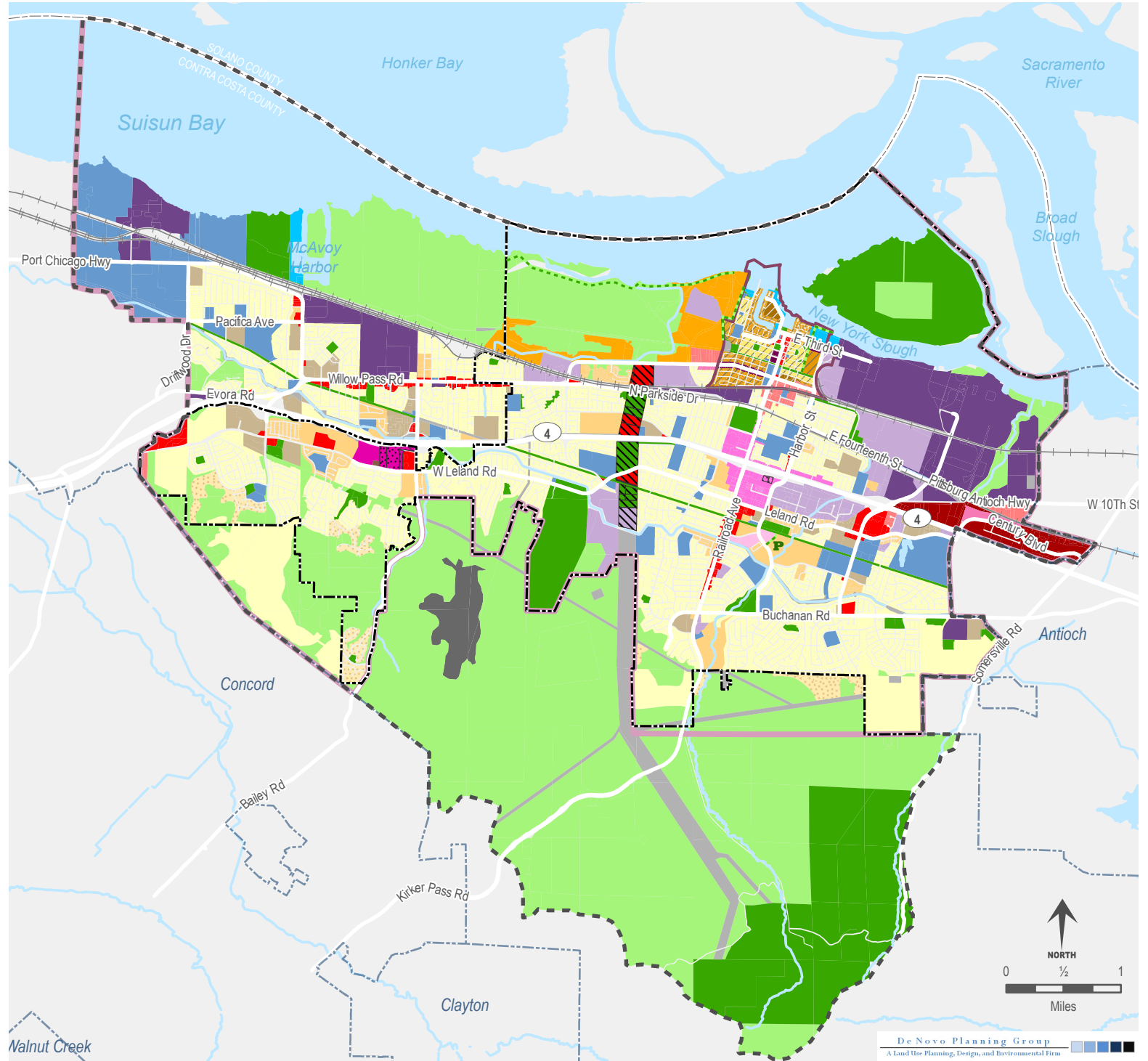
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Figure 5.0-1:

# ALTERNATIVE C - REDUCED INTENSITY

**Legend**

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Downtown Subarea
- Planning Area
- Neighboring City
- General Plan Land Use Designation**
- Hillside Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Very High Density Residential
- Regional Commercial
- Service Commercial
- Community Commercial
- Mixed Use (General)
- Mixed Use (Community Commercial)
- Mixed Use (Downtown)
- Mixed Use (P/BP BART)
- Mixed Use (Railroad Ave SPA)
- Marina Commercial
- Employment Center Industrial
- Industrial
- Landfill
- Open Space
- Park
- Public/Institutional
- Bay Walk Development
- Utility/ROW
- Downtown Low Density Residential
- Downtown Medium Density Residential
- Downtown High Density Residential
- Downtown Commercial
- Water
- PG&E Corridor Conversion Overlay
- BART TOD Overlay
- Park/Greenway
- Future Park



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# **APPENDIX A**

## **Notice of Preparation and NOP Comments**



ENVISION  
Pittsburg

# Notice of Preparation

2040 General Plan Update

Draft Program Environmental Impact Report

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**Date:** April 20, 2022

**To:** State Clearinghouse, Agencies, Organizations and Interested Parties

**From:** City of Pittsburg Community and Economic Development Department

**Subject:** Notice of Preparation and Scoping Meeting for the Envision Pittsburg 2040 General Plan Update Environmental Impact Report

**Scoping Meeting:** May 5, 2022 11:00 a.m. (via Zoom – see pg.2 for information)

**Comment Period:** April 20, 2022 to May 20, 2022

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The City of Pittsburg (City) will serve as Lead Agency in the preparation of a programmatic Environmental Impact Report (EIR) for the adoption and implementation of the Envision Pittsburg 2040 General Plan Update (2040 General Plan).

The purpose of this notice is (1) to serve as a Notice of Preparation (NOP) of an EIR pursuant to the State CEQA Guidelines Section 15082, (2) to advise and solicit comments and suggestions regarding the scope and content of the EIR to be prepared for the proposed project, and (3) to notice the public scoping meeting. The proposed project is a long-term General Plan consisting of policies that will guide future development activities and City actions. Information regarding the project description, project location, and topics to be addressed in the Draft EIR is provided below. Additional project documents and information are available at the City of Pittsburg, Community Development Department located at 65 Civic Avenue and on-line at:

<https://pittsburg.generalplan.org/>.

For questions regarding this notice, please contact John Funderburg, Assistant Director of Planning at (925)252-4043, or by email [jfunderburg@pittsburgca.gov](mailto:jfunderburg@pittsburgca.gov).

## Notice of Preparation 30-Day Comment Period

The City, as Lead Agency, requests that responsible and trustee agencies, and the Office of Planning and Research, respond in a manner consistent with Section 15082(b) of the CEQA Guidelines. Pursuant to Public Resources Code Section 21080.4, responsible agencies, trustee agencies and the Office of Planning and Research must submit any comments in response to this notice no later than 30 days after receipt. In accordance with the time limits established by CEQA, the NOP public review period will begin on April 20, 2022 and end on May 20, 2022.



In the event that the City does not receive a response from any Responsible or Trustee Agency by the end of the review period, the City may presume that the Responsible Agency or Trustee Agency has no response to make (State CEQA Guidelines Section 15082(b)(2)). All comments in response to this notice must be submitted in writing at the address below, or via email, by the close of the 30-day NOP review period, which is 5:00 PM on May 20, 2022:

John Funderburg, Assistant Director of Planning  
City of Pittsburg Community and Economic Development Department  
65 Civic Avenue  
Pittsburg, CA 94565  
[jfunderburg@pittsburgca.gov](mailto:jfunderburg@pittsburgca.gov)

### *Scoping Meeting*

The City will hold a scoping meeting to provide an opportunity for agency representatives and the public to assist the City in determining the scope and content of the EIR.

The scoping meeting will be held on May 5, 2022, at 11:00 a.m. via Zoom.

The Zoom meeting link is provided below.

#### **Envision Pittsburg General Plan Draft EIR Scoping Meeting**

May 5, 2022 at 11:00 AM

Planning Division is inviting you to a scheduled Zoom meeting.

#### **Join Zoom Meeting**

<https://us02web.zoom.us/j/6032260951>

Meeting ID: 603 226 0951

One tap mobile

+16699009128,,6032260951# US (San Jose)

+13462487799,,6032260951# US (Houston)

Dial by your location

+1 669 900 9128 US (San Jose)

+1 346 248 7799 US (Houston)

+1 253 215 8782 US (Tacoma)

+1 646 558 8656 US (New York)

+1 301 715 8592 US (Washington DC)

+1 312 626 6799 US (Chicago)

Meeting ID: 603 226 0951

Find your local number: <https://us02web.zoom.us/u/kdeF11i4AR>

For comments before or after the meeting or additional information, please contact John Funderburg, Assistant Director of Planning at (925) 252-4043, or by email [jfunderburg@pittsburgca.gov](mailto:jfunderburg@pittsburgca.gov).

## Project Location and Setting

Pittsburg is a city in eastern Contra Costa County and is bordered by Suisun Bay to the north and Solano County to the north, the City of Antioch and unincorporated Contra Costa County to the east, the City of Concord to the west, and unincorporated Contra Costa County to the south. See Figure 1, Regional Location Map.

Pittsburg is well-connected within the Bay Area region with access to all modes of transportation from regional rail services, airports, state routes and more, including Pittsburg/Bay Point BART and the extension of eBART services to eastern Contra Costa County. State Route 4 (SR-4) provides the regional motor vehicle access to the other major cities and towns in the Bay Area. This part of the region is characterized by rolling hills and proximity to the San Francisco Bay and Sacramento River Delta.

Pittsburg's early growth centered around industrial development. The growth of the Bay Area has brought many changes to the Pittsburg region, including residential, commercial development and marina development. Pittsburg has grown outward from the downtown area since the 1990s. Residential development continues in the southwestern portion of the City, generally south of Leland Road. Infill commercial development continues to occur along Highway 4. The expansion of BART to serve Pittsburg, with the Bay Point station opening in 1996 and the Pittsburg Center station opening in 2018, has encouraged transit-oriented development, including new retail, commercial offices, restaurants, and residential uses around the stations.

## *Planning Area*

In addition to the lands within the City boundaries, state law requires that a municipality adopt a General Plan that addresses “any land outside its boundaries which in the planning agency’s judgment bears relation to its planning (California Government Code §65300).” The City’s Planning Area is the extent of the area addressed by the General Plan. The Planning Area includes lands within the City, the City’s Sphere of Influence (SOI), and lands outside of the SOI. The Planning Area includes the unincorporated community of Bay Point to the northwest, west and a much larger area south of the City that predominantly includes open space uses. See Figure 2, Draft Land Use Map.

## Project Description

State law requires the City to adopt a comprehensive, long-term general plan for the physical development of its planning area. The Plan must include land use, circulation, housing, conservation, open space, noise, and safety elements, and address environmental justice and climate adaptation, as specified in Government Code Section 65302, to the extent that the issues identified by State law exist in the City’s planning area. Additional elements that relate to the physical development of the city may also be addressed in the Plan. The degree of specificity and level of detail of the discussion of each Plan Element need only reflect local conditions and circumstances.

Upon adoption, the 2040 General Plan will replace the City’s existing 2020 General Plan, which was adopted in 2001 with subsequent updates to various elements.

The City is also updating the Housing Element, which will address the City's Regional Housing Needs Allocation and the 2023-2031 planning period, in a process separate from the General Plan Update.

The City will implement the General Plan by requiring development, infrastructure improvements, and other projects to be consistent with its policies and by implementing the actions included in the Plan, including subsequent project-level environmental review, as required under CEQA.

Other project information and related General Plan documentation is available at the City's General Plan Update website: <https://pittsburg.generalplan.org/>.

### *Project Objectives*

The Envision Pittsburg General Plan Update addresses issues of concern identified through the visioning and community outreach efforts, including but not limited to:

- maintaining and enhancing Pittsburg's character;
- managing the location, type, and amount of growth and ensuring that the community's infrastructures and services are planned to keep pace with growth;
- providing for high-quality employment opportunities;
- providing recreation, entertainment, shopping, restaurants, and services for the City's households, with an emphasis on increasing opportunities for the City's youth;
- addressing environmental justice, including identifying and reducing any adverse effects to disadvantaged communities and identifying opportunities to improve equity and access to resources and amenities necessary for a high quality of life; and
- conserving natural resources; and addressing environmental effects, including methods to adapt to the effects of a changing climate and sea level rise.

### *Envision Pittsburg General Plan Contents*

The Envision Pittsburg General Plan will include a comprehensive set of goals, policies, and implementation measures, as well as a revised Land Use Map (Figure 2).

- A goal is a description of the general desired result that the City seeks to create through the implementation of the General Plan.
- A policy is a specific statement that guides decision-making as the City works to achieve its goals. Once adopted, policies represent statements of City regulations. The General Plan's policies set out the standards that will be used by City staff, the Planning Commission, and the City Council in their review of land development projects, resource protection activities, infrastructure improvements, and other City actions. Policies are on-going and don't necessarily require specific action on behalf of the City.
- An implementation measure is an action, procedure, technique, or specific program to be undertaken by the City to help achieve a specified goal or implement an adopted policy. The City must take additional steps to implement each action in the General Plan. An action is something that can and will be completed.

A General Plan covers a wide range of social, economic, infrastructure, and natural resource issues. The Envision Pittsburgh General Plan will include goals, policies and implementation programs to address the state-mandated topics and will continue to have components that address optional topics, including growth management, urban design, downtown, education, economic development, youth and recreation, and public facilities.

### Land Use Element

The Land Use Element establishes the framework for the goals, policies, and implementation Programs that will shape the physical form of Pittsburg. The Land Use Element addresses the intensity and distribution of land uses and identifies areas of the City where change will be encouraged and those areas where the existing land use patterns will be maintained and enhanced.

The Land Use Element establishes the land use designations, including the allowed uses, intensities, and densities of development, established by the Land Use Map, shown in Figure 2. Table 1 shows the total acreages for each land use designation shown on the proposed Land Use Map.

**Table 1: Envision Pittsburgh General Plan Land Use Designations by Acreage**

Land Use Designation	City	SOI	Planning Area	Total
<b>Residential Designations</b>				
Hillside Low Density Residential	146.1	66.2	0	212.3
Low Density Residential	2,842.6	1,054.0	0	3,896.6
Medium Density Residential	511.9	45.3	0	557.2
High Density Residential	214.6	159.5	0	374.1
Very High Density Residential	18.7	0	0	18.7
Downtown Low Density Residential	50.6	0	0	50.6
Downtown Medium Density Res.	111.3	0	0	111.3
Downtown High Density Residential	14.1	0	0	14.1
<b><i>Subtotal Residential</i></b>	<b><i>3,909.8</i></b>	<b><i>1,325</i></b>	<b><i>0</i></b>	<b><i>5,234.9</i></b>
<b>Mixed Use Designations</b>				
Mixed Use (Community Commercial)	21.3	0	0	21.3
Mixed Use (Downtown)	18.5	0	0	18.5
Mixed Use (General)	30.2	0	0	30.2
Mixed Use (P/BP BART)	52.7	0	0	52.7
Mixed Use (Railroad Ave SPA)	110.1	0	0	110.1
<b><i>Subtotal Mixed Use</i></b>	<b><i>232.8</i></b>	<b><i>0</i></b>	<b><i>0</i></b>	<b><i>232.8</i></b>
<b>Commercial and Industrial Designations</b>				
Community Commercial	181.1	56.0	0	237.1
Downtown Commercial	8.9	0	0	8.9
Employment Center Industrial	691.7	16.9	0	708.6
Industrial	981.6	382.9	0	1,364.5
Marina Commercial	89.8	51.5	0	141.3
Regional Commercial	174.9	0	0	174.9
Service Commercial	115.8	0	0	115.8
<b><i>Subtotal Commercial and Industrial</i></b>	<b><i>2,243.8</i></b>	<b><i>507.3</i></b>	<b><i>0</i></b>	<b><i>2,751.1</i></b>



Land Use Designation	City	SOI	Planning Area	Total
<b>Other Designations</b>				
Landfill	0	0	195.7	195.7
Public/Institutional	457.3	725.0	0	1,182.3
Park	1,258.1	176.2	1,431.8	2,866.1
Open Space	1,521.6	1,771.3	5,354.1	8,647.0
Roadway	62.1	6.0	0	68.1
Utility/ROW	161.9	109.5	387.8	659.2
Water	221.7	351.0	0	572.7
<i>Subtotal Other</i>	<i>3,682.7</i>	<i>3,139.0</i>	<i>7,369.4</i>	<i>14,191.1</i>
<b>TOTAL</b>	<b>10,069.9</b>	<b>4,971.3</b>	<b>7,369.4</b>	<b>22,409.9</b>

Source: Contra Costa County GIS/Assessor Data, City of Pittsburg, De Novo Planning Group, 2022

Table 2 lists each land use designation and overlay and provides the density and FAR requirements for each designation, including any modifications associated with each land use alternative.

**Table 2: Envision Pittsburg General Plan Land Use Designations by Acreage**

General Plan Land Use Designation or Overlay	Proposed Envision Pittsburg General Plan Density and FAR
<b>Residential Designations</b>	
<p><b>Hillside Low Density Residential</b> Allows single-family (attached or detached) residential development in the southern hills. Maximum densities should be allowed only in flatter, natural slope areas or non-environmentally sensitive level areas. An open, natural character is encouraged by clustering homes and minimizing cut-and-fill of natural hillsides.</p>	Density: Less than 5 units per gross acre FAR: -
<p><b>Low Density Residential</b> Allows detached single-family dwellings, but attached single-family units in selected or all areas may be permitted, provided that each unit has ground-floor living area, and private or common outdoor open space.</p>	Density: 1-7 units per gross acre FAR: -
<p><b>Medium Density Residential</b> Allowed housing types may include one- or two-story garden apartments, townhouses, and attached or detached single-family residences. The Zoning Ordinance may permit zero lot-line or small-lot detached residential units in some or all areas.</p>	Density: 8-16 units per gross acre FAR: -
<p><b>High Density Residential</b> Allows a wide range of housing types, from single-family attached units to multi-family complexes are permitted. Subject to design review by the Planning Commission, additional discretionary density increases, up to a maximum project</p>	Density: 17-30 units per gross acre; up to 40 units per acre for projects that fulfill community objectives FAR: -

General Plan Land Use Designation or Overlay	Proposed Envision Pittsburgh General Plan Density and FAR
density of 40 units per gross acre, may be granted to projects that fulfill community objectives.	
<b>Very High Density Residential</b> Allows multi-family housing and attached single family housing types, such as apartments and condominiums.	31-40 units per acre 0.15 FAR for neighborhood-serving commercial, services, and office uses
<b>Downtown Low Density</b> Housing types may include attached or detached single-family housing.	Density: 4-12 units per gross acre FAR: -
<b>Downtown Medium Density Residential</b> Housing types may include attached or detached single family townhouses, garden apartments, and other forms of multi-family housing.	Density: 12-18 units per gross acre FAR: -
<b>Downtown High Density Residential</b> Housing types may include attached single family townhouses, apartments, and other forms of multi-family housing. New high-density projects within Downtown should have transit-oriented amenities (such as covered bus stops at project entrance, where appropriate) and reduced parking requirements to encourage use of alternative modes of transportation. Subject to design review by the Planning Commission, additional discretionary density increases, up to a maximum project density of 40 units per gross acre, may be granted to projects that fulfill community objectives.	Density: 18-30 units per gross acre FAR: -
<b>Mixed Use Designations</b>	
<b>Mixed Use (P/BP BART)</b> Applied to the approximately 54-acre area west of the Oak Hills Shopping Center, including the Pittsburgh/Bay Point BART station parking lot. Allows for residential and non-residential uses up to the maximum permitted density and FAR.	Density: 15-65 units per gross acre FAR: Non-residential: 1.0
<b>Mixed Use (Railroad Ave)</b> Applied to the approximately 97-acre area located within approximately ½-mile of the Railroad Avenue/State Route 4 intersection. Allows for residential and non-residential uses up to the maximum permitted density and FAR.	Density: 15-65 units per acre Non-residential: 0.25 to 1.0
<b>Mixed Use (Downtown)</b> Encompasses approximately 20 acres located in and near the Downtown. Allows for residential and non-residential uses up to the maximum permitted density and FAR.	Density: 12-30 units per acre FAR: Non-residential: W. 10th St - 0.6 Railroad Ave - 1.0 Maximum Residential and Non-Residential Total FAR: 2.0
<b>Mixed Use (General)</b>	Density: 6-16 units per acre Maximum Residential and Non-Residential Total FAR: 1.0

General Plan Land Use Designation or Overlay	Proposed Envision Pittsburgh General Plan Density and FAR
Accommodates mixed uses with a focus on providing community-serving retail, dining, office, and other uses in conjunction with residential development.	
<b>Mixed Use (Community Commercial)</b> Accommodates mixed uses with a focus on providing community-serving retail, dining, office, and other uses in conjunction with residential development.	Density: 6-16 units per acre Maximum Residential and Non-Residential Total FAR:1.0
<b>Commercial and Industrial Designations</b>	
<b>Regional Commercial</b> Provides commercial acreage for large-scale retailers and big-box retail centers and auto dealerships, designed to attract shoppers from a wide market area.	FAR: Non-residential <sup>1</sup> : 0.5 Residential <sup>1</sup> : 0.25
<b>Community Commercial</b> Intended to provide sites for retail shopping areas (primarily in shopping centers) containing a wide variety of businesses, including retail stores, eating and drinking establishments, commercial recreation, service stations, automobile sales and repair services, financial, business and personal services, motels, educational and social services. The Zoning Ordinance may limit certain commercial areas to neighborhood stores or non-automotive establishments	Density: Not specified FAR: Non-residential <sup>1</sup> : 0.5 Residential <sup>1</sup> : 0.25
<b>Downtown Commercial</b> Accommodates specialty retail, personal services, restaurants, offices, financial organizations, institutions, and other businesses serving the daily needs of Downtown residents. Upper-story residential and mixed commercial/residential ground-floor uses are permitted, subject to appropriate design standards. Limitations on the size and location of parking, coupled with building orientation and design standards, will ensure that a pedestrian-oriented environment is created.	Density: Not specified FAR: Non-residential: Minimum 1.0 Non-residential and residential: 2.0
<b>Marina Commercial</b> Recreational and visitor-oriented uses, including privately operated recreation complexes (sports complexes, aquatic centers, etc.), and experience-oriented entertainment or recreation, business and professional services, offices, convenience sales, restaurants, public marketplaces, repair services, specialty retail (such as boat sales and repair), hotel/motel with a coastal orientation, recreational facilities, research and development, custom manufacturing, and marinas are all accommodated.	Density: 8-20 FAR: 0.5 for retail, recreation, and restaurant uses; 1.0 for offices; 1.5 for hotels; no separate FAR for residential
<b>Service Commercial</b>	Density: No residential FAR:

General Plan Land Use Designation or Overlay	Proposed Envision Pittsburgh General Plan Density and FAR
<p>Intended to provide sites for commercial business not appropriate in other commercial areas because of high volumes of vehicle traffic and potential adverse impacts on other uses. Also, residential uses may be permitted above ground floor commercial uses (such as office and retail). Allowable uses include automobile sales and services, building materials, nurseries, equipment rentals, contractors, wholesaling, warehousing, storage, and similar uses. Offices, retail uses, restaurants, and convenience stores should be allowed as ancillary uses.</p>	<p>Non-residential: 0.5</p>
<p><b>Employment Center Industrial</b>            Intended to provide sites for administrative, financial, business, professional, medical, and public offices, business incubators, research and development, custom and light manufacturing, limited assembly, warehousing and distribution, technology and innovation, energy, hospitals and large-scale medical facilities, services, and supporting commercial uses. Development standards and buffering requirements will prevent significant adverse effects on adjacent residential uses. Performance standards in the Draft General Plan will minimize potential environmental impacts, particularly in relation to ECI development proximate to residential, schools, other uses with sensitive receptors, and disadvantaged communities.</p>	<p>Density: No residential            1.5 FAR; accommodate professional, office, medical, research/technology, business park, service commercial, and warehousing uses; industrial uses allowed subject to performance standards</p>
<p><b>Industrial</b>            Manufacturing, wholesale, warehousing and distribution, commercial and business services, research and development, and storage uses are permitted, in addition to agricultural, food and drug, and industrial processing. Only small restaurant and ancillary commercial uses would be appropriate, subject to appropriate design standards. Performance standards in the Zoning Ordinance will minimize potential environmental impacts.</p>	<p>Density: -            FAR:            Non-residential: 0.5, except 1.0 allowed for low-employment-intensity uses</p>
<b>Other Designations</b>	
<p><b>Public/Institutional</b>            Intended to provide for schools, government offices, transit sites, public utilities, other facilities that have a unique public or quasi-public character, such as cultural facilities, religious institutions, fraternal organizations, and similar uses.</p>	<p>Total residential and non-residential FAR: 0.6</p>
<p><b>Parks/Recreation</b>            Provides for parks, recreation complexes, community fields, public golf courses, stadiums, greenways, and local and regional trails.</p>	<p>Density: -            FAR:            None specified</p>
<p><b>Open Space</b></p>	<p>Density: 1 unit per 20-acre or larger parcel on agricultural and</p>

General Plan Land Use Designation or Overlay	Proposed Envision Pittsburg General Plan Density and FAR
<p>Accommodates existing and future greenbelts and/or urban buffer areas that may be designated in the future. Greenbelts are open space, parkland, and agricultural areas located outside urban areas, as opposed to urban parks located within developed areas. Generally, there are two primary criteria that identify lands as open space:</p> <p><u>Resource Conservation</u>. Includes sites with environmental and/or safety constraints, such as riparian corridors, sensitive habitats, and wetlands. Development is limited to one housing unit per existing legal parcel, and no construction is allowed on land within the parcel that is unsuitable for development.</p> <p><u>Agriculture and Resource Management</u>. Includes orchards and cropland, grasslands, incidental agricultural or related sales, and very low-density rural residential areas. One housing unit may be built on each existing parcel of 20 or more acres, and agriculture is allowed with fewer restrictions on keeping animals than in the residential classifications. Permitted residential development may be clustered in locations with little or no environmental constraints.</p>	<p>resource management land FAR: None specified</p>
<p><b>Utility/ROW</b> Intended to designate land area dedicated to utilities, infrastructure, or road right-of-way.</p>	<p>Density: - FAR: None specified</p>
<b>Overlays</b>	
<p><b>BART TOD</b> New overlay designation applied to Bay Area Rapid Transit (BART)-owned parcels to implement minimum density and maximum FAR standards required by State law (Assembly Bill 2923).</p>	<p>Minimum 75 units/acre; Maximum residential and non-residential FAR - 3.0</p>
<p><b>PG&amp;E Conversion Corridor</b> New overlay designation applied to the PG&amp;E transmission line corridor extending from the Pittsburg PG&amp;E Power Plant through the City to the Contra Costa Canal. This overlay designation is intended to provide for the relocation of the power plant and the conversion of the transmission line corridor to urban and recreation uses.</p>	<p>Based on underlying land use designation</p>

Note: 1 Density and/or FAR based on implementing zoning district(s)

Source: City of Pittsburg, De Novo Planning Group, 2021

### Growth Management Element

The Growth Management Element will continue to establish goals, policies and implementation programs that will be used to manage and mitigate the impacts of future growth and development within Pittsburg upon local streets and services, particularly local, regional and countywide transportation systems.

### Urban Design Element

The Urban Design Element will continue to provide hillside and ridgeline preservation policies, identify local views and city edges, outline improvement strategies for key corridors within the City, and provide policies relating to design and development of residential neighborhoods.

### Downtown Element

The Downtown Element will continue to describe the development strategy, streetscape design, waterfront access, historical resources, and off-street parking for the City's Downtown.

### Economic Development Element

The Economic Development Element will continue to provide a policy framework for ensuring Pittsburg's long-term economic competitiveness in the region. This element reflects business trends and available resources, and outlines the City's economic development objectives to ensure that economic decision-making is integrated with other aspects of the City's development.

### Housing Element

The Housing Element will continue to provide and develop local housing programs to meet its fair share of existing and future housing needs for all income groups. The Housing Element is being prepared separately from the General Plan Update and is anticipated to be completed following the 2040 General Plan.

### Circulation Element

The Circulation Element will continue to address the City's long-term transportation system, primarily through policies and standards to encourage active transportation, complete streets, adequate capacity, and linkages to further an integrated multi-modal transportation system, including walking, cycling, transit, and ferry access.

### Environmental Justice Element

The Environmental Justice Element will address environmental justice and disadvantaged communities' concerns, including reducing pollution exposure, promoting public facilities in disadvantaged communities, promoting food access, promoting safe and sanitary homes in disadvantaged communities, promoting opportunities for physical activity, reducing unique and compounded health risks, and encouraging resident engagement in the City's decision-making process.

### Recreation and Youth

The Recreation and Youth Element will provide the policy approach to developing parks, active open spaces, and trails, in addition to supporting recreational, cultural, and educational programs and facilities.

### Resource Conservation Element

The Resource Conservation Element will establish the policy approach to resource- and energy-conscious growth, addressing biological resources and habitat conservation, drainage and erosion, water quality, air quality, greenhouse gas emissions, and historical resources conservation.

### Health, Safety, and Noise Element

The Health, Safety, and Noise Element will continue to address risks posed by geologic and seismic conditions, prevent man-made risks stemming from use and transport of hazardous materials, and ensure that local emergency response agencies are prepared for potential disaster relief. This element will also include new policies and implementation measures to address climate adaptation; and take proactive steps to prepare for vulnerabilities and risks associated with climate change impacts.

### Public Facilities Element

The Public Facilities Element will continue to address the provision of public services and facilities, including water supply and distribution, wastewater collection and treatment, solid waste collection and disposal, fire protection in urban and wildland areas, and public utility corridors.

## ***Growth and Development***

The General Plan will accommodate future growth in Pittsburg, including new businesses, expansion of existing businesses, and new residential uses consistent with the Land Use Designations (Table 1) and Land Use Map (Figure 2). Table 3 summarizes projects in the City’s development project pipeline and additional new development potential under the proposed Envision Pittsburg General Plan.

The actual amount of development that will occur throughout the planning horizon of the General Plan is based on many factors outside of the City’s control. Actual future development would depend on future real estate and labor market conditions, property owner preferences and decisions, site-specific constraints, and other factors. New development and growth are largely dictated by existing development conditions, market conditions, and land turnover rates. Very few communities in California actually develop to the full potential allowed in their respective General Plans during the planning horizon.

As shown in Table 3, approximately 15,576 new residential units and 26,089,499 square feet of non-residential uses would be accommodated under General Plan buildout conditions. This new growth would result in a population increase of approximately 20,470 persons, assuming 3.34 persons per household based on U.S. Census 2016-2020 American Community Survey household size data, and approximately 24,659 new jobs, based on U.S. Energy Information Administration 2012 Commercial Buildings Energy Consumption Survey data released March 18, 2016.

**Table 3: Envision Pittsburg General Plan New Development Potential**

Residential Units or Nonresidential Square Footage	Project Pipeline	New Development Potential	Total Growth
<b>Residential Units</b>			
Single-Family Residential	4,190	2,255	6,445
Multiple-Family Residential	1,883	7,228	9,111
Live Work Units	20	-	20



Residential Units or Nonresidential Square Footage	Project Pipeline	New Development Potential	Total Growth
<b>TOTAL</b>	<b>6,093</b>	<b>9,483</b>	<b>15,576</b>
<b>Nonresidential Square Footage</b>			
Retail	195,515	1,470,217	1,665,732
Service	159,200	3,125,937	3,285,137
Office	-	1,819,034	1,819,034
Commercial Recreation	41,486	310,872	352,358
Hotel	109,071	339,699	448,770
Institutional	8,320	43,070	51,390
Heavy Industrial	733,723	5,691,166	6,424,889
Light Industrial	4,734,100	5,377,187	10,111,287
Public/Quasi-Public	6,632	1,924,270	1,930,902
<b>TOTAL</b>	<b>5,988,047</b>	<b>20,101,452</b>	<b>26,089,499</b>

Source: Contra Costa County GIS/Assessor Data, City of Pittsburg, De Novo Planning Group, 2022

## Program EIR Analysis

The City, as the Lead Agency under the California Environmental Quality Act (CEQA), will prepare a Program EIR for the Envision Pittsburg 2040 General Plan Update. The EIR will be prepared in accordance with CEQA, the CEQA Guidelines (Guidelines), relevant case law, and City procedures. No Initial Study will be prepared pursuant to Section 15063(a) of the CEQA Guidelines.

The EIR will analyze potentially significant impacts associated with adoption and implementation of the General Plan. In particular, the EIR will focus on areas that have development potential. The EIR will evaluate the full range of environmental issues contemplated under CEQA and the CEQA Guidelines as set forth in CEQA Guidelines Appendix G, except for specific topics identified below as having no impact. Where potentially significant or significant impacts are identified, the EIR will discuss mitigation measures to address the impact. At this time, the City anticipates that EIR sections will be organized in the following topical areas:

- **Aesthetic Resources** - The Program EIR will describe the aesthetic implications of 2040 General Plan implementation, including visual relationships to the surrounding vicinity and potential impacts on scenic vistas and resources, such as rolling grassy hills to the south and Suisun Bay/Sacramento River Delta to the north, potential to conflict with regulations governing scenic quality, and light or glare impacts.
- **Agriculture Resources** - The Program EIR will describe the potential of the 2040 General Plan implementation on agricultural resources.



- Air Quality - The Program EIR will describe the potential short- and long-term impacts of 2040 General Plan implementation on local and regional air quality and air quality plans based on methodologies issued by the Bay Area Air Quality Management District (BAAQMD).
- Biological Resources - The Program EIR will identify any potential impacts of 2040 General Plan implementation on biological resources, including special-status plant and animal species, riparian habitats, wetlands, other sensitive natural communities, migratory movement, and protected trees.
- Historic, Cultural and Tribal Cultural Resources - The Program EIR will describe any potential 2040 General Plan implementation impacts and mitigation associated with historic, archaeological, and tribal cultural resources.
- Geology, Soils, and Mineral Resources - The Program EIR will describe the potential geotechnical implications of 2040 General Plan implementation, including adverse effects associated with seismic activity, substantial soil erosion or loss of topsoil, stable, potentially unstable geologic units, and destruction of unique paleontologic resources or unique geological features. The Program EIR will identify the effects of 2040 General Plan implementation on any known valuable or important mineral resources.
- Greenhouse Gases, Climate Change, and Energy - The Program EIR will include a greenhouse gas emissions analysis using the BAAQMD's methodology and thresholds for evaluating a project's greenhouse gas emissions and will address the potential for the 2040 General Plan to conflict with an adopted plan or other regulations adopted for the purpose of reducing greenhouse gases. This section will also address anticipated energy consumption associated with buildout of the 2040 General Plan, as well as proposed and or potential energy conservation measures.
- Hazards and Hazardous Materials - The Program EIR will describe any existing and anticipated hazardous material activities and releases and any associated impacts of 2040 General Plan implementation. Potential hazards impacts resulting from future construction will also be described.
- Hydrology and Water Quality - The Program EIR will describe the effects of 2040 General Plan implementation on storm drainage, water quality, groundwater resources, and the potential for flooding.
- Land Use and Planning - The Program EIR will describe the potential impacts of 2040 General Plan implementation related to land use and planning, including impacts due to conflict with land use plans, policies, or regulations adopted to avoid or mitigate an environmental effect.
- Noise - The Program EIR will describe noise impacts and related mitigation needs associated with short-term construction and long-term operation (i.e., traffic, mechanical systems, etc.) associated with buildout of the 2040 General Plan.
- Population and Housing - The Program EIR will describe the anticipated effects of 2040 General Plan implementation inducing unplanned population growth or displacing existing people or housing.

- Public Services and Recreation - The Program EIR will describe the potential for 2040 General Plan implementation to result in substantial adverse physical impacts on public services, including police, fire, and emergency medical services, schools, parks and recreation facilities, and other public facilities.
- Transportation - The Program EIR will describe the transportation and circulation implications of 2040 General Plan implementation, including impacts on the circulation system including transit, roadways, pedestrian and bicycle facilities, potential effects related to vehicle miles travelled, design or incompatible use hazards, and adequate emergency access.
- Utilities/Service Systems - The Program EIR will describe the 2040 General Plan implementation effects related to new or expanded water supply, sewer and wastewater treatment, storm drainage, solid waste and recycling, electric, natural gas, and telecommunication infrastructure.
- In addition to the potential environmental impacts noted above, the Program EIR will evaluate potential cumulative impacts and potential growth-inducing effects associated with 2040 General Plan implementation. The Program EIR will also compare the impacts of the proposed 2040 General Plan to a range of reasonable alternatives, including a No Project alternative, and will identify an environmentally superior alternative. The Program EIR will analyze the Land Use Map, Circulation Diagrams, goals, policies, and implementation programs for the proposed 2040 General Plan and alternatives to the proposed 2040 General Plan.

#### Environmental Topics Scoped from Further Analysis




There is no designated forest or timber land in the City and Planning Area. Therefore, the 2040 General Plan would have no impact related to forestry resources, as identified by CEQA Guidelines Appendix G, Section II, paragraphs c) and d) and this issue will not be analyzed further in the EIR.

The Planning Area does not have lands classified as very high fire hazard severity zones by Cal Fire and is not adjacent to such lands. Therefore, no impact related to Wildfire, as identified by CEQA Guidelines Appendix G, Section XX, Wildfire, is anticipated and this topic will not be analyzed further in the EIR.

Figure 1:

# REGIONAL LOCATION MAP

## Legend

-  City of Pittsburg
-  Other Incorporated Areas
-  County Boundary

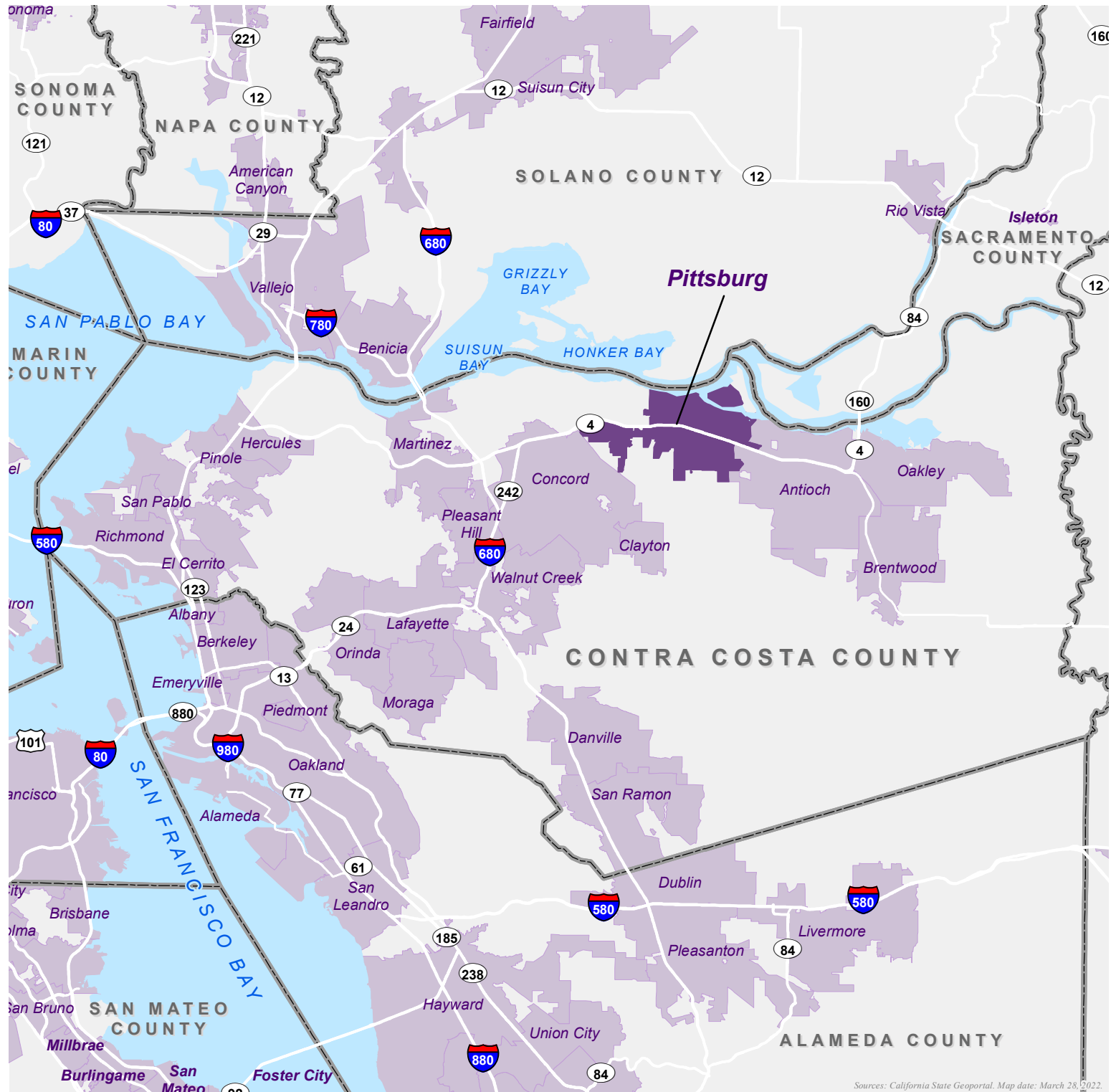
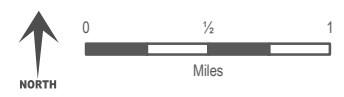
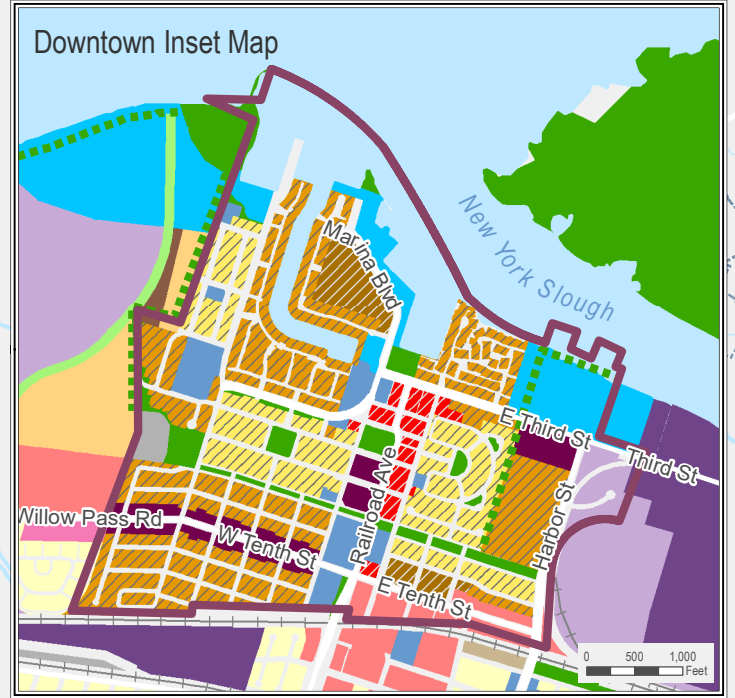
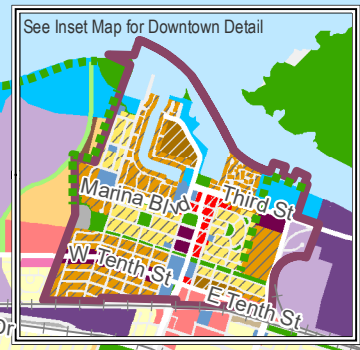
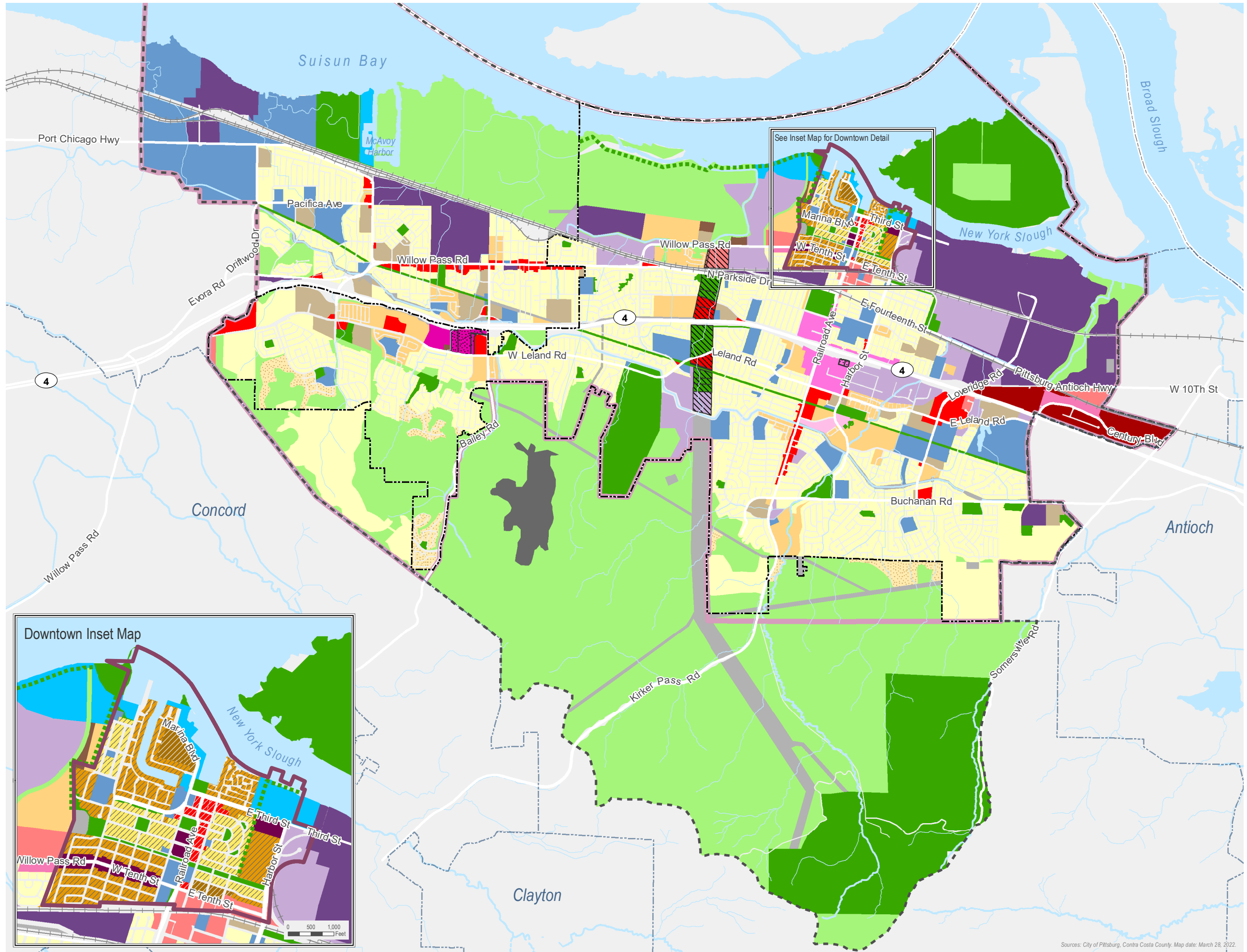


Figure 2:

# ENVISION PITTSBURG DRAFT LAND USE MAP

## Legend

- Pittsburg City Limits
- Pittsburg Sphere of Influence
- Downtown Sub-Area
- Planning Area
- Neighboring City
- General Plan Land Use Designation**
- Hillside Low Density Residential
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Very High Density Residential
- Regional Commercial
- Service Commercial
- Community Commercial
- Mixed Use (General)
- Mixed Use (Community Commercial)
- Mixed Use (Downtown)
- Mixed Use (P/BP BART)
- Mixed Use (Railroad Ave SPA)
- Marina Commercial
- Employment Center Industrial
- Industrial
- Landfill
- Open Space
- Park
- Public/Institutional
- Utility/ROW
- Downtown Low Density Residential
- Downtown Medium Density Residential
- Downtown High Density Residential
- Downtown Commercial
- Water
- PG&E Corridor Conversion Overlay
- BART TOD Overlay
- Park/Greenway
- Future Park







# ENVISION Pittsburg

## PITTSBURG 2040 GENERAL PLAN UPDATE

### CITY OF PITTSBURG

Draft Program EIR Scoping Meeting

May 5, 2022, 11:00 AM to 12:00 PM

#### ATTENDEES:

1. John Funderberg (City of Pittsburg)
2. Jordan Davis (City of Pittsburg)
3. Celina Palmer (City of Pittsburg)
4. Kelsey Gunter (City of Pittsburg)
5. Beth Thompson (De Novo Planning Group)
6. Elise Carroll (De Novo Planning Group)
7. Kamala Parks (BART)
8. John Holder (EBRPD)
9. Andrew
10. Alison Hodgkin

#### PUBLIC COMMENTS:

Kamala Parks (BART): The website says comments can be submitted by May 22 (not May 20). Parking often gets left out; are there any thoughts about addressing bike and vehicle parking in the EIR or General Plan itself? Acknowledges that parking isn't really an EIR thing.

- Beth Thompson (De Novo) responds: The General Plan includes policies related to parking, while the EIR will analyze the physical footprint of future development.

Kamala Parks (BART): Are the EIR and General Plan being drafted concurrently?

- Beth Thompson (De Novo) responds: Yes, but the General Plan is nearly complete and will be revised as needed depending on the EIR results. When the draft General Plan goes out for review, it will include policies related to parking. Comments on those policies can be submitted when the draft General Plan is available for review.

Kamala Parks (BART): When will that be?

- Beth Thompson (De Novo) responds: This summer.

Kamala Parks (BART): The Housing Element has different schedule – what's that like?

- Beth Thompson (De Novo) responds: The document will be released late summer.

John Holder (EBRPD): Will there be any consideration in the EIR of sea level rise impacts on open space areas, and will the EIR consider the Great Public Trail Master Plan alignment through Pittsburg? The EBRPD will also submit a comment letter with similar details.

- Beth Thompson (De Novo) responds: The EIR will address flooding as it relates to CEQA, and the General Plan does address sea level rise; see the Existing Conditions Report for climate change

and sea level rise predictions. The General Plan will include policies and programs to address, accommodate, and adapt to sea level rise and other effects of climate change.

Kamala Parks (BART): How will transit – surface and BART – be analyzed in the EIR?

- Beth Thompson (De Novo) responds: The EIR looks at whether the project would conflict with policies and programs which relate to transit.

Kamala Parks (BART): Will the EIR include analyses of conflicts with adopted documents in Pittsburg, or also those adopted by transit agencies?

- Beth Thompson (De Novo) responds: The adopted documents that have authority in Pittsburg, and the adopted thresholds by those transit agencies, will be considered.

Kamala Parks (BART): How do we get notified about the General Plan and Housing Element?

- John Funderberg (City) responds: Fill in your information on the General Plan Update website; also notes that BART is already on the notification list.
- Jordan Davis (City) responds: Shows attendees how to get notified via the city website – “How do I” button. For the Housing Element, if you sign up for General Plan Update notifications, you’ll get notified of Housing Element updates as well.



**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

May 16, 2022

Mr. John Funderburg, Assistant Director of Planning  
City of Pittsburg  
65 Civic Avenue  
Pittsburg, CA 94565

RE: City of Pittsburg Envision Pittsburg 2040 General Plan Update Draft Environmental Impact Report - Notice of Preparation

Dear Mr. Funderburg,

Bay Area Air Quality Management District (Air District) staff has reviewed the Notice of Preparation (NOP) for the City of Pittsburg (City) Envision Pittsburg 2040 General Plan Update Draft Environmental Impact Report (DEIR). As we understand, the City intends to prepare a programmatic DEIR to update the land use map and policy document consisting of goals, policies, and implementation measures in the General Plan (Plan) that will guide future development activities and City actions. The City is located in eastern Contra Costa County and is bordered by Suisun Bay to the north and Solano County to the north, the City of Antioch and unincorporated Contra Costa County to the east, the City of Concord to the west, and unincorporated Contra Costa County to the south. No specific development projects are proposed as part of the General Plan Update. Upon adoption, the 2040 Plan will replace the City's existing 2020 Plan, which was adopted in 2001 with subsequent updates to various elements. The City will implement the Plan by requiring development, infrastructure improvements, and other projects to be consistent with its policies and by implementing the actions included in the Plan, including subsequent project-level environmental review, as required under CEQA.

Air District staff recommends the DEIR include the following information and analysis:

- As identified by the Air District's CARE Program and Assembly Bill (AB) 617 Community Health Protection Program, the Pittsburg community census tracts that are in the top 30 percent of pollution burden statewide, as identified in CalEnviroScreen 4.0, are currently cumulatively impacted with very high risk due to toxic releases, ground water threats, and other sources of pollution, as well as a highly vulnerable population. Increases in air pollution exposure in areas that are already overburdened would be of concern; therefore, the City should fully evaluate potential significant impacts and implement all feasible measures to minimize air quality impacts to the greatest extent possible.
- The DEIR should provide a detailed analysis of the Plan's potential effects on local and regional air quality. The DEIR should include a discussion of the Air District's attainment status for all criteria pollutants and the implications for the region if these standards are not attained or maintained by statutory deadlines. The Air District's CEQA Guidelines, which provide guidance on how to evaluate a Plan's construction, operational, and

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Alexander Crockett  
**INTERIM ACTING  
EXECUTIVE OFFICER/APCO**

Connect with the  
Bay Area Air District:



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cumulative air quality impacts can be found on the Air District's website: <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>.

- The DEIR should evaluate the Plan's consistency with the Air District's 2017 Clean Air Plan (2017 CAP) and should discuss 2017 CAP measures relevant to the Plan. The 2017 CAP can be found on the Air District's website: <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans>.
- The greenhouse gas (GHG) impact analysis should include an evaluation of the Plan's consistency with the State's 2030 and 2045 climate targets. The Air District's current plan-level thresholds of significance for climate impacts, adopted April 20, 2022 by the Board of Directors, are based on the State's climate targets of reducing GHG emissions 40 percent below 1990 levels by 2030 and achieving carbon neutrality by 2045 (see Justification Report here: <https://www.baaqmd.gov/ceqa-guidelines>). The Air District recommends that cities and counties evaluate their plans based on whether they would be consistent with these long-term climate goals. To be consistent with the 2030 goal, plans should document specific strategies and implementation measures and quantify the associated GHG emission reductions to reduce the community's GHG emissions to 40 percent below the 1990 emission levels by 2030, without the use of offsets. Plans should also demonstrate that they will achieve as ambitious emission reductions as technologically and financially feasible by 2045 through a preponderance of enforceable, mandatory measures, minimizing the remaining (residual) amount of emissions needed to close the gap to carbon neutrality. Plans should include a strong implementation and monitoring strategy that shows how the remaining emissions gap will diminish over time, that commits to re-evaluation and adjustments as additional technologies become feasible and new statewide policies and programs emerge to close the gap to carbon neutrality as much as possible. The Air District strongly recommends that GHG reduction targets be achieved from GHG emission reductions and sequestration occurring within the community to the greatest extent feasible. For additional guidance on developing robust local plans that are consistent with State CEQA guidance, please contact Alesia Hsiao, Senior Environmental Planner, (415) 745-8419, [ahsiao@baaqmd.gov](mailto:ahsiao@baaqmd.gov).
- The Program DEIR should evaluate all feasible measures to minimize air pollutant emissions and exposure and should prioritize onsite measures within the Plan area, followed by offsite measures. Examples of potential emission reduction measures that should be evaluated and considered include, but are not limited to:
  - Requiring construction vehicles to operate with the highest tier engines commercially available,
  - Prohibiting or minimizing the use of diesel fuel, consistent with the Air District's Diesel Free by '33 initiative (<http://dieselfree33.baaqmd.gov/>),
  - Implementing parking strategies to discourage vehicle travel, such as parking cash-out, reduced parking requirements, shared parking, paid parking, and related strategies,
  - Providing funding for zero-emission transportation projects, including a neighborhood electric vehicle program, community shuttle/van services and car sharing, and enhancement of active transportation initiatives, among others,

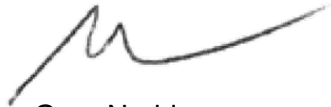


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- Providing comprehensive, safe, and convenient bicycle and pedestrian facilities throughout the city, linking residential areas and activity centers, and connecting to regional networks where appropriate,
  - Installing outdoor electrical receptacles for charging or powering of electric landscape equipment,
  - Implementing electric infrastructure and fossil fuel alternatives in the development and operation of the Plan, such as solar photovoltaic (PV) panels, renewable diesel, electric heat pump water heaters, and solar PV back-up generators with battery storage capacity,
  - Meeting the vehicles miles traveled (VMT) requirement under SB 743,
  - Including a building decarbonization goal or policy in the Plan (<https://www.buildingdecarb.org/compass.html>) and requiring no natural gas use in proposed structures,
  - Including air filtration for new and existing buildings that may be exposed to elevated air pollution, such as MERV 13 filters, as well as vegetative buffers between new and existing buildings, and sources of pollution. For more emissions and exposure reduction best practices, see the Air District's Planning Healthy Places guidance, Appendices A and B, here: [https://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/php\\_may20\\_2016-pdf.pdf](https://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf)., and
  - Implementing a zero-waste program consistent with SB 1383 organic waste disposal reduction targets.
- Discuss how the Plan addresses Senate Bill 1000 (SB 1000), the Planning for Healthy Communities Act. SB 1000, which became effective January 1, 2018, requires all California jurisdictions to consider environmental justice issues in their General Plans. Environmental justice (EJ), as defined by the State, focuses on disproportionate and adverse human health impacts that affect low-income and minority communities already suffering from cumulative and legacy environmental and health impacts.
  - The Air District's CEQA website contains several tools and resources to assist lead agencies in analyzing air quality and GHG impacts. These tools include guidance on quantifying local emissions and exposure impacts. The tools can be found on the Air District's website: <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>.
  - Certain aspects of the Plan may require a permit from the Air District (for example, back-up diesel generators). Please contact Barry Young, Senior Advanced Projects Advisor, at (415) 749-4721 or [byoung@baaqmd.gov](mailto:byoung@baaqmd.gov) to discuss permit requirements. Any applicable permit requirements should be discussed in the DEIR.

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We encourage the City to contact Air District staff with any questions and/or to request assistance during the environmental review process. If you have questions regarding these comments, please contact Alesia Hsiao, Senior Environmental Planner, (415) 745-8419, [ahsiao@baaqmd.gov](mailto:ahsiao@baaqmd.gov).

Sincerely,



Greg Nudd  
Deputy Air Pollution Control Officer

cc: BAAQMD Director John Gioia  
BAAQMD Director David Hudson  
BAAQMD Director Karen Mitchoff  
BAAQMD Director Mark Ross



**SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT**  
 2150 Webster Street, P.O. Box 12688  
 Oakland, CA 94604-2688  
 (510) 464-6000

May 20, 2022

2022

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Robert Powers  
 GENERAL MANAGER

John Funderburg  
 Assistant Director of Planning  
 City of Pittsburg Community and Economic Development Department  
 65 Civic Avenue  
 Pittsburg, CA 94565  
 jfunderburg@pittsburgca.gov

RE: Comments to the Notice of Preparation for the 2040 General Plan Update Draft Program Environmental Impact Report

DIRECTORS

Debora Allen  
 1ST DISTRICT

Mark Foley  
 2ND DISTRICT

Rebecca Saltzman  
 3RD DISTRICT

Robert Raburn, Ph.D.  
 4TH DISTRICT

John McPartland  
 5TH DISTRICT

Elizabeth Ames  
 6TH DISTRICT

Lateefah Simon  
 7TH DISTRICT

Janice Li  
 8TH DISTRICT

Bevan Duffy  
 9TH DISTRICT

Dear Mr. Funderburg,

Thank you for the opportunity to provide comments to the NOP as you prepare an EIR for your General Plan update.

We are writing to provide comments on your proposed zoning in relation to AB 2923. Specifically, the zoning that is proposed for BART land is not in conformance with AB 2923 baseline zoning standards. This applies to BART-owned land at Pittsburg-Bay Point and Pittsburg Center station. In particular:

Mixed Use Designations	General Plan Update	AB 2923 Baseline Zoning Standards
Residential density	15-65 units per gross acre	75 dwelling units/acre allowed on all BART land
Floor area ratio	1.0 non-residential	3.0 allowed for all uses on all BART land

We encourage you to review [A Technical Guide to Zoning for AB 2923 Conformance](#) and make changes to your zoning so that residential density, building height, FAR, and parking standards align with AB 2923 baseline zoning standards.

If you have further questions, please contact Kamala Parks, Station Planner for the Pittsburg stations. She can be reached by email ([kparks2@bart.gov](mailto:kparks2@bart.gov)) or phone (510-817-5901).

We appreciate your attention to this matter.

Sincerely,

Tim Chan  
 Group Manager – Station Area Planning

cc: Val Joseph Menotti, BART, Chief Planning and Development Officer  
 Abigail Thorne-Lyman, BART, Director of Real Estate and Property Development  
 Kamala Parks, BART, Senior Station Planner  
 Stephen Muzio, BART, Office of the General Counsel

## California Department of Transportation

DISTRICT 4  
OFFICE OF TRANSIT AND COMMUNITY PLANNING  
P.O. BOX 23660, MS-10D | OAKLAND, CA 94623-0660  
[www.dot.ca.gov](http://www.dot.ca.gov)



May 17, 2022

SCH #: 2022040427  
GTS #: 04-CC-2022-00545  
GTS ID: 26270  
Co/Rt/Pm: CC/4/22.7

John Funderburg, Assistant Director of Planning  
City of Pittsburg  
65 Civic Avenue  
Pittsburg, CA 94565

### **Re: Envision Pittsburg 2040 General Plan Update Notice of Preparation (NOP) for Draft Environmental Impact Report (DEIR)**

Dear John Funderburg:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Envision Pittsburg 2040 General Plan Update. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the April 2021 NOP.

#### **Project Understanding**

The proposed Project is a programmatic General Plan planning document consisting of, among others, an updated land use map and policy document consisting of goals, policies, and implementation measures that will guide future development activities and City actions. No specific development projects are proposed as part of the General Plan Update. Upon adoption, the 2040 General Plan will replace the City's existing 2020 General Plan, which was adopted in 2001 with subsequent updates to various elements. The City is also updating the Housing Element, which will address the City's Regional Housing Needs Allocation and the 2023-2031 planning period, in a process separate from the General Plan Update.

#### **Travel Demand Analysis**

With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Transportation Impact Studies, please review Caltrans' Transportation Impact Study

John Funderburg, Assistant Director of Planning

May 17, 2022

Page 2

Guide ([link](#)). Please note that current and future land use projects proposed near and adjacent to the State Transportation Network (STN) shall be assessed, in part, through the TISG.

Additionally, Caltrans requests that the City of Pittsburg General Plan Update is consistent with California Government Code Section 65088-65089.10 Congestion Management.

As well, the City is requested to gain a determination of conformity from the Contra Costa Transportation Authority to determine that the City of Pittsburg General Plan Update is consistent with and conforms to the Regional Transportation Plan Consistency Requirements of the County's Congestion Management Plan (CMP).

### **Transportation Impact Fees**

We encourage a sufficient allocation of fair share contributions toward multi-modal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT. Caltrans welcomes the opportunity to work with the City and local partners to secure the funding for needed mitigation. Traffic-mitigation or cooperative agreements are examples of such measures.

### **Equitable Access**

If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, or for future notifications and requests for review of new projects, please email [LDR-D4@dot.ca.gov](mailto:LDR-D4@dot.ca.gov).

Sincerely,



MARK LEONG  
District Branch Chief  
Local Development Review

c: State Clearinghouse



Elise Carroll &lt;ecarroll@denovoplanning.com&gt;

---

**FW: Envision Pittsburg 2040 General Plan Update**

---

**John Funderburg** <JFunderburg@pittsburgca.gov>

Thu, May 12, 2022 at 3:22 PM

To: Beth Thompson &lt;bthompson@denovoplanning.com&gt;, Elise Carroll &lt;ecarroll@denovoplanning.com&gt;

FYI...see comments below...

---

**From:** Joe Smithonic <Joe.Smithonic@pw.cccounty.us>**Sent:** Thursday, May 12, 2022 3:18 PM**To:** John Funderburg <JFunderburg@pittsburgca.gov>**Cc:** Gus Amirzehni <Gus.Amirzehni@pw.cccounty.us>**Subject:** Envision Pittsburg 2040 General Plan Update**\*\*External Sender: Use caution before opening links or attachments\*\***

Hello Mr. Funderburg,

The Contra Costa County Flood Control and Water Conservation District (FC District) has reviewed the Notice of Preparation (NOP) dated April 20, 2022 for a Draft Environmental Impact Report (DEIR) for the City of Pittsburg (City) 2040 General Plan Update (GPU). We submit the following comments:

1. We request that the DEIR provide a map of the watersheds within the GPU area, especially where the land use designation changes will be located. The map should include the watershed boundaries, show all existing watercourses, tributaries, and man-made drainage facilities within the project site that could be impacted by the City's GPU and also identify the FC District's right of way.
2. The DEIR should discuss any proposed changes in density from the City's 2020 General Plan, and its corresponding increases in impervious surface, and discuss its effect on the existing storm drain systems and any mitigations that are necessary, such as upgrading the existing storm drain systems or constructing detention basins. Furthermore, the City's GPU land use designations should be compared to Contra Costa County's 2040 General Plan for any areas that overlap between the jurisdictions, if applicable. The Contra Costa County's 2040 General Plan Land Use Area Map is available at the following link:

<https://ca-contracostacounty3.civicplus.com/DocumentCenter/View/30949/Land-Use-Element-Map-PDF?bidId=>

3. We recommend that the DEIR stipulate that future developments should design and construct storm drain facilities to adequately collect and convey stormwater runoff, without diversion of the watershed, entering or originating within the development to the nearest natural watercourse or adequate man-made drainage facility.
4. We recommend that the adequacy and stability of the drainage facilities within the GPU area be studied to determine if local drainage design criteria are met, as well as FEMA National Floodplain Insurance requirements. If those criteria are not met or if there are potential capacity or erosion concerns attributable to the GPU land use changes, the DEIR should discuss the potential impacts and propose mitigation measures to address those impacts.
5. According to current FEMA floodplain maps, the area surrounding Kirker Creek is in a special flood hazard area (SFHA) that includes a 100-year floodplain. The DEIR should discuss how new construction or substantial upgrades within SFHAs will conform to the City's floodplain management ordinance.
6. The DEIR should discuss the payment of drainage area fees for development within formed drainage areas as a mitigation measure. The FC District charges drainage area fees for any new impervious surfaces created within Drainage Area 48B (DA 48B) and Drainage Area 55 (DA 55) in accordance with Flood Control Ordinance Numbers 2002-28 and 2002-23, respectively. By ordinance, all building permits or subdivision maps filed in this area are subject to the provisions of the drainage fee ordinance.
7. The FC District's 50-year plan encourages local communities to plan for modifying flood control channels to incorporate natural features. There may be opportunities to implement creek restoration and environmental enhancements within the City. The City should consider developing policies to incorporate natural features into creeks and channels, such as Kirker Creek and its tributaries. For reference, the FC District's 50-year plan is linked below:  
  
<https://www.contracosta.ca.gov/DocumentCenter/View/6853/50---Year-Plan-3-20-09-BOS-compressed-PDF?bidId=>
8. We recommend that the DEIR identify the appropriate environmental regulatory agencies, such as the U.S. Army Corps of Engineers, the State Department of Fish and Wildlife, and the State Regional Water Quality Control Board, and explore regulatory permits, special conditions, and mitigation that may be necessary for this project.
9. The DEIR should discuss how the GPU will comply with the current National Pollutant Discharge Elimination System (NPDES) requirements under the City's Stormwater Management and Discharge Control Ordinances and the C.3 Guidebook.

10. The FC District should be included in the review of all drainage facilities that have a region-wide benefit, that impact region-wide facilities, or that impact FC District-owned facilities. The FC District is available to provide technical assistance to the City in their update efforts under our Fee-for-Service program.

We appreciate the opportunity to comment on the NOP for the 2040 General Plan Update and look forward to reviewing the DEIR. If you have any questions, please contact me at your earliest convenience.

Thank you,

---

**Joe Smithonic** | Staff Engineer

Contra Costa County Flood Control & Water Conservation District

255 Glacier Drive, Martinez, CA 94553

p: 925.313.2348 | f: 925.313.2333

e: [joe.smithonic@pw.cccounty.us](mailto:joe.smithonic@pw.cccounty.us) | [cccpublicworks.org](http://cccpublicworks.org)

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**image001.png**  
1K





**Cox, Castle & Nicholson LLP**  
50 California Street, Suite 3200  
San Francisco, California 94111-4710  
P: 415.262.5100 F: 415.262.5199

Linda C. Klein  
415.262.5130  
lklein@coxcastle.com

File No. 080440

May 20, 2022

**VIA E-MAIL**

Mr. John Funderburg  
Assistant Director of Planning  
City of Pittsburg Community and Economic Development Department  
65 Civic Avenue  
Pittsburg, CA 94565  
jfunderburg@pittsburgca.gov

**Re: Envision Pittsburg 2040 General Plan Update**

Dear Mr. Funderburg:

We write on behalf of our client, Making Waves Academy (“Making Waves”), who owns property in the City of Pittsburg (“City”). We have reviewed the Notice of Preparation (“NOP”) for the Envision Pittsburg 2040 General Plan Update (“GPU” or “Project”) and offer the following comments.

**1. Project Objectives**

The NOP includes a list of Project objectives that is not necessarily inclusive of all the project objectives. In case housing and education are not part of the Project objectives, we recommend adding them. Objectives could include statements such as (1) providing a range of housing types for all income levels, and (2) maintaining and supporting institutional uses, including schools, that provide educational and growth opportunities for all City residents. Housing and education are important components of the City and should be supported by the Project objectives. In particular, the Bay Area has an acute housing crisis and the GPU should provide goals and policies that support housing, helping address this crisis.

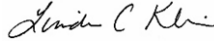
**2. Project Description**

According to the NOP, the Marina Commercial land use designation includes a permitted residential density of 8 to 20 dwelling units per acre. But the description of the designation makes no mention of residential uses. We recommend clarifying that housing and mixed residential/commercial development is allowed on land designated Marina Commercial. Specifically, we recommend the following text edits:

Recreational and visitor-oriented uses, including privately operated recreation complexes (sports complexes, aquatic centers, etc.), and experience-oriented entertainment or recreation, business and professional services, offices, convenience sales, restaurants, public marketplaces, repair services, specialty retail (such as boat sales and repair), hotel/motel with a coastal orientation, recreational facilities, research and development, custom manufacturing, and marinas are all accommodated. In addition, this land use designation accommodates residential development and mixed commercial/residential uses.

The City needs to accommodate over 2,000 units in its next Housing Element update and according to HCD's website is not on track to meet its 5th Housing Cycle Regional Housing Needs Assessment. Accordingly, it is important to note the land use designations that support housing, which will help the City achieve its housing needs.

Sincerely,

  
Linda C. Klein

cc: Mr. Doug Giffin, Campus, LLC  
Mr. Jerold Ligons, Making Waves Foundation



# Delta Stewardship Council

A CALIFORNIA STATE AGENCY

715 P Street, 15-300  
Sacramento, CA 95814

916.445.5511  
DELTACOUNCIL.CA.GOV

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Jessica R. Pearson

May 23, 2022

John Funderburg  
City of Pittsburg  
65 Civic Avenue  
Pittsburg, CA 94565  
jfunderburg@pittsburgca.gov

## **RE: Comments on Notice of Preparation of an Environmental Impact Report for the City of Pittsburg General Plan 2040, SCH#2022040427**

Dear John Funderburg:

Thank you for the opportunity to review and comment on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the City of Pittsburg (City) General Plan 2040. The Delta Stewardship Council (Council) understands the objective of General Plan 2040, as described in the NOP, is to create an updated General Plan to guide the City through 2040 using a comprehensive set of goals, policies and implementation measures, as well as a revised Land Use Map.

The Council is an independent state agency established by the Sacramento-San Joaquin Delta Reform Act of 2009, codified in Division 35 of the California Water Code, sections 85000-85350 (Delta Reform Act). The Delta Reform Act charges the Council with furthering California's coequal goals of providing a more reliable water supply and protecting, restoring, and enhancing the Sacramento-San Joaquin River Delta (Delta) ecosystem. (Water Code, § 85054.) The Delta Reform Act further states that the coequal goals are to be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place. The Council is charged with furthering California's

coequal goals for the Delta through the adoption and implementation of the Delta Plan. (Wat. Code, § 85300.)

Pursuant to the Delta Reform Act, the Council has adopted the Delta Plan, a comprehensive long-term management plan for the Delta and Suisun Marsh that furthers the coequal goals. The Delta Plan contains regulatory policies, which are set forth in California Code of Regulations, Title 23, sections 5001-5015. Through the Delta Reform Act, the Council was granted specific regulatory and appellate authority over certain actions of State or local public agencies that take place in whole or in part in the Delta. (Wat. Code, §§ 85210, 85225.30.) A state or local agency that proposes to undertake a covered action is required to prepare a written Certification of Consistency with detailed findings as to whether the covered action is consistent with the Delta Plan and submit that certification to the Council prior to implementation of the project. (Wat. Code, § 85225.)

Through the Delta Reform Act, the Council was also directed to review and provide timely advice to local and regional planning agencies regarding the consistency of local and regional planning documents with the Delta Plan. The Council's input includes, but is not limited to, reviewing the consistency of local and regional planning documents with the ecosystem restoration needs of the Delta and reviewing whether the lands set aside for natural resource protection are sufficient to meet the Delta's ecosystem needs. (Wat. Code, § 85212.)

## **COVERED ACTION DETERMINATION AND CERTIFICATION OF CONSISTENCY WITH THE DELTA PLAN**

Based on the location and scope of General Plan 2040, as provided in the NOP, the Plan may meet the definition of a covered action. Water Code section 85057.5(a) states that a covered action is a plan, program, or project, as defined pursuant to Section 21065 of the Public Resources Code that meets all of the following conditions:

*(1) Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh.* The planning area includes lands within and surrounding the City of Pittsburg. Portions of the planning area are located in part within the Delta.

*(2) Will be carried out, approved, or funded by a State or a local public agency.* General Plan 2040 will be approved by the City of Pittsburg, a local public agency.

*(3) Is covered by one of the provisions of the Delta Plan. See discussion below. City and Council staff should determine the potential applicability of Delta Plan regulatory policies that may apply to General Plan 2040 through early consultation.*

*and*

*(4) Will have a significant impact on achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and State interests in the Delta. General Plan 2040 would have a significant impact on both coequal goals and on a government-sponsored flood control program to reduce risks to people, property, and State interests in the Delta.*

The State or local agency approving, funding, or carrying out the project must determine if that project is a covered action and, if so, file a Certification of Consistency with the Council prior to project implementation. (Wat. Code, § 85225; Cal. Code Regs., tit. 23, § 5001(j)(3).)

## **COMMENTS ON GENERAL PLAN LAND USE MAP ALTERNATIVE D AND EXISTING CONDITIONS REPORT**

It should also be noted that certain Delta Plan regulatory policies establish specific criteria and categories that would exempt actions from portions of the Council's regulatory authority. One such exemption is for actions occurring within Contra Costa County's 2006 voter approved urban limit line. Such proposed actions are exempted from Delta Plan Policy **DP P1**, which places geographic restrictions on new urban development (Cal. Code Regs., tit.23, § 5010) and Delta Plan Policy **RR P2**, which requires a minimum level of flood protection for residential development in rural areas (Cal. Code Regs., tit. 23, § 5013).

Based on our review, Council staff has not identified any specific inconsistency between the Plan and the Delta Plan, pursuant to Water Code section 85212 at this time. Notwithstanding the exemptions identified above, proposed General Plan 2040 policies appear to support provisions of **DP P1** and **RR P2**. For example, Land Use Element goals such as 2-G-1 to maintain compact urban development and ensure that lands not environmentally suitable for development remain open space

and 2-G-6 to provide incentives for development using infill, reuse and revitalization of land advance achievement of **DP P1** and **RR P2**.

Similarly, the General Plan 2040 Existing Conditions Report thoroughly considers climate change scenarios and effects in Chapter 6. This report and the Council's *Climate Change Vulnerability Assessment and Adaptation Strategy for the Sacramento - San Joaquin Delta* will provide a solid foundation for a climate wise update of the General Plan.

## CLOSING COMMENTS

As the City proceeds with design, development, and environmental impact analysis of General Plan 2040, the Council invites the City to engage Council staff in early consultation to discuss potential applicability of Delta Plan regulatory policies to the General Plan 2040 and to discuss consistency between General Plan 2040 and the Delta Plan, so that the two plans are complementary and best serve to protect the Delta.

Please contact Eva Bush at (916) 284-1619 or [eva.bush@deltacouncil.ca.gov](mailto:eva.bush@deltacouncil.ca.gov) with any questions.

Sincerely,



Jeff Henderson, AICP

Deputy Executive Officer

Delta Stewardship Council

May 20, 2022

City of Pittsburg  
Community and Economic Development- Planning Division  
65 Civic Avenue, Pittsburg, CA 94565

**RE: Comments - NOP for Envision Pittsburg 2040 General Plan Update Environmental Impact Report**

Dear John Funderburg,

East Bay Regional Park District (Park District) appreciates the opportunity to comment on the Notice of Preparation (NOP) for the City of Pittsburg General Plan Environmental Impact Report (General Plan EIR). The Park District looks forward to collaborating with the City of Pittsburg in this effort. In preparation of the Envision Pittsburg 2040 General Plan EIR, the Park District would like to recommend that the EIR analysis consider potentially significant impacts associated with the adoption and implementation of the General Plan related to recreational assets, natural resources, and consider areas of the City not only limited to those with development potential, as mentioned in the NOP, but also important public recreational and natural assets as well. Particularly, the Park District would like to ensure that the following impacts are considered in the General Plan EIR:

- Ensure that any potentially significant impacts to active transportation opportunities in Pittsburg are considered, especially involving advancement of the Great California Delta Trail (GCDT) alignment. The Park District requests that impacts to future alignments of the GCDT are considered in the GP EIR and specifically that the analysis include priority alignments of the GCDT. This may include the trail alignment through the former GenOn power plant property to Riverfront Park and into Downtown Pittsburg as proposed by the *Great California Delta Trail: Bay Point Wetlands to Pittsburg Marina Park Preliminary Engineering Study*. Long-term planning for and analysis of potential impacts to this recreational asset would ensure Pittsburg residents the opportunity to connect from any future development of that property to the shoreline and into Downtown Pittsburg for the long-term. Highlighting this segment in this General Plan EIR sets the stage for a successful connection and sustainability of this important recreational resource.
- The Park District is pleased the General Plan Existing Conditions Report (Chapter 6) document has a preliminary review of climate change considerations and sea level rise projections. The Park District would like to request that the General Plan EIR consider sea level rise related flood impacts and appropriate mitigation to natural areas, including the Pittsburg wetlands and additional natural areas in the City's jurisdiction. The Park District looks forward to working with the City of Pittsburg to plan for and adapt natural areas to rising sea levels.

Thank you for the opportunity to comment on the NOP for the City of Pittsburg General Plan Environmental Impact Report, and the Park District looks forward to next steps in the project. If you have any questions or comments, please contact John Holder, Senior Planner, at (510)-544-2323 or [jholder@ebparks.org](mailto:jholder@ebparks.org).

Sincerely,

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General Manager



**Brian Holt**  
Chief – Planning, Trails and GIS Division

cc: Kristina Kelchner - Assistant General Manager - Acquisition | Stewardship | Development  
Sean Dougan - Trails Program Manager - Planning, Trails and GIS Division





U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Western-Pacific Region  
San Francisco Airports District Office

1000 Marina Blvd., Suite 220  
Brisbane, CA 94005-1835

June 22, 2022

John Funderburg  
Assistant Director of Planning  
City of Pittsburg  
Planning Division  
65 Civic Avenue  
Pittsburg, CA 94563

Subject: City of Pittsburg, Notice of Preparation for the Envision Pittsburg 2040 General Plan Update – Draft Environmental Impact Report (EIR)

Dear Mr. Funderburg:

On April 20, 2022, the Federal Aviation Administration (FAA) received the City of Pittsburg's Notice of Preparation for the 2040 General Plan Update Draft Environmental Impact Report (EIR). The notice indicated that the City Council generally preferred Alternative B but later created the preferred Alternative D (based on modifications of Alternative B) which includes 5,518,668 square feet of planned development and 20,326,007 square feet of potential build-out development for a total of 25,844,675 square feet. The proposed land use designation under Alternative D includes 5,295 acres of Residential, 233 acres of Mixed Use, 2,751 acres of Commercial and Industrial, 196 acres of Landfill, 1182 acres of Public/Institutional, 2,806 acres of Park, 8,647 acres of Open Space, 659 acres of Utility/ROW, and 573 acres of water.

The proposed Planning Area boundary is located less than five miles northeast of the Buchanan Field Airport (CCR), Concord, California and less than 16 miles northwest of the Byron Airport (C83), Byron, California. Buchanan Field Airport, is an active Commercial Service (Primary) airport and Byron Airport is an active local Reliever airport within the National Plan of Integrated Airport System (NPIAS). Both airports are owned and operated by Contra Costa County.

The FAA advises that the City of Pittsburg coordinate its proposals for the updated 2040 General Plan with the Contra Costa County Airports Division, Director of Airports, Mr. Greg Baer and Ms. Beth Lee, Assistant Director of Airports. Both may be contacted as follows:

Greg Baer, Director of Airports  
Contra Costa County Airports Division  
550 Sally Ride Drive  
Concord, CA 94520  
Email: [greg.baer@airport.cccounty.us](mailto:greg.baer@airport.cccounty.us)  
Phone: 844-359-8687

Beth Lee, Assistant Director of Airports  
Contra Costa County Airports Division  
550 Sally Ride Drive  
Concord, CA 94520

Email: [beth.lee@airport.cccounty.us](mailto:beth.lee@airport.cccounty.us)  
Phone: 844-359-8687

**Noise:** Due to the proximity of the Plan Area to the two airports, the City of Pittsburg should anticipate that airport and aircraft noise will be experienced in the area. It is advisable to incorporate an early notification process to inform future occupants and users of the Planning Area about the presence of the existing airports and the potential to hear noise from operations and aircraft overflight. Proposals for zoned areas or other areas which would be sensitive to noise, should be coordinated with the Contra Costa County Airports Division (i.e., residential areas, hospitals, schools, and Section 4(f) properties including publicly-owned public parks, recreational areas of national, state or local significance, wildlife or waterfowl refuges; or lands from a historic site of national, state or local significance). The FAA recommends that the City of Pittsburg utilize the guidance provided in Advisory Circular (AC) 150/5020-1, *Noise Control and Compatibility Planning for Airports*, enclosed, to ensure land use compatibility between designations/zoning in the updated General Plan and aircraft noise levels.

**Wildlife Attractants:** The FAA also recommends that the City of Pittsburg utilize the guidance provided in Advisory Circular (AC) 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports*, enclosed, to ensure that the updated General Plan elements do not introduce wildlife hazards to the aviation operations in the area. As explained in the AC, certain land use practices have the potential to attract wildlife that can be a threat to aviation safety. The land uses that individually, or in combination with each other, have the potential to attract hazardous wildlife include landfills, restored wetlands/hunting areas, parks, ponds/lakes, taxi cab and rental car pickup areas, golf courses/turf grass, aquaculture facilities, and landscaped areas with forage, among others.

The FAA, notes that there is a proposed landfill relocation as well as park and open space/water developments within five miles of Buchanan Field Airport operations. Given this relatively close proximity to airport runways and flight paths, the FAA advises that the City coordinate closely with the Contra Costa County Airports Division to discuss avoiding and/or minimizing any potential wildlife attractants.

**Navigable Airspace:** The FAA noted that the proposed alternatives include solar and wind power facilities as well as the construction of a new power plant, transmission lines, and multi-storied buildings. The FAA advises coordinating with the Contra Costa County Airports Division to discuss compatibility of any developments that could potentially affect airport operations and/or navigable airspace (i.e., potential for glare and/or obstruction). Projects that have the potential to affect navigable airspace as defined in 14 Code of Federal Regulations Part 77.9 must file a Notice of Proposed Construction or Alteration, Form 7460-1 with the FAA. The 7460-1 should be filed at least 45 days prior to the start of construction. Information about the Obstruction Evaluation/Airport Airspace Analysis and the Form 7460-1 are available at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

Your attention to these comments is appreciated. If you have any questions, I am available via cell phone at (307) 461-2884.

Sincerely,

*/s/ Christopher D. Jones*

Enclosures:

Advisory Circular (AC) 150/5020-1

Advisory Circular (AC) 150/5200-33B

cc:

Greg Baer, Contra Costa County Airports Division

Beth Lee, Contra Costa County Airports Division



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject:** Noise Control and Compatibility  
Planning for Airports

**Date:** DRAFT

**AC No:** 150/5020-1A

**Initiated by:** APP-400

**Change:**

---

1 **Purpose.**

2 This advisory circular (AC) provides guidance on conducting an Airport Noise and  
3 Land Use Compatibility Planning Study in accordance with the Title 14 Code of  
4 Federal Regulations (CFR) Part 150 regulations. Commonly referred to as a Part  
5 150 study, these studies consist of a combined Noise Exposure Map (NEM) and  
6 Noise Compatibility Program (NCP) with noise mitigation and abatement  
7 measures.

8 b. Part 150 is the primary means for the FAA to provide Airport Improvement  
9 Program (AIP) grants for noise abatement or mitigation measures outside of a  
10 specific development project, and to assess the effectiveness of an airport  
11 sponsor's proposed noise abatement measures. Participation in the Part 150  
12 process is voluntary for airport sponsors. However, once an airport chooses to  
13 participate, it must comply with the applicable statutory, regulatory, and Airport  
14 Improvement Program (AIP) grant assurances. The benefits to this participation  
15 are a structured and effective process to evaluate noise impacts and mitigation  
16 measures, and the potential for AIP funding. Airport sponsors determine whether  
17 to conduct a Part 150 study to evaluate noise abatement and land use compatibility  
18 issues surrounding their airports, or to achieve these ends outside of the Part 150  
19 process.

20 c. FAA approval of Part 150 measures in an NCP does not constitute final approval  
21 to implement or provide federal funding for those measures. For instance, sponsors  
22 must have a favorable Safety Risk Management (SRM) finding before operational  
23 noise abatement flight tracks are implemented. Similarly, AIP eligibility for sound  
24 insulation funding is not determined until interior acoustical testing is completed  
25 for a structure within an impacted land use. An airport sponsor may also have to  
26 fulfill other statutory or regulatory requirements, such as National Environmental  
27 Policy Act requirements, before implementation.

28 2

**Application.**

- 29 a. This AC is intended for anyone responsible for preparing, updating, and reviewing  
30 Part 150 studies, and implementing approved NCP measures. This includes airport  
31 sponsors, consultants, local and state land use planners, FAA personnel,  
32 government officials, aircraft operators at the airport including airline and cargo  
33 operators, and members of the public that may participate in the Part 150 process.
- 34 b. This AC does not modify or supersede the Part 150 regulations. It implements  
35 those regulations by explaining the requirements and by providing guidance on  
36 how to conduct the tasks and prepare the materials required by Part 150.
- 37 c. The Federal Aviation Administration recommends the guidance in this publication  
38 for the Noise Control and Compatibility Planning Program. This AC does not  
39 constitute a regulation and is not legally binding in its own right. It will not be  
40 relied upon as a separate basis by the FAA for affirmative enforcement action or  
41 other administrative penalty. Conformity with this AC is voluntary, and  
42 nonconformity will not affect rights and obligations under existing statutes and  
43 regulations, except for the projects described in bullets below:
- 44 • The standards contained in this AC are specifications the FAA considers  
45 essential for evaluation of noise impacts and mitigation measures on and  
46 around airports.
  - 47 • Use of these standards and guidelines is mandatory for projects funded under  
48 Federal grant assistance programs, including the AIP. See Grant Assurance  
49 #34.
  - 50 • This AC is mandatory, as required by regulation, for projects funded by the  
51 Passenger Facility Charge (PFC) program. See PFC Assurance #9.
- 52 d. Referring to or using this AC does not establish eligibility or justification for AIP  
53 funding or PFC. For information on AIP or PFC eligibility and justification, refer  
54 to [FAA Order 5100.38, Airport Improvement Program Handbook](#), and [FAA Order](#)  
55 [5500.1, Passenger Facility Charge Handbook](#).

56 3

**Cancellation.**

57 This AC replaces AC 150/5020-1, *Noise Control and Compatibility Planning for*  
58 *Airports*, dated August 5, 1983.

59 4

**Principal Changes.**

60 This AC:

- 61 a. Updates AC 150/5020-1, *Noise Control and Compatibility Planning for Airports*.
- 62 b. Includes updated information on preparing NEMs and NCPs since the previous  
63 version of this AC

64 5 **Distribution.**

65 This AC is available on the [FAA Office of Airports website](#).

66 6 **Feedback on this AC.**

67 If you have suggestions for improving this AC, please use the Advisory Circular  
68 Feedback form at the end of the document.

69 Robert Craven  
70 Director, Office of Airport Planning and Programming

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1 **CHAPTER 1. GENERAL INFORMATION**

2 1.1 **Background.**

3 1.1.1 The aviation industry has made major strides in lessening the environmental effects of  
4 aviation. For example, air travel has grown from 200 million to over 815 million annual  
5 passengers since 1975. However, the total area of land use that is not compatible with  
6 exposure to aircraft noise has declined more than 90 percent.<sup>1</sup> A large part of the  
7 improvement resulted from the phase-out of noisier aircraft models (Stage 1 and 2  
8 aircraft) through the 1990s and 2000s.

9 1.1.2 Despite this progress, aircraft noise remains one of the issues that most concerns  
10 airports and communities,<sup>2</sup> and can affect efforts to increase airport capacity. Reaction  
11 to noise levels are expressed in terms of levels of annoyance. Part 150 processes offer a  
12 means to undertake noise abatement planning and implementation while considering the  
13 needs of the local communities. To be effective, the Part 150 study process should  
14 include these elements:

- 15 • An approach producing realistic and practical solutions, considering both aviation  
16 and community interests.
- 17 • FAA technical guidance and support from the Office of Airports (ARP) and Air  
18 Traffic Organization (ATO) personnel.
- 19 • Federal guidelines on land use standards showing uses that are normally compatible  
20 with various noise levels.
- 21 • Consultation and interaction with the airport sponsor, airport users, airport  
22 neighbors, local land use control jurisdictions, and the FAA. This consultation  
23 process is designed to openly communicate the program's abilities and limitations.  
24 It seeks from all these parties an understanding of the program and the support  
25 essential for its implementation over the long term.
- 26 • Recognition of factors beyond an airport sponsor's control, who may not have the  
27 authority to control local land uses. Some of these factors will strongly influence  
28 local land use decisions and the feasibility of measures that can be included in the  
29 program. Cooperation with the local land use authority is key to carrying out many  
30 Part 150 Study measures.

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<sup>1</sup> Aviation Environmental and Energy Policy Statement, July 2012, available at:  
[https://www.faa.gov/sites/faa.gov/files/about/office\\_org/headquarters\\_offices/apl/FAA\\_EE\\_Policy\\_Statement.pdf](https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/FAA_EE_Policy_Statement.pdf).  
The FAA uses the Average Day-Night Sound Level (DNL) 65 decibels (dB) and above in defining land use  
compatibility. DNL is a 24-hour, time-weighted, energy average noise level based on A-weighted dBs. A-weighted  
decibels, abbreviated dBA, dBa, or dB(a), express the relative loudness of sounds in air as perceived by the human  
ear.

<sup>2</sup> Government Accounting Office, Aviation and the Environment: Airport Operations and Future Growth Present  
Environmental Challenges, GAO/RCED00-153 (Washington, DC; Aug. 30, 2000).

- 31           • Community and airport sponsor decisions that are chosen from a fully informed  
32           range of options, which consider their costs and benefits.
- 33           • A viable framework for conducting efficient and constructive land use compatibility  
34           programs.
- 35 1.1.3 No two airport situations are alike. The airport sponsor’s Part 150 Study will likely  
36           require a unique combination of noise abatement and mitigation measures to achieve an  
37           acceptable solution for communities, and to accommodate changes in aviation demand.  
38           At any given airport, a full range of possible measures, described in the Aviation Safety  
39           and Noise Abatement Act (ASNA) and Part 150, should be explored within the public  
40           participation process. The best combination of measures should be selected for detailed  
41           evaluation and carefully weighed before settling upon a final plan. The objective of this  
42           process is to reduce or prevent noncompatible land uses in the most efficient way. This  
43           objective is then balanced against the possible non-aviation (land use) solutions.  
44           Airports often seek a balance between realistic environmental goals and costs to the  
45           aviation system. Numerous options can address noise concerns, but restrictions on  
46           airport access should be proposed only as a last resort.<sup>3</sup>
- 47 1.1.4 The Aviation Safety and Noise Abatement Act of 1979.<sup>4</sup>  
48           Recognizing national aviation noise issues, Congress enacted ASNA, which mandated  
49           the FAA to establish a single system of measuring noise<sup>5</sup> in consultation with the  
50           Environmental Protection Agency. This system must have a highly reliable relationship  
51           between projected noise exposure and surveyed reactions of individuals to noise. It also  
52           must be applied uniformly in measuring noise at airports and the surrounding area.  
53           ASNA also established procedures for developing NEMs and NCPs, and authorized the  
54           FAA to provide grants to eligible airport sponsors to fund noise compatibility planning.  
55           In response to this mandate, the FAA adopted the day-night average sound level (DNL)  
56           noise metric in the early 1980s. DNL was reaffirmed in the 1990s as the system that  
57           meets this Congressional mandate.
- 58 1.1.5 Title 14 CFR Part 150, *Airport Noise Compatibility Planning*.
- 59 1.1.5.1 The FAA implements the ASNA requirements via Title 14 Part 150. The  
60           FAA enacted Part 150 as an interim regulation in 1981 and a final  
61           regulation in 1985. The FAA has amended the regulation four times,  
62           starting in 1988, to accommodate these changes:
- 63           • Including free-standing heliports.
  - 64           • Making ARP’s Regional Airports Divisions the contacts for submitting  
65           Part 150 maps and programs.
  - 66           • Addressing ANSA recodification.

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<sup>3</sup> See Title 14 CFR Part 161

<sup>4</sup> ASNA, recodified at 49 United States Code (U.S.C.) Section 47501 et seq.

<sup>5</sup> See 49 U.S.C. Section 47502

- 67 • Incorporating changes to ASNA, including ASNA’s public hearing  
 68 requirement, noise exposure forecast map timeframes, map scale, and  
 69 methods for addressing significant increases or decreases in noise  
 70 exposure over sensitive land uses.

71 1.1.5.2 The scope and purpose of Part 150 comprises these considerations:

- 72 • Prescribe the procedures, standards, and methodology governing the  
 73 voluntary development, submission, and review of NEMs and NCPs,  
 74 including the process for evaluating and approving or disapproving  
 75 NCP measures.
- 76 • Prescribe a single system for:
- 77 • Measuring noise at airports and surrounding areas that generally  
 78 provides a highly reliable relationship between projected noise  
 79 exposure and surveyed reaction of people to noise.
- 80 • Determining exposure of individuals to noise from airport operations.
- 81 • Provide for the use of the FAA’s approved model, currently Aviation  
 82 Environmental Design Tool (AEDT) or an FAA-approved equivalent,  
 83 for developing standardized NEMs and predicting noise impacts.  
 84 Airport sponsors may use noise monitoring for data acquisition and  
 85 data refinement, but monitoring is not required for developing NEMs  
 86 or NCPs.
- 87 • Identify those land uses that are normally compatible with various  
 88 levels of exposure to airport noise.
- 89 • Provide technical assistance to airport sponsors and to other local,  
 90 state, and federal authorities in preparing and executing appropriate  
 91 noise compatibility planning and implementation programs.

92 1.2 **Related Materials.**

93 This AC should be used with current versions of the documents listed throughout this  
 94 AC. These include FAA Regulations, Orders, ACs, Policy Statements, Program  
 95 Guidance Letters, and Reports summarized in the following paragraphs.

96 1.2.1 FAA Regulations.

97 Two FAA regulations are relevant to Part 150 studies:

98 1.2.1.1 **Title 14 CFR Part 150.**

99 Prescribes the procedures, standards, and methodology governing the  
 100 development, submission, and review of NEMs and airport NCPs. It  
 101 includes the FAA’s process for evaluating and approving or disapproving  
 102 those programs.

- 103 1.2.1.2 **Title 14 CFR Part 161, *Notice and Approval of Airport Noise and***  
104 ***Access Restrictions.***  
105 Establishes a process for notice, analysis, and review of mandatory airport  
106 noise and access restrictions on the operations of Stage 2 and Stage 3  
107 aircraft and FAA approval of restrictions impacting Stage 3 aircraft. This  
108 regulation is in response to provisions in the 1990 Airport Noise and  
109 Capacity Act and is a major element of the national aviation noise policy  
110 required by that statute.
- 111 1.2.2 FAA Orders.  
112 Several FAA Orders are relevant to Part 150 studies:
- 113 1.2.2.1 **Order 1050.1, *Environmental Impacts: Policies and Procedures.***  
114 This Order outlines FAA’s policies and procedures for compliance with  
115 the National Environmental Policy Act (NEPA) and Council on  
116 Environmental Quality (CEQ) regulations.<sup>6</sup>
- 117 1.2.2.2 **Order 5050.4, *National Environmental Policy Act (NEPA)***  
118 ***Implementing Instructions for Airport Actions.***  
119 This Order outlines FAA’s policies and procedures for NEPA compliance  
120 for airport actions, including certain actions that may result from an NCP.  
121 These include airport layout plan (ALP) changes and sound insulation  
122 affecting historic structures.
- 123 1.2.2.3 **Order 5100.37, *Land Acquisition and Relocation Assistance for Airport***  
124 ***Projects.***  
125 This Order outlines the procedures FAA personnel and airport sponsors  
126 must follow for NCP measures that involve the acquisition of land or the  
127 displacement of persons, farm operations, or businesses. The Order  
128 describes how to address applicable procedures of the Uniform Relocation  
129 Assistance and Real Property Acquisition Policies Act (Uniform Act)  
130 under FAA and Department of Transportation regulations for airport  
131 projects receiving federal financial assistance.
- 132 1.2.2.4 **Order 5100.38, *Airport Improvement Program Handbook.***  
133 This Order outlines policy and procedures to be used when administering  
134 the AIP. FAA personnel, airport sponsors, and their consultants should  
135 refer to Order 5100.38 when determining whether recommended NCP  
136 measures comply with the requirements for AIP funding.

---

<sup>6</sup> A final rule was issued in July of 2020 by CEQ amending various portions of the NEPA regulations, so to the extent any provisions in FAA’s orders are inconsistent with the new rule, the rule controls.

- 137           1.2.2.5       **Order 5500.1, Passenger Facility Charge.**  
138                           This Order provides guidance and procedures for ARP personnel  
139                           administering the PFC program. It includes guidance on the application of  
140                           PFCs to noise compatibility planning.
- 141           1.2.2.6       **Order 8400.9, National Safety and Operational Criteria for Runway Use  
142                           Programs.**  
143                           This Order provides safety and operational criteria for runway use  
144                           programs and parameters that must be used in the evaluation and approval  
145                           of informal and formal runway use programs.
- 146           1.2.2.7       **Order 1050.11, Noise Control Planning.**  
147                           This order contains FAA policies and procedures and assigns internal  
148                           FAA responsibilities for the review of airport noise control plans and  
149                           programs, including noise abatement procedures and compatible land use  
150                           controls around airports in accordance with 14 CFR Part 150, Airport  
151                           Noise Compatibility Planning. It provides direction to FAA personnel in  
152                           their responsibilities to review and, where appropriate, assist in the  
153                           development of local aviation noise abatement procedures.
- 154           1.2.2.8       **Order 8000.369, Safety Management System.**  
155                           This order establishes the SMS policy and requirements for FAA  
156                           organizations and the basic management principles to guide the FAA in  
157                           safety management and safety oversight activities.
- 158           1.2.2.9       **Order 5200.11, FAA Office of Airports Safety Management System.**  
159                           This order defines ARP’s SMS requirements. Safety Risk Management  
160                           (SRM) requirements apply to a number of FAA actions, including FAA  
161                           approval of Part 150 noise compatibility programs and program changes  
162                           that may affect aviation safety.
- 163           1.2.2.10      **Order 8260.43, Flight Procedures Management Program.**  
164                           This order defines the process for publishing new instrument and visual  
165                           charted procedures in the Terminal Procedures Publication (TPP).
- 166           1.2.2.11      **Order 8260.3, United States Standard for Terminal Instrument  
167                           Procedures (TERPS).**  
168                           This order defines the criteria used to develop safe and flyable charted  
169                           procedures.
- 170           1.2.2.12      **Order 8260.61, Charted Visual Flight Procedures.**  
171                           This order defines the criteria and guidance for developing charted visual  
172                           flight procedures (CVFPs). CVFPs are used by aircraft on IFR clearances  
173                           and may be developed where PBN instrument procedures do not  
174                           accommodate operational needs.

- 175 1.2.2.13 **Order 7100.41, PBN Implementation Process.**  
176 This order defines the process for developing SIDs, STARs, or RNP (AR)  
177 procedures.
- 178 1.2.3 FAA Advisory Circulars.  
179 Several ACs may be useful for Part 150 studies. Some deal with land use planning and  
180 others with operational matters. For example, those listed below relate to noise  
181 abatement and mitigation, which are useful in the development and implementation of  
182 NCPs. Periodic searches of the FAA’s website are recommended to determine the latest  
183 FAA guidance from new ACs that may have been issued.
- 184 1.2.3.1 **AC 91-36, Visual Flight Rules (VFR) Flight Near Noise Sensitive**  
185 **Areas.**  
186 This AC addresses VFR flight altitudes and routes near noise-sensitive  
187 areas. It encourages pilots making VFR flights near noise-sensitive areas  
188 to fly at altitudes higher than the minimum permitted by regulation and on  
189 flight paths that will reduce aircraft noise in such areas.
- 190 1.2.3.2 **AC 91-53, Noise Abatement Departure Profiles.**  
191 This AC describes noise abatement departure profiles for turbo-jet aircraft  
192 weighing more than 75,000 pounds.
- 193 1.2.3.3 **AC 91-66, Noise Abatement for Helicopters.**  
194 This AC presents guidelines for effective noise reduction when operating  
195 helicopters.
- 196 1.2.3.4 **AC 150/5100-17, Land Acquisition and Relocation Assistance for**  
197 **Airport Improvement Program Assisted Projects.**  
198 This AC provides guidance to meet the requirements of the Uniform  
199 Relocation Assistance and Real Property Acquisition Act of 1970.
- 200 1.2.3.5 **AC 150/5050, Community Involvement in Airport Planning.**  
201 This AC provides guidance on the appropriate level of public participation  
202 in a planning study, along with successful community involvement tools  
203 and techniques.
- 204 1.2.3.6 **AC 150/5000-9, Guidelines for Sound Insulation of Residences**  
205 **Exposed to Aircraft Operations.**  
206 This AC provides the guidance for conducting sound insulation programs  
207 that are either mitigation commitments as a result of NEPA studies or are  
208 sound insulation programs associated with a Part 150 program.
- 209 1.2.3.7 **AC 150/5190-4, Airport Land Use Compatibility Planning.**  
210 This AC provides guidance to help a broad understand the effects of  
211 incompatible land use on the safety and utility of airport operations, and



212 identify compatible land use development tools, resources and techniques  
213 to protect surrounding communities from adverse effects associated with  
214 airport operations.

215 1.2.4 FAA Policy Statements.

216 The following FAA policy statements relate to Part 150 and compatible land use.  
217 Periodically search the FAA website to see if new relevant policy statements have been  
218 issued on the subject.

219 1.2.4.1 **Policy on Funding of Combined Part 150 and Part 161 Studies and**  
220 **Analyses (September 6, 1996).**

221 This policy addresses funding eligibility for conducting a Part 161 analysis  
222 when combined with a Part 150 Study. Part 161 addresses the need for and  
223 requirements of implementing airport noise and access restrictions.

224 1.2.4.2 **Final Policy on Part 150 Approval of Noise Mitigation Measures:**  
225 **Effect on the Use of Federal Grants for Noise Mitigation Projects**  
226 **(April 3, 1998).**

227 This policy<sup>7</sup> establishes guidance for FAA personnel who are responsible  
228 for making funding decisions related to implementation of the Part 150  
229 program. The policy emphasizes the distinction between remedial and  
230 preventive noise mitigation measures and states FAA policy on approval  
231 of actions with respect to “new” versus “existing” noncompatible  
232 development as of October 1, 1998. The policy also defines the conditions  
233 under which minor development on vacant or bypassed lots could be  
234 considered for noise mitigation.

235 1.2.4.3 **Community Involvement Policy Statement (April 17, 1995).**

236 The FAA Community Involvement Policy Statement emphasizes the  
237 importance of providing the public with the appropriate opportunities to  
238 participate in the FAA decision-making process. It communicates the  
239 FAA’s commitment to public participation in agency decisions that impact  
240 the community with an emphasis on early, effective communications.<sup>8</sup>

241 1.2.4.4 **Aviation Noise Abatement Policy of 1976.**

242 This policy has been a foundational document for the present day 14 CFR  
243 Part 150 program. Since its issuance, the FAA published a draft revised  
244 policy in 2000 (65 *Federal Register* 43802-43824). Although it was never

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<sup>7</sup> *Federal Register*, Volume 63, No. 4, Friday April 3, 1998, Rules and Regulations. As of October 1, 1998, the FAA will approve under 14 CFR Part 150 only remedial noncompatible development and only preventive noise mitigation measures in areas of potential new noncompatible development. The FAA will not approve remedial noise mitigation measures for new noncompatible development that occurs in the vicinity of airports after the effective date of this final policy.

<sup>8</sup> This policy statement is currently published as appendix 10 of Order 7100.2K, and can be accessed at: [http://www.faa.gov/regulations\\_policies/orders\\_notices/index.cfm/go/document.current/documentnumber/7400.2](http://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.current/documentnumber/7400.2)

245 formally adopted, these draft land use compatibility concepts are being  
246 carried out informally in an effort to continue to improve the nation's civil  
247 aviation noise environment.

248 1.2.5 FAA Program Guidance Letters (PGLs).

249 The FAA publishes PGLs that provide instructions about how the FAA intends to apply  
250 or interpret provisions authorizing legislation. The subjects may include changes to  
251 existing policy and program guidance according to the provisions of new legislation.  
252 The FAA has issued several program guidance letters about noise compatibility  
253 planning, the latest version is accessible on the FAA website.

254 1.2.6 Other Guidance Material—Reports.

255 Several other reports provide guidance about the Part 150 Process and, unless another  
256 website is indicated, are on the FAA website.

257 1.2.6.1 **Community Involvement Manual, February 2016.**

258 This manual provides advice on how to plan and carry out an effective  
259 community involvement program. It recognizes community involvement  
260 as an essential part of FAA programs and decisions Available at:  
261 <https://www.faa.gov/about/plansreports/community-involvement-manual>

262 1.2.6.2 **Land Use Compatibility and Airports: A Guide for Effective Land  
263 Use Planning, September 1999.**

264 The report is published by the FAA Airports Division Southern Region  
265 and provides guidance for effective land use planning Available at:  
266 [https://www.faa.gov/sites/faa.gov/files/about/office\\_org/headquarters\\_offices/apl/III.B.pdf](https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/III.B.pdf)  
267

268 1.2.6.3 **FAA Airport Noise Compatibility Planning Toolkit.**

269 This toolkit provides airport sponsors, land use jurisdictional agencies, and  
270 FAA staff with guidance on improving airport land use compatibility and  
271 planning. Available at:  
272 [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/planning\\_toolkit/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/planning_toolkit/)  
273

274 1.2.6.4 **NoiseQuest.**

275 This website summarizes the effects of aviation noise in many areas such  
276 as annoyance, speech interference, sleep interference, real estate values,  
277 and hearing loss. It also contains findings of literature on several related  
278 topics. This website was developed to provide educational information on  
279 aviation noise. The initial site development was supported by the FAA  
280 through the PARTNER Center of Excellence under grants to researchers at  
281 Pennsylvania State University and Purdue University.<sup>9</sup> The ongoing  
282 development and enhancement of NoiseQuest is supported by the FAA

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<sup>9</sup> See Noisequest site at: <http://www.noisequest.psu.edu/noiseeffects-structures.html>

283 through the ASCENT Center of Excellence under grants to researchers at  
284 Pennsylvania State University. Opinions, findings, conclusions, or  
285 recommendations expressed in this material are those of the author(s) and  
286 do not necessarily reflect the views of the FAA or NASA.

287 1.2.6.5 **Airport Cooperative Research Program (ACRP) Synthesis 9: Effects**  
288 **of Aircraft Noise: Research Update on Select Topics.**

289 This document updates airport sponsors, stakeholders, and policy makers  
290 on information about aviation noise effects. Since FAA Report No. FAA-  
291 EE-85-2, Aviation Noise Effects, was first published in 1985, much has  
292 changed in the understanding of the effects of aviation noise on local  
293 communities. Research continues in the areas of health effects, annoyance,  
294 sleep disturbance, and potential effects on children’s learning abilities in  
295 schools. This document, available along with other noise-related research  
296 on the Transportation Research Board’s (TRB) website,<sup>10</sup> synthesizes  
297 research since 1985 to update and complement the original FAA report.

298 1.2.6.6 **ACRP Report 15, *Aircraft Noise: A Toolkit for Managing Community***  
299 ***Expectations.***

300 This report explores ways to improve communications with the public  
301 about issues related to aircraft noise exposure. The report examines  
302 practices that characterize an effective communications program and  
303 provides basic information about noise and its abatement to assist in  
304 responding to public inquiries. Available at:  
305 <http://www.trb.org/Publications/Blurbs/162800.aspx>

306 1.2.6.7 **State Guidance.**

307 Many state Departments of Transportation (DOT) provide guidance  
308 material, especially in the area of compatible land use planning around  
309 airports. Sponsors should consult their local DOT website to determine if  
310 their state provides such guidance. Another source to consider is the  
311 National Association of State Aviation Officials (NASAO) at:  
312 <http://www.nasao.org>.

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<sup>10</sup> See TRB site at: <https://www.trb.org/ACRP/Blurbs/160286.aspx>.

Note: ACRP publications are not FAA guidance and they cannot establish FAA policy. They can be used as a reference.

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**CHAPTER 2. OVERVIEW OF THE PART 150 PROCESS**315 2.1 **Process Flow.**

316 2.1.1 Title 14 CFR Part 150 has a specific process for defining and addressing aircraft noise,  
317 and land use compatibility at airports. Figure 2-1 shows the most basic elements of the  
318 voluntary Part 150 process, beginning with an airport's decision to initiate or update a  
319 Part 150 study, which includes defining the study area and determining the funding  
320 opportunities. This step is followed by preparation of the two primary elements of the  
321 Part 150 study: the NEMs and NCP. Once prepared, the sponsor and FAA analyze the  
322 NEMs to identify noncompatible land uses and noise impacts, and prepare the NCP that  
323 proposes solutions to mitigate those uses and impacts.

324 2.1.2 The Part 150 Process concludes with an FAA Record of Approval (ROA) and airport  
325 sponsor implementation of FAA-approved NCP measures. Section 150.23(e)(9) of Part  
326 150 requires sponsors to evaluate whether to revise the NCP if NEMs change as part of  
327 NCP implementation.

328 2.1.3 Public participation is included through the process. Soliciting public input is an  
329 important and required aspect of a successful Part 150 study.

330 2.2 **Study Definition, Funding, and Initiation.**

331 As shown in Figure 2-1, the Part 150 process begins with the airport sponsor responding  
332 to the need to address existing or anticipated new noise impacts or a desire for proactive  
333 land use compatibility planning. Once sponsors decide to undertake a Part 150 study,  
334 they can start identifying resources to fund it.<sup>11</sup>

335 2.2.1 Study Definition.

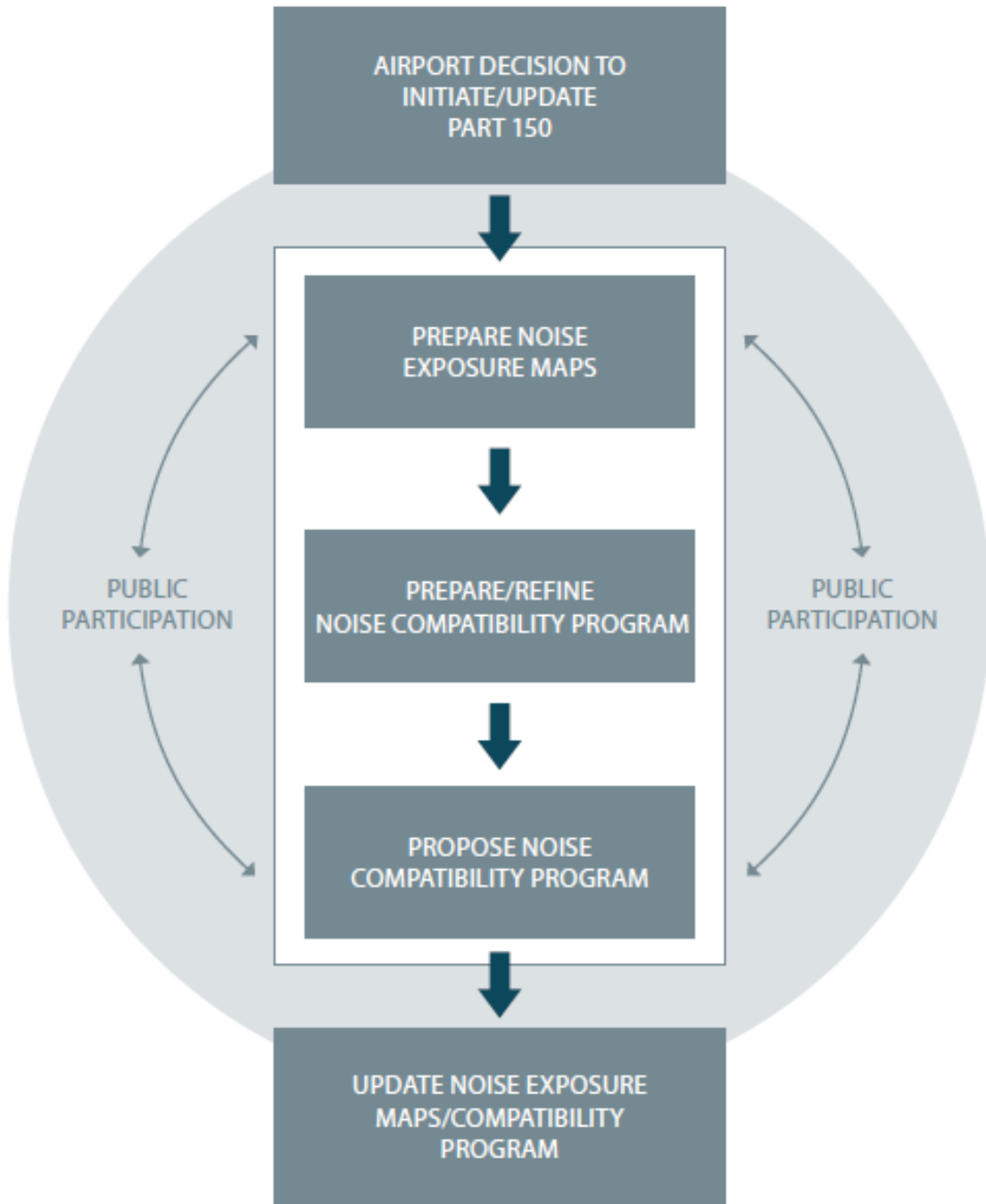
336 When an airport sponsor determines that a Part 150 Study would provide noise  
337 abatement or land use compatibility benefits, the next step should be coordinated with  
338 the FAA at the Airports District Office (ADO) level. This coordination should entail the  
339 status of any previous Part 150 studies conducted at the airport, the reasoning for  
340 deciding to conduct a Part 150 Study, and the expected benefits. The ADO makes the  
341 justification determination based on this information. The airport sponsor should then  
342 prepare a detailed scope of work and cost estimate for the study. The scope of work  
343 must be based on the Part 150 guidance provided and referenced in this AC. The FAA  
344 must approve the scope of work and provide a reasonableness determination on the cost  
345 estimate before work on the study begins.

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<sup>11</sup> Funding eligibility decisions are not part of the Part 150 development process.

346

**Figure 2-1. General Part 150 Process Flow**



347

348 2.2.2 Funding.

349 Funding for Part 150 Studies is usually derived from one of two sources: the Airport  
350 Improvement Program (AIP) or Passenger Facility Charges (PFCs). Airport sponsors

351 can also fund studies through other sources, including airport or local government  
352 revenues.

353 2.2.2.1 **AIP Funding.**

354 2.2.2.1.1 AIP funding is authorized by Title 49 U.S.C. Chapter 471. The AIP  
355 provides funding for airport planning and development projects at airports  
356 included in the National Plan of Integrated Airport Systems (NPIAS). It  
357 can also fund noise compatibility planning and carrying out NCPs (Title  
358 49 U.S.C. Sections 47501-47507).<sup>12</sup>

359 2.2.2.1.2 Title 49 U.S.C. Section 47103 requires the Secretary of Transportation to  
360 publish a national plan for the development of public-use airports in the  
361 U.S. The NPIAS identifies those airports that are considered important to  
362 the National Airspace System and outlines development during the  
363 planning period that is necessary to maintain a safe, secure, efficient, and  
364 integrated airport system that meets the needs of civil aviation, national  
365 defense, and the U.S. Postal Service. An airport must be included in this  
366 plan to be eligible to receive a grant under the AIP. The most current  
367 version of FAA Order 5100.38 contains a complete discussion of  
368 eligibility requirements. It is on the FAA website at:  
369 <http://www.faa.gov/airports/aip/>.

370 2.2.2.2 **Passenger Facility Charge Funding.**

371 The PFC program is authorized by 49 U.S.C. Section 40117. The PFC  
372 program provides a local source of funds to airport sponsors by  
373 authorizing airlines to impose a charge on each enplaned passenger. The  
374 airlines then provide those collections to the airport sponsor. The PFC  
375 program is implemented by 14 CFR Part 158, which was adopted on May  
376 22, 1991 and amended on May 30, 2000. Part 150 studies are eligible for  
377 PFC funding. PFC funds can also be used instead of or along with AIP to  
378 fund the airport sponsor's share of a Part 150 study that is primarily  
379 funded by the AIP. PFCs are considered local funds, not federal revenues.  
380 For specific guidance and procedures, airport sponsors interested in  
381 funding noise compatibility planning through PFCs should refer to FAA  
382 Order 5500.1, *Passenger Facility Charges*, on the FAA website at:  
383 <http://www.faa.gov/airports/pfc/>.

384 2.2.3 **Initiation.**

385 The airport sponsor usually prepares a scope of services and establishes a schedule to  
386 conduct the Part 150 Study. Though the FAA does not require a consultant to conduct  
387 the study, airport sponsors often seek these technical and staff resources. Consultants  
388 should be selected in accordance with the guidance provided in AC 150/5100-14,

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<sup>12</sup> This was initially set forth in ASNA, Public Law 96-143. Public Law 103-272 (July 5, 1994), Codification of Certain U.S. Transportation Laws at Title 49 U.S.C., repealed ASNA, as amended, and recodified it without substantive change at Title 49 U.S.C. Sections 47501-47507.

389 *Architectural, Engineering, and Planning Consultant Services for Airport Grant*  
390 *Projects.*

391 2.3 **Preparing Noise Exposure Maps.**

392 The Part 150 process requires airport sponsors to prepare two NEMs. The first NEM  
393 shows existing noise exposure. The second NEM is the estimated noise exposure at  
394 least 5 years in the future. As shown in the NEM process flow chart (Figure 2-2), NEM  
395 preparation begins with three major tasks that are usually undertaken at the same time:  
396 collecting and analyzing aircraft and airport operational data, collecting and mapping  
397 land use data, and establishing a public participation program. These three tasks, briefly  
398 summarized here, set the stage for preparing the NEMs and completing the required  
399 consultations. Later chapters of this AC explains these activities in detail.

400 2.3.1 Collecting Aircraft and Airport Operational Data.

401 This task focuses on data needed to determine existing noise. It includes items such as  
402 the number and type of aircraft operations for the preceding 12-month period or  
403 preceding full calendar year, the percentage of daytime versus nighttime operations,  
404 runway use percentages, flight track configurations, and flight track use. Section 5.5  
405 describes the activity to consider, data needed, and data sources.

406 2.3.2 Collecting and Mapping Land Use Data.

407 This task typically consists of identifying land by parcel and use and then confirming  
408 the information through windshield surveys (direct observations made from driving by  
409 the sites) or review of aerial photography. If high quality Geographic Information  
410 System (GIS) data are available, windshield surveys may not be needed. Other land use  
411 planning data such as identifying noise sensitive sites, zoning, and demographics  
412 (census data) are also typically collected. Land use data and the location of noise  
413 sensitive sites within a defined study area are then placed on base maps for plotting  
414 noise contours. Projected land use data are also collected for the Future Condition  
415 NEM. Section 5.2 provides more detail about collecting and mapping land use data.

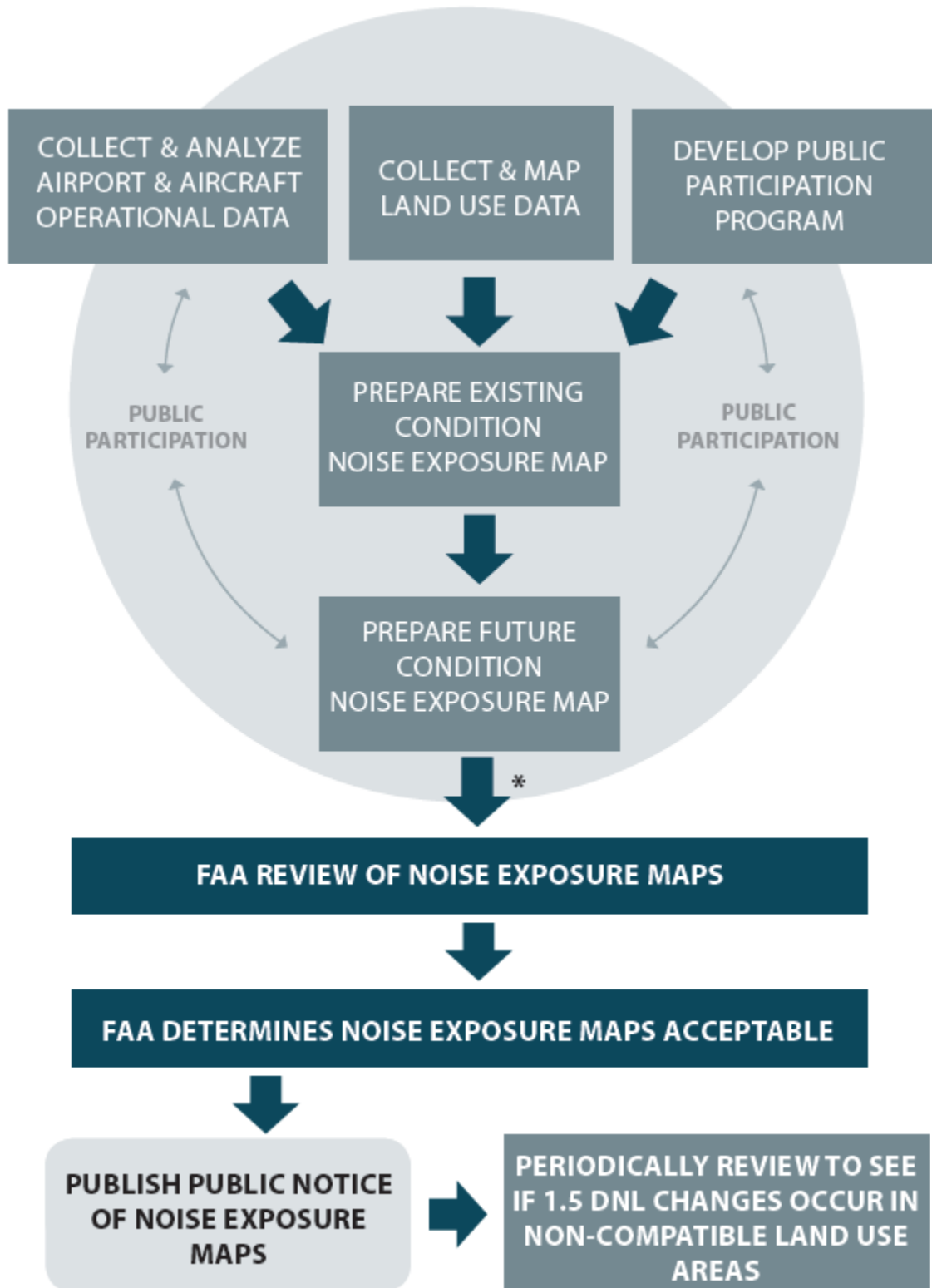
416 2.3.3 Developing the Consultation and Public Participation Program.

417 2.3.3.1 Establishing a consultation and public participation program begins by  
418 identifying the participants in the planning phase and the desired methods  
419 of involving them in the study. A combination of committee meetings and  
420 public meetings usually accomplishes this task. The public participation  
421 program is usually launched with an initial round of consultation to  
422 introduce the various parties to the Part 150 process. Chapter 4 provides  
423 detailed guidance on public participation and consultation.



424

**Figure 2-2. Noise Exposure Maps Process Flow Chart**



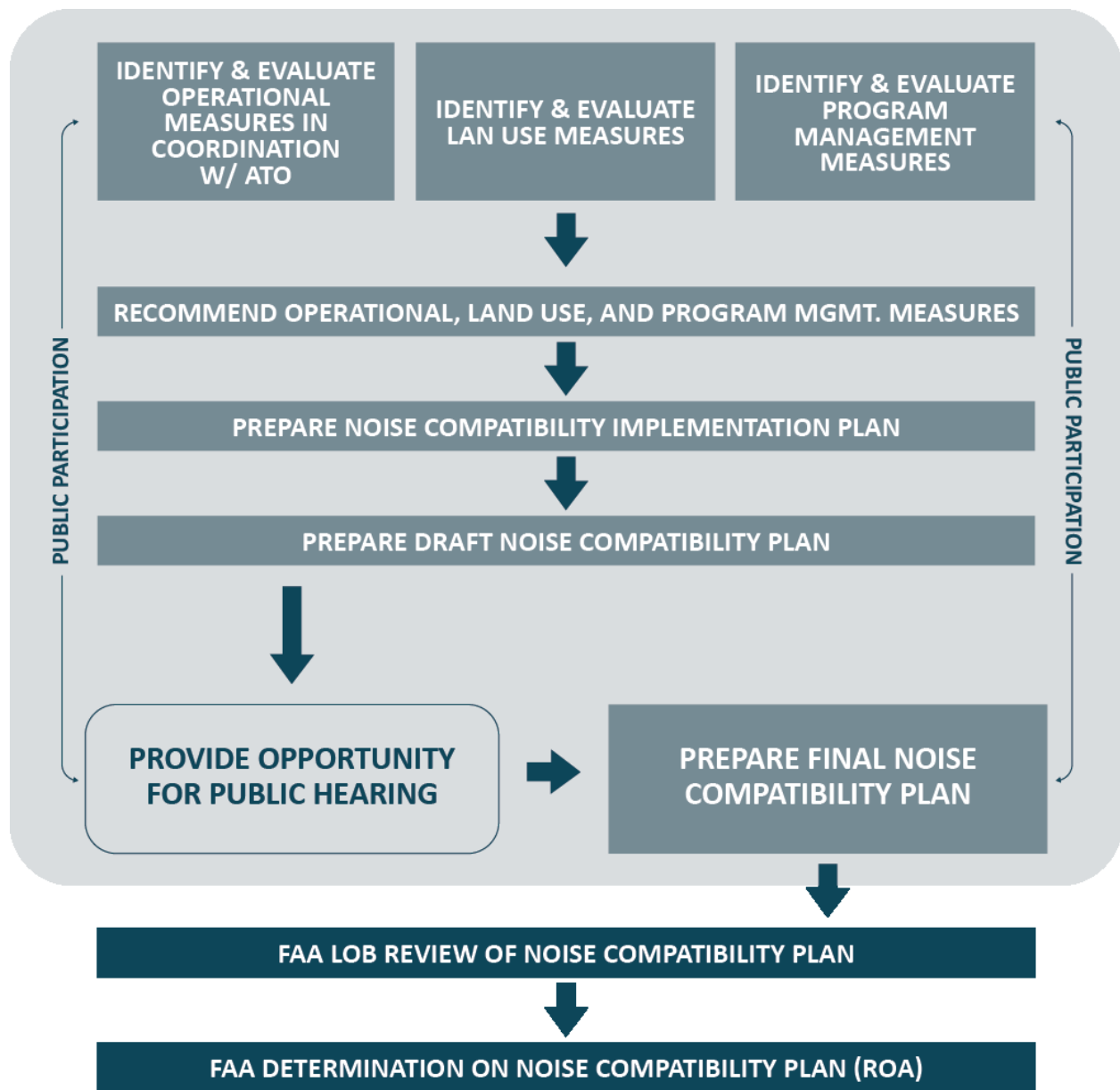
425

\*The airport sponsor may elect to submit the NEMs at the same time as the NCP documentation

- 426 2.3.3.2 The public's participation is an important and required aspect of any Part  
427 150 study, so devoting sufficient time and effort is needed to define the  
428 public consultation requirements of the Part 150. Chapter 5 of this AC  
429 discussed the specific elements of a public participation program.
- 430 2.3.4 Preparing Existing and Future Condition NEMs.
- 431 2.3.4.1 As shown in the NEM process flow chart (Figure 2-2), the preparation of  
432 the Existing Condition and Future Condition NEMs follows the three steps  
433 described in the previous paragraphs. These tasks consist of defining the  
434 existing and future noise contours on existing and future land use base  
435 maps and identifying jurisdictions and planning agencies within the DNL  
436 65 dB contour that must be consulted. The 65 DNL dB contour is the  
437 threshold above which the FAA considers aircraft noise to be incompatible  
438 with residential areas. With the contours established, then the impacts to  
439 residences, people, and other noise sensitive sites can be calculated and  
440 the documentation of the impacts reviewed by study participants. Another  
441 round of public outreach provides the parties with the opportunity to  
442 review and comment on the NEMs.
- 443 2.3.4.2 Once airport sponsors receive the input from the study participants and the  
444 general public, they have two options: prepare the NEM documentation  
445 and submit it to the FAA for review or wait to submit the NEM  
446 documentation until the NCP is prepared. (Chapter 6 discusses the  
447 advantages and disadvantages of each approach.)
- 448 2.3.4.3 After reviewing the NEMs, the FAA issues a determination indicating  
449 whether the NEMs comply with Part 150 requirements. If they do, the  
450 FAA publishes its acceptance as a Federal Register Notice. Airport  
451 sponsors can then advertise that the maps are available to the public. More  
452 information on the procedure for public notice of the NEMs and the  
453 benefits of map publication is in Part 150 Section 150.21(f) and Section  
454 4.2 of this AC.
- 455 2.3.4.4 If during the forecast period of the NEMs or during implementation of the  
456 NCP operation of the airport results in a substantial new noncompatible  
457 land use or significant reduction of noise over existing noncompatible  
458 uses, sponsors must prepare and submit a revised NEM, per Part 150  
459 Sections 150.21(d)(1) and (2). See Section 7.25 of this AC for further  
460 discussion on periodically reviewing the effectiveness of the NCP given  
461 changes in the NEM.
- 462 2.4 **Preparing the Noise Compatibility Program.**
- 463 2.4.1 The flow chart in Figure 2-3 shows the NCP process. Preparing the NCP typically  
464 begins by identifying and evaluating operational, land use, and program management

465 measures that might most effectively reduce impacts within the 65 DNL and the  
466 noncompatible land uses identified by the NEMs. Study of both operational and land  
467 use measures can start simultaneously, although it is sometimes necessary to evaluate  
468 land use after the operational measures. Operational measures, such as changes in flight  
469 tracks and arrival and departure tracks, have the potential to change the area impacted  
470 by noise and so the appropriateness of a related land use measure. Identification of  
471 program management measures, typically follows operational and land use measures.  
472 Part 150 Section B150.7 describes the types of operational and land use measures that  
473 sponsors must consider. Chapter 7, of this AC explains these further.

474 **Figure 2-3. Noise Compatibility Program Process Flow Chart**



475

476 2.4.2 Public participation is again required at this point in the process to receive input on the  
477 measures being considered and to identify any other appropriate ones. From the list of  
478 recommended measures, the sponsor can begin to prepare a draft NCP implementation  
479 plan, which will also need to describe anticipated cost, funding source, and schedule,  
480 and identify the entities responsible for implementing each recommended measure.

481 2.4.3 The draft NCP is then made available for review and comment by all interested parties  
482 and sponsors must provide an opportunity for a public hearing even if one is not  
483 requested. The final NCP takes into account relevant input received during the  
484 consultation, public review of the draft NCP, and public hearings. It must include a  
485 summary of comments received at the hearing as well as a copy of all written material  
486 received during the preparation of the NCP. Written materials can include public  
487 comments, study committee meeting summaries, and notes of consultation meetings.  
488 The final NCP must include the sponsor's responses to, and disposition of, public  
489 comments received during the Part 150 process on the formulation and adequacy of the  
490 NCP. Chapter 5 of this AC discusses public involvement in more detail.

491 2.4.4 Sponsors send the final NCP to the FAA for its preliminary review to determine its  
492 conformance to Part 150 requirements. If the NCP conforms, the FAA begins a final  
493 review that is limited to 180 days. Review of changes to flight procedures (i.e., IFPs and  
494 CVFPs charted in the FAA's Terminal Procedures Publication, or included in the ATCT  
495 Standard Operating Procedures (SOP)) are exempt from the 180-day period and so may  
496 be longer than 180 days. The review evaluates the NCP measures against Part 150  
497 approval criteria, and the FAA issues a determination in the form of a ROA, that either  
498 approves or disapproves the individual recommended elements of the NCP.

## 499 2.5 **NEM or NCP Submittals.**

500 Airport sponsors should submit NEMs and NCPs to the FAA with a cover letter that  
501 indicates whether the NEM or NCP is being submitted for a formal FAA determination  
502 or for informal review and advice. The submittals should also clearly indicate whether it  
503 is an NEM, NCP, combined NEM and NCP, or an update and that it is the airport  
504 sponsor's proposed program, not its consultant or other entity's.

## 505 2.6 **NEM or NCP Withdrawal or Revision.**

506 An airport sponsor that wishes to withdraw or revise the NEMs or NCP after submitting  
507 it to the FAA for final review but before the FAA has issued a Federal Register Notice  
508 must provide written notification to the FAA. Consultants or third parties cannot  
509 provide this notice. Withdrawal of the NEMs will halt FAA review. For sponsors that  
510 withdraw or revise the NCP, the FAA will stop its 180-day review. A new 180-day  
511 period normally will begin with the submittal of the revised NCP.

512 2.7 **FAA Review and Determinations.**

513 2.7.1 The airport sponsor submits NEMs, an NCP, or both to the delegated ARP point of  
514 contact (POC) at the Regional Airports Division or the local ADO.

515 2.7.2 For NEM submittals, the FAA sends a letter acknowledging the receipt of the NEMs.  
516 The letter will also indicate whether the maps comply with Part 150 and if not, will  
517 identify the NEM deficiencies and required changes for resubmittal. For submittals that  
518 meet Part 150 requirements, the Regional Airports Division or ADO Manager will  
519 publish a notice of acceptance in the Federal Register along with information on where  
520 the public may review the maps and their associated documentation. These locations  
521 usually include the FAA Regional or ADO and the airport sponsor's offices.

522 2.7.3 For NCP submittals, the FAA's letter acknowledging receipt of the documentation and  
523 the start of its preliminary review to determine whether the NCP complies with Part 150  
524 requirements. For NCPs that do not meet the requirements, sponsors are notified of the  
525 deficiencies and the revisions required. For the NCPs that meet the requirements, the  
526 FAA publishes a notice acknowledging this in the Federal Register and the start of the  
527 FAA's 180-day NCP review period. The notice announces the NCP's availability and  
528 invites the public to review and comment directly to the FAA at the beginning of the  
529 FAA's review period. This public review period lasts for 60 days. The FAA considers  
530 all comments from the Federal Register before issuing a final decision on the NCP.

531 2.7.4 The 180-day review evaluates whether the NCP meets the regulatory goal of reducing  
532 existing noncompatible land uses or preventing future land use noncompatibility. The  
533 Part 150 regulations require each recommended program measure to meet specific  
534 approval criteria (explained in Chapter 7 of this AC). Approved NCP items meet these  
535 goals and other Part 150 requirements. Sometimes, the approval is for parts, rather than  
536 the entire NCP measure.

537 2.7.5 The FAA issues its determination approving or disapproving each element of the NCP.  
538 If the FAA does not take action on the NCP within 180 days, it is automatically  
539 approved by law. The one exception is for decisions related to the use of flight  
540 procedures (i.e., IFPs and CVFPs charted in the FAA's TPP, or included in the ATCT  
541 SOP) for noise-control purposes, which may exceed the 180-day review. Part 150  
542 Section 150.35 describes the FAA approval process. Chapter 8 of this AC explains in  
543 detail all of these activities in the review process.

544 2.8 **Implementation.**

545 2.8.1 Implementation should proceed in accordance with the schedule specified in the NCP  
546 implementation plan. For NCP items that anticipate AIP funding, sponsors should  
547 incorporate them into the airport's capital improvement program (CIP) and then submit

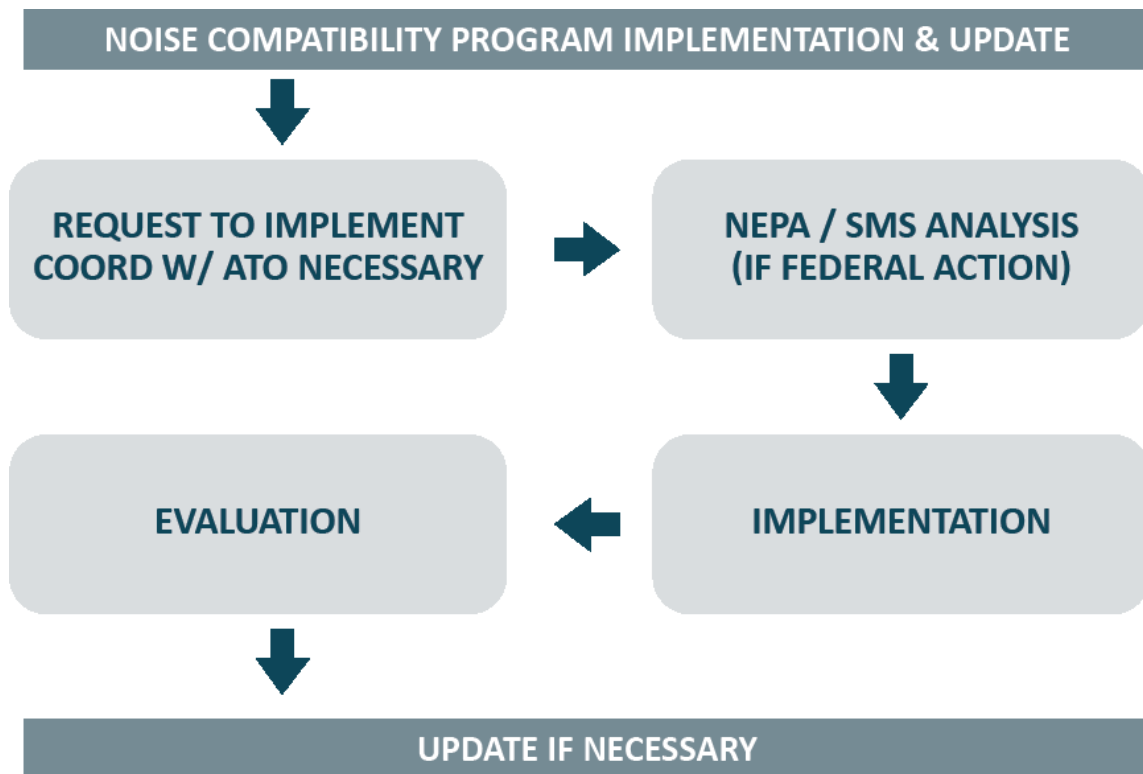
548 a grant application to the FAA for funding. Figure 2-4 presents the general process for  
 549 implementation and update of noise compatibility programs.

550 2.8.2 The process of meeting necessary local government requirements to implement  
 551 recommended land use changes should begin as soon as possible. These actions can  
 552 require long lead times, and if land use controls such as zoning or overlay restrictions  
 553 are not in place, additional noncompatible land uses can occur at any time.

554 2.8.3 Some recommended NCP measures may require a NEPA review and separate FAA  
 555 actions before they can be implemented, such as approval of a change to the Airport  
 556 Layout Plan (ALP), ATO charting of an IFP, and/or a new Letter of Agreement between  
 557 the Airport and ATCT/TRACON and amending the ATC SOP. The NEPA process  
 558 should be coordinated with the airport’s ARP POC. The CIP and NCP implementation  
 559 schedules and budgets should reflect any required NEPA processes.

560 2.8.4 Sponsors need to consider the staffing required to implement the NCP, assessing  
 561 whether existing airport staff has the expertise and time to implement applicable parts  
 562 of the NCP and if consultant assistance is needed. Airports often consider consultant  
 563 assistance for NCPs that propose large sound insulation programs or complex noise  
 564 monitoring systems. Airport management may find other NCP measures easy to  
 565 implement. Chapter 9 of this AC explains in detail all these implementation activities.

566 **Figure 2-4. Noise Compatibility Program Plan Implementation and Update**



567

568

569

**CHAPTER 3. RELATIONSHIP TO OTHER PLANNING**570 3.1 **Introduction.**

571 3.1.1 Part 150 studies represent one aspect of planning for the airport environment. Other  
 572 planning studies can influence a Part 150 study and vice versa. Furthermore, elements  
 573 of an NCP may generate a need for a NEPA analysis to implement some proposed  
 574 measures.

575 3.1.2 This chapter describes other studies to consider for integration with a Part 150 study  
 576 along with other ongoing planning efforts, including planning studies by other local,  
 577 state, and federal agencies.

578 3.2 **Airport Master Plans.**

579 Airport master plans are comprehensive studies of an airport's development needs for  
 580 three periods: short- (1-5 year), medium- (5-10 year), and long-term (10+ year). The  
 581 development needs are based on local, regional, and national economic factors,  
 582 including demographics, to derive operational forecasts for analyzing future demand. A  
 583 master plan identifies the cost and schedule of a wide range of capital improvements  
 584 needed to meet the anticipated demand for airport facilities. The environmental impacts  
 585 of these capital improvements, which includes noise, are assessed to varying degrees in  
 586 a master plan depending upon the study's complexity and budget and implementation  
 587 timeframes.

588 3.2.1 Conducting a Part 150 Study and a Master Plan Update Concurrently.

589 Some airport sponsors choose to conduct a Part 150 Study concurrently with a master  
 590 plan or master plan update. This enables a more comprehensive evaluation of the noise  
 591 impacts of proposed capital improvements. For example, if the master plan proposes a  
 592 near-term runway extension to meet aeronautical needs, the Part 150 Study might  
 593 include the proposed longer runway in the Future Condition NEM, determine its  
 594 associated noise contours, identify and quantify potential noncompatible land uses, and  
 595 possibly recommend operational noise abatement measures to include in the NCP.<sup>13</sup>  
 596 Whether an airport sponsor conducts a Part 150 study concurrently or within a close  
 597 timeframe with a master plan or update, it is important that the forecasts used are  
 598 consistent.

599 3.2.1.1 **Benefits of Conducting a Part 150 Study and Master Plan  
 600 Concurrently.**

601 Conducting a Part 150 study and a master plan concurrently provides  
 602 certain efficiencies when preparing baseline existing and forecast data. For

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<sup>13</sup> Concurrent preparation could provide the opportunity to analyze measures in the NCP to mitigate the projected noise impacts for the proposed airport layout plan (ALP) changes. Should the proposed ALP changes not receive NEPA approval in the form of a Finding of No Significant Impact (FONSI) or Record of Decision (ROD), the NCP measures could not be implemented in the Part 150.

603 example, up-to-date forecasts of aircraft operations, aircraft fleet mix, and  
 604 daily aircraft operations are needed for both studies. Conducting the  
 605 studies concurrently can avoid the cost of generating this type of data  
 606 separately for each study. Both studies can also use a common set of  
 607 forecast data, thereby avoiding the potential for conflicts and  
 608 inconsistencies between the level of detail necessary for forecasts of the  
 609 master plan and forecasts of the Part 150 Study.

#### 610 3.2.1.2 **Scheduling Considerations.**

611 Conducting Part 150 studies and master plan concurrently can realize  
 612 substantial benefits, but timelines for the studies can vary. NEM approval  
 613 and NCP approval, as well as the additional steps required to implement  
 614 some noise abatement or mitigation measures, require review periods that  
 615 might not work with the schedule for the master plan/update or may not  
 616 have the same forecast timeframes. The airport sponsor needs to consider  
 617 whether these differences in review and approval timeframes are  
 618 acceptable before undertaking the studies concurrently.

### 619 3.3 **Comprehensive Local Planning.**

620 Many counties, cities, and other municipalities prepare and regularly update  
 621 comprehensive plans that provide a basis for long-range decision-making on issues such  
 622 as land use, zoning, residential densities, and economic development. Comprehensive  
 623 plans specify community goals and objectives for managing future growth and  
 624 promoting desired outcomes.

#### 625 3.3.1 Coordinating a Part 150 Study and Comprehensive Planning.

626 The Part 150 regulation requires airport sponsors to consult with public agencies and  
 627 planning agencies if their area of jurisdiction is wholly or partially within the DNL 65  
 628 dB noise contour depicted on the NEMs. Airport sponsors who wish to adopt a noise  
 629 level of less than DNL 65 dB as the basis of land use compatibility planning must work  
 630 with local municipal jurisdictions with land use authority within that contour, since  
 631 they are the ones ultimately responsible for making changes to their ordinances.<sup>14</sup> Local  
 632 comprehensive plans can be a key source of data for future land use plans, future  
 633 zoning, and planned residential densities when analyzing the Future Condition NEM.  
 634 Conversely, data produced by the Part 150 Study, such as the size, shape, and degree of  
 635 noise generation, can be extremely useful to the development of a comprehensive plan  
 636 or a noise overlay district (see Section 7.18 for a discussion of zoning restrictions).

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<sup>14</sup> Land use compatibility determinations contained in [Table 1 of the Part 150 regulations](#) “do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.”



637 Therefore, close coordination of information from each effort is important to the  
638 success of the other.

639 3.3.1.1 **Consultation with Local Planning Agencies.**

640 Airport sponsors are required to consult with local land use planning  
641 agencies with jurisdiction over the land use within the DNL 65 and higher  
642 dB noise contour (or a lower standard if adopted). Consultation may  
643 involve multiple jurisdictions. This helps ensure that the recommendations  
644 of the Part 150 Study are consistent with the local agencies’  
645 comprehensive plans, goals, and objectives. This consultation should take  
646 place at the start of the Part 150 Study during data collection and continue  
647 during the Part 150 Study’s development. Chapter 4 of this AC describes  
648 study committees and other consultation venues.

649 3.3.1.2 **Following Up with Local Planning Agencies.**

650 Once the FAA approves the Part 150 Study, airport sponsors should  
651 follow up on a regular basis with local planning agencies to make sure the  
652 measures affecting local comprehensive plans recommended by the Part  
653 150 Study are incorporated into the next local land use plan update. This is  
654 especially important for elements of the Part 150 Study related to land use  
655 and zoning, which require approvals from one or more political  
656 jurisdictions.

657 3.4 **Part 161 Studies.**

658 3.4.1 Airport Noise and Capacity Act.

659 In November 1990, the U.S. Congress enacted the Airport Noise and Capacity Act  
660 (ANCA) (recodified in 1993 at 49 U.S.C. Sections 47521-47533). ANCA directed the  
661 FAA to establish a national program to review noise and access restrictions on aircraft  
662 operations that are proposed by airport sponsors. The law also mandated phasing out  
663 after December 31, 1999, the operation of Stage 2 aircraft weighing more than 75,000  
664 pounds, and after December 31, 2015, operation of Stage 2 aircraft less than 75,000  
665 pounds.

666 3.4.2 Title 14 CFR Part 161.

667 In carrying out ANCA’s directive, the FAA published Title 14 CFR Part 161 (Part 161),  
668 Notice and Approval of Airport Noise and Access Restrictions. Part 161 implements the  
669 law’s requirements for any newly proposed or modified airport noise or access  
670 restrictions that affect the operation of Stage 2 or Stage 3 aircraft, regardless of aircraft  
671 weight. For a Stage 2 restriction, Part 161 requires airport sponsors to provide notice of  
672 the proposed restriction and provide an analysis before implementing it. For a Stage 3  
673 restriction, Part 161 requires sponsors to provide notice of the proposed restriction and  
674 provide an analysis, as well as seek FAA approval before implementation. The FAA  
675 will review and comment on appropriate elements of the analyses, including whether  
676 the proposal may impact the airport sponsor’s grant assurances, and will determine

677 whether the airport sponsor has met Part 161 requirements for restriction proposals. For  
 678 Stage 2 and Stage 3 restriction proposals, the required analyses must include noise  
 679 contours prepared in accordance with Part 150 map analysis criteria (see Part 161  
 680 Sections 161.9 and 161.11).<sup>15</sup> Studies of Stage 2 and Stage 3 restriction proposals must  
 681 include analysis of nonrestrictive and restrictive alternatives the airport sponsor  
 682 considered and provide a broad notice and consultation process.

### 683 3.4.3 Incorporating the Part 161 Analysis in a Part 150 Study.

684 The Part 161 regulation allows airport sponsors considering a noise or access restriction  
 685 to incorporate their Part 161 analysis as an element of a Part 150 study (see Part 161  
 686 Sections 161.211 and 161.321). This gives the FAA the opportunity to review the  
 687 proposal for compliance with grant assurances and other federal laws. The Part 150  
 688 regulations recommend including a discussion about possible Stage 3 noise restrictions  
 689 in the Part 150 NCP. NCP approval is not the same as a Part 161 approval, and  
 690 therefore needs additional FAA analysis to complete the Part 161 process.

### 691 3.4.4 Part 161 Studies and Federal Funding.

692 3.4.4.1 Part 161 studies can be eligible for federal funding through the AIP or  
 693 with PFCs if they are conducted as part of a Part 150 study. A Part 161  
 694 analysis can be eligible as a Part 150 study measure if it meets these three  
 695 conditions:

- 696 • The airport sponsor's NCP recommends further study of a noise  
 697 compatibility problem through the Part 161 Study that the Airport  
 698 Sponsor cannot address in the Part 150 Study.
- 699 • The measure meets Part 150 approval criteria and is approved under  
 700 Part 150 for further study.
- 701 • The Part 161 analysis is incorporated into a Part 150 Study update  
 702 under either of these two conditions.
- 703 • After the airport sponsor completes all of the applicable Part 161  
 704 requirements (including FAA approval for a Stage 3 restriction  
 705 proposal).

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<sup>15</sup> All Stage 2 airplanes have been banned from the U.S. fleet as of December 31, 2015. ANCA mandated that after Dec. 31, 1999, no person may operate a civil subsonic turbojet airplane certificated at more than 75,000 pounds in the contiguous U.S. unless it meets Stage 3 noise levels. The 2012 FAA Reauthorization, which phased out Stage 2 airplanes of 75,000 lbs or less, used the same language. Airplane means an engine-driven fixed-wing aircraft heavier than air that is supported in flight by the dynamic reaction of the air against its wings (see 14 CFR 1.1). Section 172 of the 2018 FAA reauthorization allowed for limited use of Stage 2 aircraft under certain circumstances but no qualified applicants have expressed interest in this to date. The phase out did not apply to helicopters, because they do not meet the regulatory definition of an airplane. Aircraft means a device that is used or intended to be used for flight in the air (see 14 CFR Section 1.1) and thus helicopters are aircraft. ANCA/Part 161 applies to restrictions on Stage 2 or Stage 3 aircraft. Although there were separate processes for adopting certification standards for helicopters and fixed-wing airplanes, both include classifications for Stage 2 or Stage 3.

- 706 • By following the same public notice and comment opportunity  
707 procedures required for an initial study in Part 161 Section 161.211 for  
708 a Stage 2 restriction proposal, or Part 161 Section 161.321 for a Stage  
709 3 restriction proposal.

710 3.4.4.2 A Part 150 study does not have to be conducted before a Part 161 analysis,  
711 nor is federal funding required to conduct a Part 161 analysis. Airport  
712 sponsors should be aware, however, of the stringent requirements of Part  
713 161 and should consider the assistance of consultants and legal counsel  
714 before undertaking one, whether as an independent Part 161 analysis or as  
715 part of a Part 150 study.

### 716 3.5 **NEPA Environmental Analysis.**

717 Some proposed noise abatement measures require compliance with NEPA before they  
718 can be implemented. Examples include changes to flight procedures or certain changes  
719 to an airport layout plan. When direct federal action or federal approvals are implicated,  
720 the noise abatement measure may not be implemented until after the FAA has complied  
721 with NEPA.

#### 722 3.5.1 NEPA Requirements.

723 NEPA requires an environmental analysis and supporting documentation to determine  
724 whether a federal action has the potential to significantly impact the human or natural  
725 environment. FAA Order 1050.1, *Environmental Impacts: Policies and Procedures*,  
726 implements the provisions of NEPA for FAA actions. FAA Order 5050.4, *National  
727 Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*,  
728 provides specific guidance for FAA actions pertaining to airports. Depending on the  
729 scale of the project or operational action and its potential for causing significant  
730 environmental impacts, NEPA environmental documentation may involve a Categorical  
731 Exclusion (CatEx), an Environmental Assessment (EA) and subsequent Finding of No  
732 Significant Impact (FONSI), or an Environmental Impact Statement (EIS) and its  
733 Record of Decision (ROD).

#### 734 3.5.2 Environmental Documentation.

735 3.5.2.1 Approval of an NCP measure under Part 150 means that the measure  
736 meets Part 150 criteria, including reducing and/or preventing  
737 noncompatible land uses (see Part 150 Section 150.35 for a detailed  
738 description of Part 150 approval criteria). The approved NCP is  
739 considered an airport land use compatibility planning document. All  
740 measures implemented using federal financial assistance (i.e. AIP grants  
741 or PFC) will require compliance with NEPA. Approved NCP measures  
742 may require environmental evaluation before implementation. For  
743 example, if constructing a noise barrier requires a change to the ALP, and  
744 that change to the ALP is one over which the FAA has approval authority,  
745 the NEPA process must be completed and the change to the ALP approved  
746 (which is a federal action) before implementing or receiving a federal

747 grant for the measure. Any change to IFPs, visual flight tracks at towered  
 748 airports and other air traffic management (i.e., ATC) practices, including  
 749 those designed to reduce noise, requires environmental evaluation. The  
 750 ROA from FAA that approves or disapproves measures will indicate what  
 751 measures require additional analysis before implementation. FAA Order  
 752 1050.1 describes the policies and procedures for environmental actions,  
 753 while FAA Joint Order 7400.2, *Procedures for Handling Airspace*  
 754 *Matters*, provides guidance on the ATO actions requiring environmental  
 755 assessment or documentation.

756 3.5.2.2 Combining an EIS or EA with a concurrent Part 150 update can be  
 757 challenging because these studies look at different factors. Part 150 asks  
 758 whether there is a noncompatible land use, while NEPA documents look at  
 759 whether a particular project will result in a significant noise impact. For  
 760 NEPA, a significant impact is a 1.5 DNL increase inside the 65 DNL noise  
 761 contour. The Part 150 study concerns when the noncompatible land use is  
 762 located inside the 65DNL dB or higher noise contour.

763 3.5.2.2.1 Incorporating a Part 150 Study Data into Associated Environmental  
 764 Documents.  
 765 Information from a Part 150 study, such as noise contours and land use  
 766 data, can be used to supplement the noise section of environmental  
 767 documents<sup>16</sup> if operational assumptions, baseline data, and forecasts  
 768 remain valid. Since this shared use can reduce the complexity and cost of  
 769 environmental documentation, it is encouraged whenever possible. For  
 770 sharing forecasts, however, airport sponsor’s forecasts for a Part 150  
 771 Study need to be reasonably consistent with the Terminal Area Forecast  
 772 (TAF) in accordance with FAA Advisory Circular 150/5070-6, *Airport*  
 773 *Master Plans*, before they can be used for NEPA studies. To be certain  
 774 about what information can be shared across different studies, it is best to  
 775 consult with the ARP POC.

776 3.5.2.2.2 Part 150 Study Mitigation and NEPA Projects.  
 777 • Airport development NEPA documents will include appropriate  
 778 mitigation for a proposed project’s environmental impacts. For noise

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<sup>16</sup> Be cautious when combining an EIS or EA with a Part 150 update. There are essentially two different standards/thresholds for noise. The FAA’s significant noise threshold under NEPA is a 1.5DNL increase inside the 65 DNL noise contour. The Part 150 regulations consider land use compatibility related to the DNL 65 dB noise contour, not significance of noise impacts. In addition to these basic differences, the timeframe of existing and future years differ in the NEPA and Part 150 contexts. The existing condition is not a concept used in the NEPA context, but is generally incorporated into the concept of the “affected environment” as defined in the NEPA regulations. FAA’s practice for NEPA purposes is to define the affected environment based on the last 12 consecutive months of available data, while the future condition under FAA’s NEPA implementing instructions is the year in which the proposed action is in place and operational. In the NEPA context, another future year, generally 5 to 10 years beyond the project’s first year of operation may also be assessed. In Part 150, the existing condition is generally based on the last 12 consecutive months of data, while the future condition is at least five years from the existing condition year.

779 impacts, the NEPA document should include commitments to mitigate  
 780 significant noise impacts. In addition to mitigation to reduce noise  
 781 impacts the NEPA document can commit to examining noise  
 782 mitigation options beyond those included in the NEPA document and  
 783 FONSI/ROD or EIS/ROD. If a NEPA document for an airport  
 784 development project identifies specific noise mitigation measures to  
 785 address impacts of the airport development project, implementation of  
 786 those specific noise mitigation measures can be included as a condition  
 787 of approval in the EIS/ROD or FONSI/ROD for the airport  
 788 development project. If the airport development NEPA document  
 789 identifies a commitment to examining additional noise mitigation  
 790 through a Part 150 study or study update, the ROD or FONSI/ROD for  
 791 the airport development project can commit to such a study, but cannot  
 792 commit to specific Part 150-related noise control measures that have  
 793 not yet been identified or evaluated in a Part 150 study. Without this  
 794 evaluation, it is not known whether the measures are feasible or would  
 795 meet Part 150 program approval criteria. See Section 3.2 for  
 796 information on preparing concurrent Part 150 and master planning  
 797 studies.

- 798 • After a Part 150 study is completed, NEPA and special purpose laws  
 799 such as the National Historic Preservation Act may require the FAA  
 800 and/or airport sponsor to take additional actions to comply with these  
 801 statutes prior to implementation of noise mitigation measures approved  
 802 through the Part 150 process. This may include coordination with  
 803 other agencies, such as a state historic preservation office, preparation  
 804 of further studies, additional public outreach, or other statutory  
 805 compliance requirements.

## 806 3.6 State Land Use Planning Processes.

### 807 3.6.1 Specific State Requirements.

808 Airport sponsors and their consultants should refer to the land use planning processes  
 809 that can be obtained from their state's Department of Transportation websites. These  
 810 websites often discuss the authorizing legislation and associated regulations and provide  
 811 guidance on the planning processes. Certain states, such as California, have specific  
 812 requirements for land use planning around airports. The goal of these planning  
 813 processes is to improve and maximize the compatibility of surrounding land uses with  
 814 airport operations. Consult and coordinate data from these state planning processes  
 815 when undertaking or updating a Part 150 study. Note that a land use measure not  
 816 approved under Part 150 may be implemented outside the Part 150 requirements.

### 817 3.6.2 Local Political Jurisdiction's Action.

818 The Part 150 Study process requires sponsors to consult with the jurisdictions and land  
 819 use authorities within the appropriate NEM contour area. Working with these entities  
 820 ensures that land use recommendations resulting from a Part 150 study are considered

821 for incorporation into local land use plans and implemented if possible. The reluctance  
822 of local jurisdictions to implement recommended land use measures is a major cause of  
823 continuing airport noise compatibility issues. Inadequate state and local measures could  
824 allow noncompatible development within the noise contour and render the new  
825 development ineligible for federal funding for sound insulation. See Section 7.6 for  
826 further discussion.

## 827 CHAPTER 4. PUBLIC PARTICIPATION AND CONSULTATION PROGRAM

### 828 4.1 Introduction.

829 4.1.1 An important part of a successful Part 150 study is adequate and meaningful  
830 participation by a wide range of potentially affected parties, as required by 14 CFR Part  
831 150 Sections 150.21(b) and 150.23(c)-(d). Public participation helps educate the  
832 interested and potentially affected parties about technical and policy issues. These  
833 issues may include the FAA’s role in the Part 150 process and approval requirements,  
834 national transportation policy, air traffic control, existing and forecast noise, changes in  
835 airport operations and aircraft types, local land uses, individual property rights, personal  
836 annoyance, and regional economic activity. A successful public participation program  
837 will promote sharing information among the airport sponsor, airport users and tenants,  
838 local land use jurisdictions, potentially affected property owners, elected and appointed  
839 public officials, and the general public. The public participation program should include  
840 these elements:

- 841 • A clear set of goals and objectives.
- 842 • An understanding of the “public” to be reached—its characteristics (culture,  
843 language and other demographics) and any information on how airport operations  
844 may affect its interests.
- 845 • A description of the program’s general strategies and techniques.
- 846 • Clear responsibilities that identify the authority of consulted parties during the Part  
847 150 Process.
- 848 • Explanations of how the public participation program will aid the decision-making  
849 process.
- 850 • Mechanisms for review and feedback from the public as the Part 150 Study  
851 proceeds (see Figures 2-1 through 2-3).

852 4.1.2 Section 150.21(b) of Part 150 requires that the airport sponsor afford state and local  
853 agencies, aeronautical users, and the public with an opportunity to submit their views,  
854 data, and comments about the correctness and adequacy of the draft NEMs, descriptions  
855 of forecast aircraft operations, and formulation and adequacy of the NCP. Part 150,  
856 Section 150.23(d), specifically requires notice and an opportunity for a public hearing  
857 on the NCP.

858 4.1.3 To demonstrate compliance with the regulatory requirements, participation program  
859 must be visible. That is, the focus of public participation would be on exploring options  
860 and respectfully responding to public concerns rather than focusing on a particular  
861 measure or implying that decisions have already been made about mitigation measures.  
862 A successful program is essential to public acceptance of technically correct and  
863 generally acceptable solutions to airport-specific noise compatibility issues. This  
864 involvement must be documented, and it must start early in the Part 150 process.  
865 Advisory Circular 150/5050-4, *Community Involvement in Airport Planning*, provides

866 guidance for community involvement during airport planning. The following sections  
867 discuss public participation for standard Part 150 studies. The Community Involvement  
868 AC, however, will likely be the main resource to refer to when planning the process.

## 869 4.2 **Consultation and Public Participation.**

870 An effective public participation program provides interested parties with an early  
871 opportunity to review draft products and provide comments before major decisions are  
872 made. The Part 150 Study development should identify a comprehensive public  
873 participation program as an early priority, and begin consultation with the required  
874 parties during the development and preparation of the NEMs and NCP.

### 875 4.2.1 NEM Consultation.

876 NEM consultation involves government agencies and airport users, whereas public  
877 participation involves the public. This involvement comprises creating real opportunity  
878 for the public's timely and meaningful review of, and input on, the correctness and  
879 adequacy of the NEM and descriptions of forecast aircraft operations at the  
880 development stage, as required by Part 150 Section 150.21(b). Documentation of the  
881 public participation efforts is required, as the FAA cannot accept an NEM without this  
882 opportunity for the public to review and comment on it.

### 883 4.2.2 NCP Public Involvement.

884 4.2.2.1 The public also needs the opportunity to review and provide input on the  
885 formulation and adequacy of the NCP. Part 150 Section 150.23(d) requires  
886 providing the public the opportunity to actively and directly share its  
887 views, data, and comments on the formulation and adequacy of the  
888 program, as well as response to comments. Although a public hearing is  
889 not required unless specifically requested after notifying the public of this  
890 opportunity to participate in the process, it often makes sense to conduct a  
891 public hearing before completing and sending an NCP to the FAA.

892 4.2.2.2 When the potentially affected parties become involved before major  
893 decisions or commitments are made, the study team can better address  
894 issues of community concern. Failure to involve all appropriate interested  
895 parties at an early stage in the study can lead to misunderstanding,  
896 mistrust, and potentially jeopardize FAA's ability to review and approve  
897 materials.

## 898 4.3 **Identification of Interested Parties.**

899 Part 150 Sections 150.21(b) and 150.23(c) and (d) require that sponsors to consult with  
900 the following parties during the Part 150 process:

### 901 4.3.1 FAA Officials.

902 Examples of FAA officials to include in the Part 150 process are FAA Regional  
903 Airports Division Offices, FAA Airports District Offices, Airport Traffic Control



904 Towers, Terminal Radar Approach Control Facilities (TRACONs), FAA Service  
 905 Centers, and Flight Standards and ATO Flight Procedures Offices. FAA participation  
 906 from the outset will help ensure proposed operational noise abatement measures are  
 907 operationally feasible and consistent with current laws, regulations, and policies. FAA  
 908 tower staff as well as FAA Airports Regional and District Offices should be actively  
 909 engaged on a regular basis.

910 4.3.2 State Officials.

911 Examples of state officials to involve in the Part 150 process include state DOTs or  
 912 aviation offices.

913 4.3.3 Public Agencies and Planning Agencies.

914 This group specifically includes those agencies that have jurisdiction over any area  
 915 depicted on the NEM that is within the DNL 65 dB and greater contours.<sup>17</sup> City  
 916 Planning Departments, County Planning Departments, and Metropolitan Planning  
 917 Organizations are typically involved.

918 4.3.4 Other Federal Officials.

919 This group includes those officials having local responsibility for land uses depicted on  
 920 the NEMs. For example, Part 150 studies have involved the National Park Service,  
 921 Bureau of Land Management, U.S. Forest Service, and branches of the U.S. military.

922 4.3.5 Regular Aeronautical Users of the Airport.

923 This group may include fixed base operators (FBOs), airlines, airport businesses,  
 924 corporate aviation interests, general aviation pilots, cargo operators, and other affected  
 925 airport tenants. For all airports, to the extent needed, consult with aircraft operators and  
 926 air carriers at the airport. The most efficient method for contacting air carriers during  
 927 the study process is to contact the airline's airport affairs committee at the airport. If one  
 928 does not exist, contact the airport affairs, properties, or corporate real estate manager for  
 929 each carrier.

930 4.3.6 The General Public.

931 4.3.6.1 This group includes those that have indicated their interest or are located  
 932 within the NEM contours and may be affected by the outcome of the Part  
 933 150 Study.

934 4.3.6.2 Identifying potentially affected property owners can be accomplished  
 935 through a review of local tax maps or similar ownership documents.  
 936 Identifying others interested and potentially affected often requires  
 937 publishing notices and newspaper advertisements, establishing a study  
 938 web-page, and conducting an initial orientation meeting to present the  
 939 purpose and nature of the study as well as the supporting public

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<sup>17</sup> If the local jurisdiction identifies noncompatible land uses in areas exposed to less than DNL 65 dB, consult with parties within the expanded DNL contour.

- 940 participation program. The meeting can explain how members of the  
941 interested public can take part in the study.
- 942 4.3.6.3 Potential participants can generally be identified through consulting with  
943 airport staff, reviewing local, state, and federal agency records to identify  
944 the parties with jurisdiction, and reviewing lists of airport tenants and  
945 users groups such as FBOs and airlines.
- 946 4.3.6.4 The FAA does not consider the Part 150 consultation flawed if parties  
947 decline to participate, as long as there is evidence in the NEM and NCP  
948 documentation they were extended adequate opportunity to participate.  
949 Unanimity of opinion is also not required, as long as there was adequate  
950 opportunity for meaningful participation to all interested parties.
- 951 4.3.6.5 The airport sponsor is responsible for selecting the final NCP measures  
952 submitted to the FAA for consideration and is not required to include  
953 measures proposed during the consultation or public participation  
954 processes. When measures are not included, however, failing to  
955 adequately explain and document to the public why these were not  
956 included may cause public dissatisfaction with the process and outcome.
- 957 4.4 **Types of Public Participation.**  
958 Rather than specify any type of public participation programs, Part 150 allows sponsors  
959 the flexibility with how to meet general consultation/public participation requirements.  
960 Depending on the location and size of the study area and the complexity of the issues  
961 involved, a public participation program can feature one or more of the following  
962 methods.
- 963 4.4.1 Large Group Public Meetings.  
964 Two types of large group meetings are commonly used for public participation.
- 965 4.4.1.1 **Formal Meetings (Hearings).**
- 966 4.4.1.1.1 Sponsors must hold a formal public hearing before submitting the NCP to  
967 the FAA if they received a request for one after publishing the required  
968 notice and opportunity for a public hearing (Part 150 Section 150.23(d), as  
969 amended September 24, 2004). FAA recommends holding the meeting at  
970 least 30 days after the date the notice is advertised. The traditional public  
971 hearing setting provides individual speakers an opportunity to present their  
972 comments.
- 973 4.4.1.1.2 This approach is generally not a good forum for a debate or continuing  
974 discussion of issues and alternatives due to the somewhat inflexible  
975 format. It is best held after informal meetings have taken place and many  
976 preliminary issues have already been resolved. One advantage of formal  
977 hearings is that they are normally recorded verbatim or transcribed by a

978 stenographer, and the information presented is documented in the NCP.  
979 This allows participants to contribute opinions to the official record of the  
980 project, which is considered in the FAA’s review.

981 4.4.1.1.3 Regularly scheduled local government meetings that have an agenda item  
982 for the Part 150 Study do not meet the requirements for a public hearing.  
983 More details on Public Hearings are in Section 4.6.

984 4.4.1.2 **Informal Meetings.**

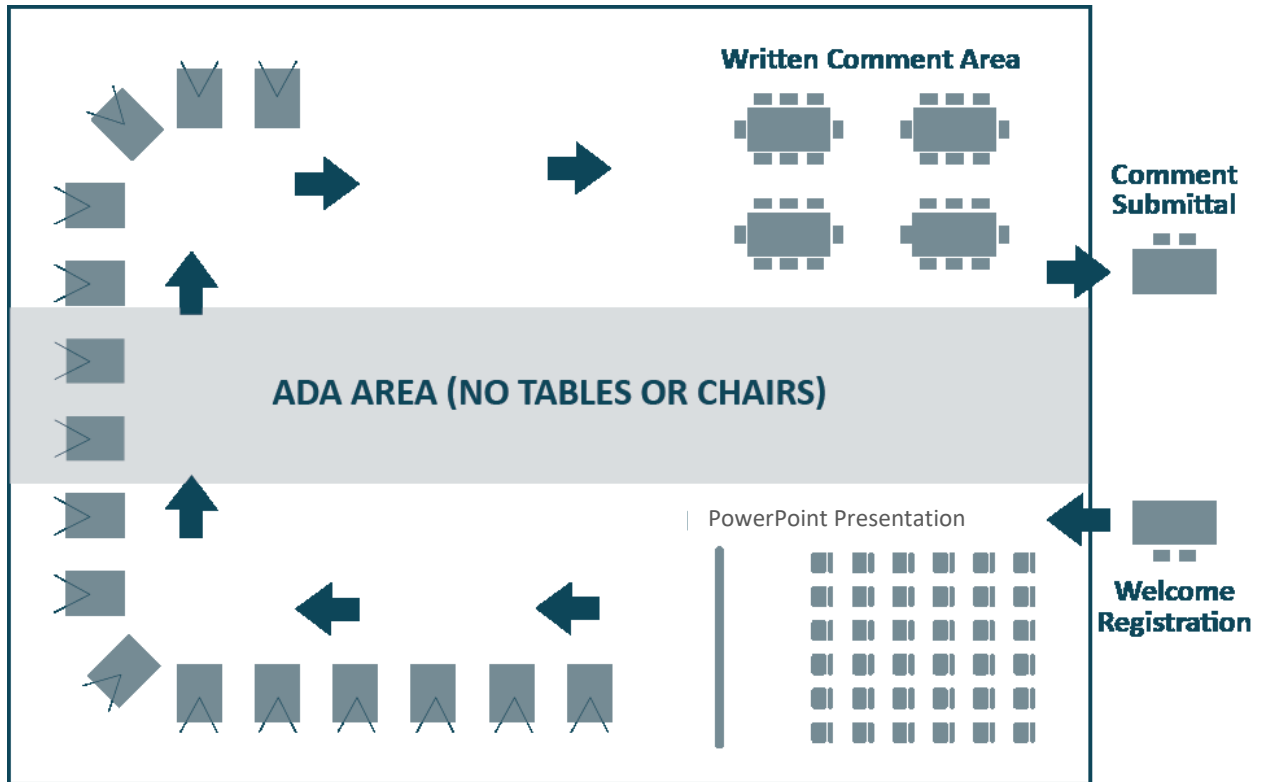
985 4.4.1.2.1 An open house format often works best for a public information meeting.  
986 A useful strategy is to offer a combined public meeting and hearing, in  
987 which the hearing area is held in a different room from, but in the same  
988 location as, the information meeting area, and both run concurrently.  
989 Specific room arrangements vary depending on the meeting’s goals, but  
990 all must accommodate the needs of persons with disabilities.

991 4.4.1.2.2 Figure 4-1 shows a typical layout for an open house meeting. In this  
992 format, “information stations” arranged throughout a room or building  
993 provide poster boards or handouts with information on specific topics of  
994 interest. Part 150 Study team members stationed around the information  
995 boards listen to attendees’ concerns and answer questions. This is a very  
996 effective method to engage interested parties, provide specific  
997 information, solicit public opinions, and identify additional alternatives.

998 4.4.1.2.3 A key component of this approach is careful documentation of individual  
999 discussions so that their results are not lost as the workshop proceeds. It is  
1000 usually helpful to use a team of more than one staff person at key  
1001 information sessions so one person stays engaged with members of the  
1002 public while the documents key points discussed. Another effective place  
1003 to collect information is a “sign in” station where people can also leave  
1004 written comments. Sign-in sheets and comments received are subject to  
1005 release under the Freedom of Information Act.

1006

**Figure 4-1. Example of Public Information Meeting Room Layout**



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1008

**Note:** ADA indicates Americans with Disabilities Act.

1009

4.4.1.2.4

The number of public information meetings to hold during the Part 150 process can vary depending on the complexity of the Part 150 study and public interest. Public meetings are typically scheduled in the evening to provide the best opportunity for people to attend and maximize potential attendance. Public meetings should avoid conflicts with events that may engage a large part of the public, such as holidays or other significant local government meetings. In some cases, such as when a significantly large elderly population is involved, it may be necessary to schedule meetings in locations and at times that accommodate special needs. In other cases, minority and/or low income communities in the impact area required special outreach considerations such as translation services (see AC 150 5050-4A, *Community Involvement in Airport Planning*). Or, it may be necessary to hold meetings in more than one location to provide adequate geographic coverage and easy access.

1023

4.4.1.3

**Committees or Task Forces.**

Consultation and review by the interested public are often accomplished through Part 150 Study committees or task forces. Examples of committees or task forces that sponsor should consider to facilitate the public participation program include a Technical Committee (TC) and a Citizen’s Committee (CC). These are not necessarily a substitute for the

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1029 consultation or public participation requirements, but another way of  
 1030 focusing on key concerns. Often a TC or CC is established before an NEM  
 1031 development starts, such as for a master plan (see AC 150/5070-6B,  
 1032 *Airport Master Plans*). In developing committees sponsors should be  
 1033 aware of potential bias, and consider committee representation that  
 1034 balances interests.

1035 4.4.1.4 **Technical Committee (TC).**

1036 The TC generally provides input and insight on technical issues. TC  
 1037 members typically have a high level of experience with some aspect of  
 1038 aviation or airport operations and are often major stakeholders in the  
 1039 airport's operation. The TC may include FAA experts from the Airports  
 1040 Program Office, Air Traffic Organization (ATO), airlines chief pilots, and  
 1041 aviation trade groups.

1042 4.4.1.5 **Citizen's Committee (CC).**

1043 The CC serves as an information exchange forum for a representative  
 1044 portion of the interested and potentially affected public. It acts as a conduit  
 1045 for information between the study team and the public at large. The CC  
 1046 often reviews the Part 150 study team's plans and proposals, interacts with  
 1047 and makes recommendations to the study team during the review, and  
 1048 provides its recommendations on the finished plan to the airport sponsor.  
 1049 As much as possible, CC membership should reflect all interested and  
 1050 affected parties.

1051 4.4.2 For Committees or Task Forces.

1052 4.4.3 When establishing a TC, CC, or other citizen participation committee, adequate  
 1053 representation from community and aviation groups should be afforded to the extent  
 1054 possible. In the interest of group efficiency and progress, however, it is not necessary  
 1055 that every citizen or aviation user that has expressed an interest in the study be a  
 1056 member of the committee(s). The size of both the TC and CC should be kept  
 1057 manageable.

1058 4.4.4 Both the TC and the CC are for informational purposes, they have no decision-making  
 1059 power of their own, and are not substitutes for providing notice/information to the  
 1060 general public. In establishing these committees, an airport sponsor does not delegate its  
 1061 authority and responsibilities to them. The specific roles of such committees should be  
 1062 clearly defined at the outset and carefully explained at the initial meetings to prevent  
 1063 later misunderstandings. For some issues, such as discussions of land use compatibility  
 1064 with respect to local zoning, it may be appropriate to combine the committees into a  
 1065 single group.

1066 4.4.5 Small Group Meetings or Briefings.

1067 Throughout the Part 150 study, small group meetings—with community boards, elected  
 1068 officials, civic organizations, and other interested organizations—can supplement large

1069 group public information meetings. These meetings provide opportunities for detailed  
1070 discussions of both the Part 150 regulation and the specific airport Part 150 Study. They  
1071 also allow study team members to learn about the range of public concerns.

1072 4.4.6 Public Awareness Information Programs.

1073 4.4.6.1 Many other communication channels can communicate information with  
1074 the public about the Part 150 study, depending on the geographic area to  
1075 be covered, the numbers of parties to be reached, the timeframe of the  
1076 projected study, and the complexity or sensitivity of the issues involved:

- 1077 • Study mailing lists
- 1078 • Press releases
- 1079 • Fact sheets or flyers
- 1080 • Newsletters
- 1081 • Websites
- 1082 • Surveys
- 1083 • Telephone hotlines
- 1084 • Social media

1085 4.4.6.2 Whatever the communication, these public programs should clearly  
1086 present information with a minimum use of technical jargon so that the  
1087 targeted audience, usually the general public, can easily understand the  
1088 information and the issues involved. A continuing component of the  
1089 programs should be informing the public how they can become involved  
1090 in the study.

1091 4.5 **Preparation of Public Participation Materials.**

1092 Before preparing materials to present to the public, it may be necessary to consider  
1093 producing them in more than one language, just as an interpreter may be necessary to  
1094 for public meetings and hearings. Census data for the area should be reviewed to  
1095 understand the area's ethnic composition and whether a need exists for bi-lingual or  
1096 multi-lingual materials. The language of the public participation materials often  
1097 determines the overall layout and design of the materials. More important, identifying  
1098 the language requirement of the study area reduces the potential for language problems  
1099 or barriers and engenders respect and trust for the intended audience.

1100 4.5.1 Mailing Lists.

1101 Many Part 150 study teams develop a comprehensive mailing list and continually  
1102 update it over the course of the Part 150 Study to ensure that all appropriate parties  
1103 receive notices and other written materials. It is important to make the purpose and  
1104 existence of the mailing known at the beginning of the Part 150 Study and throughout  
1105 the process so that all parties who wish to participate can do so. Simply being on a

1106 mailing list and receiving periodic updates will satisfy many in the community. It is  
1107 important that mailing lists be kept updated and accurate, and that the public understand  
1108 the need to contact the study team when their information changes.

1109 4.5.2 Press Releases, Flyers, Fact Sheets, and Newsletters.

1110 Press releases, fact sheets, flyers, or newsletters should be concise and efficiently  
1111 organized. They should use clear, simple language so as to be understood by a wide,  
1112 diverse audience. It should provide the reader with a brief background on the Part 150  
1113 Study, the process, and how far the study has progressed. Key issues should be clearly  
1114 identified, using simple graphics to illustrate study areas, flight paths, noise contours,  
1115 and other central elements. Written materials should consistently provide the reader  
1116 with information on how to further participate in the Part 150 process. In general,  
1117 newsletters and flyers should not exceed four pages; the longer it is, the less likely the  
1118 public will read them.

1119 4.5.3 Poster Boards.

1120 Poster boards for public meetings should focus on individual key issues and clearly  
1121 identify the topics. Multiple, simple posters are more effective than a single poster  
1122 crowded with too much information. Titles should be large enough to be read from  
1123 across the room, and text should be large enough to be read from five feet away. The  
1124 suite of posters at any meeting should include one that describes the “Role of the FAA”  
1125 in the Part 150 Study, and another that shows a timeline indicating the current status of  
1126 the Part 150 Study and its relation to the overall schedule for developing the NEM and  
1127 NCP documents.

1128 4.5.4 Websites.

1129 Project websites make information about Part 150 studies continuously available to the  
1130 public. They can also help reduce the number of questions received by email and phone.  
1131 As with other forms of presentation, websites should be kept simple, with the text  
1132 focused on key issues, the graphics clear, and the site easy to navigate for finding  
1133 information. The more detailed information can be provided with linked pages or  
1134 downloadable documents, so that the basic website does not become overly crowded,  
1135 which discourages use by the public. If a document will be posted on an FAA website,  
1136 it must be meet the requirements of Section 508 of the Americans with Disabilities  
1137 Act.<sup>18</sup> States often have similar requirements.

1138 4.5.5 Surveys.

1139 Airport sponsors can use surveys to identify public attitudes and perceptions about  
1140 issues associated with the Part 150 Process. They can be conducted by phone or mail,  
1141 online, or through individual interviews or small group meetings. A well-designed  
1142 airport survey can capture reliable and meaningful data to indicate the opinions of a  
1143 broad component of the community. Surveys conducted by federal agencies or

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<sup>18</sup> More information is available at: <https://www.access-board.gov/ict/>.

1144 supported with federal funds require the Office of Management and Budget's approval.  
 1145 These surveys should be coordinated with the airport's ARP POC before pursuing it.

1146 4.5.6 Telephone Hotlines.

1147 Some airport sponsors have used telephone hotlines to provide information about Part  
 1148 150 Study progress, collect comments, and handle noise complaints. Comments  
 1149 received over a hotline can be incorporated into the Part 150's public participation  
 1150 program as part of the comment documentation. The effectiveness of a hotline highly  
 1151 depends on the communications skills of the staff operating it, and staffing it can  
 1152 require a substantial amount of time. However, hotlines can be a convenient way for  
 1153 citizens to participate in the Part 150 Study and an effective method to provide  
 1154 information about meetings and other public participation activities.

1155 4.6 **Public Hearing.**

1156 Part 150 Section 150.23(d) requires that NCP documentation include evidence that the  
 1157 airport sponsor provided notice and an opportunity for a public hearing before  
 1158 submitting the NCP to the FAA for approval.

1159 4.6.1 Overview.

1160 The public hearing process helps ensure the active and direct participation of the  
 1161 general public and of the parties identified in Part 150 Sections 150.21(b) (public  
 1162 consultation for NEMs) and 150.23(c) and (d) (public consultation as well as  
 1163 opportunity for public hearing for NCPs). Although Part 150 does not specify the timing  
 1164 of the public hearing, it does require that public consultation take place before  
 1165 submitting an NEM or NCP to the FAA. Some sponsors schedule a public hearing  
 1166 without waiting for someone to request one. It is best to conduct the public hearing  
 1167 when the NCP is in draft form and contains all the recommended measures for noise  
 1168 abatement (relating to aircraft operations), land use, and program management  
 1169 (administrative actions). This enables the public to comment on the plan in its entirety,  
 1170 avoiding potential confusion as to the proposed NCP measures.

1171 4.6.2 Notice of Opportunity for a Public Hearing.

1172 4.6.2.1 In order to demonstrate compliance with the requirement for a *Notice of*  
 1173 *Opportunity for a Public Hearing* the notice should appear in an area-wide  
 1174 or local newspaper(s) having general circulation in the communities  
 1175 surrounding the airport. The notice should contain the following  
 1176 information:

- 1177 • A statement that a Part 150 Airport Noise and Land Use Compatibility  
 1178 Planning Study is being conducted for [name the airport].
- 1179 • A concise statement that the hearing's purpose is to accept public  
 1180 comments about the NCP.
- 1181 • The locations and times where the draft NCP document will be  
 1182 available for public review before the hearing.



- 1183 • A web-site link if the NCP is posted on the airport sponsor’s website  
1184 or on one developed specifically for the study.
- 1185 • A statement of procedures to request a public hearing.
- 1186 4.6.2.2 If no one requests a hearing, the airport sponsor must certify that the  
1187 *Notice of Opportunity for a Public Hearing* was published and provide the  
1188 documentation verifying this in the NCP.
- 1189 4.6.3 Notice of Public Hearing.
- 1190 4.6.3.1 If a public hearing is requested, or scheduled without a request, the airport  
1191 sponsor should publish a “Notice of Public Hearing” containing the  
1192 information listed in Section 4.6.2. This notice informs the public that a  
1193 hearing will occur. The public notice should be advertised so it meets the  
1194 state law or local ordinance for publishing legal notices. An affidavit of  
1195 publication of the notice should be obtained from the newspaper(s) in  
1196 which it was published and included in the final NCP.
- 1197 4.6.3.2 The airport sponsor should place copies of the draft NCP document in  
1198 local libraries and/or other publicly accessible locations so that the public  
1199 has a meaningful opportunity to review the document before the public  
1200 hearing.
- 1201 4.6.4 Conducting the Public Hearing.
- 1202 A Presiding or Hearing Officer normally conducts the public hearing. There are no  
1203 specific requirements for serving in this capacity. The Presiding or Hearing Officer for  
1204 the hearing is responsible for the orderly conduct of the public hearing. A stenographer  
1205 normally records or transcribes public hearings so an accurate record exists of all  
1206 presentations and comments made during the hearing. Any person may submit oral or  
1207 written statements and data about the Part 150 Study during the public hearing.  
1208 Reasonable limits may be set on the time allowed for oral statements, and the  
1209 submission of statements in writing may be required. The public comment period is  
1210 typically extended after the public hearing (usually two weeks) to allow comments to be  
1211 submitted to the airport sponsor.
- 1212 4.7 **Public Participation Documentation.**
- 1213 Accurate documentation of the public participation process is essential. Even though it  
1214 is a required component of the final study, the public is more likely to accept the Part  
1215 150 Study results when they see that community input and concerns were considered in  
1216 the study process. The best practice for this ongoing task is to maintain a good record of  
1217 public involvement and update the documentation regularly over the course of the Part  
1218 150 Study rather than prepare it at the end of the process.

- 1219 4.7.1 Public Participation Program Report Appendix.
- 1220 4.7.1.1 Part 150 Section 150.21(b) requires the study’s report to include a  
 1221 narrative description of the public consultation accomplished on the NEM  
 1222 and of the opportunities afforded the public to review and comment during  
 1223 the development of the NEMs. Similarly, Part 150 Section 150.23(e)(4)  
 1224 requires the study’s report to include a narrative description of the key  
 1225 issues, public participation, and the consultation carried out for the NCP.
- 1226 4.7.1.2 These support items that should be included in the appendix:
- 1227 • Committee rosters
  - 1228 • Committee meeting sign-in sheets and minutes
  - 1229 • Legal notices and other advertisements
  - 1230 • Newsletters
  - 1231 • Presentations, handouts, and data from poster boards used at public  
 1232 information meetings or committee meetings
  - 1233 • Sign-in sheets from public information meetings
  - 1234 • Sign-in sheets and speaker registration cards from the public hearing
  - 1235 • A transcript of the public hearing
- 1236 4.7.2 Summary of NEM Comments.
- 1237 There is no requirement in the Part 150 regulation for the sponsor to prepare responses  
 1238 to comments received from the public during the NEM preparation. FAA reviews the  
 1239 NEM documentation that must include a description of the sponsor’s process to gather  
 1240 public input. The regulation requires that the written comments must be filed with the  
 1241 “Regional Airports Division Manager,” since the ADO office has the responsibility for  
 1242 acceptance of the NEMs. The Federal Register Notice announcing FAA acceptance of  
 1243 the NEMs does not include a public comment period. In some cases, however, the FAA  
 1244 or the sponsor may receive comments. The sponsor should forward comments to the  
 1245 FAA, and the FAA will advise the sponsor to consider these comments in preparing the  
 1246 NCP (if an NCP is being prepared).
- 1247 4.7.3 Summary of NCP Comments.
- 1248 4.7.3.1 The sponsor is required to afford adequate opportunity for the active and  
 1249 direct participation of the public prior to, and during the development of  
 1250 the NCP. Part 150 Section 150.23(e)(7) requires that the documentation  
 1251 of the Part 150 Study include a summary of the comments received at its  
 1252 public hearing. A transcript, if prepared, should be included in the  
 1253 document. If verbal comments are transcribed at informal meetings, these  
 1254 should also be included along with all comments submitted to the airport  
 1255 sponsor and the airport sponsor’s responses to and treatment of those  
 1256 comments, demonstrating the program is feasible, reasonable, and

- 1257 consistent with achieving the objectives of airport noise compatibility.  
1258 There is, however, no requirement to respond directly to the  
1259 commenter(s). This information must be filed with the FAA Regional or  
1260 Airports District Office, usually as an appendix to the study. This  
1261 requirement ensures that all parties are made aware of the information.
- 1262 4.7.3.2 The FAA publishes a federal register notice after it determines the NEM  
1263 and NCP (if submitted together) conform to Part 150 requirements. The  
1264 notice specifies a 180-day FAA review period for the NCP, which  
1265 includes a 60-day public comment period within this review period. Under  
1266 150.23(e)(7)), the airport sponsor is required to respond to all comments  
1267 submitted by the public during this period and to provide all comments  
1268 and the draft responses to the FAA. The FAA will review all comments  
1269 and draft responses.
- 1270 4.7.3.3 Based on this review, the sponsor, in coordination with FAA, will  
1271 determine if a revision to the NCP is required. If it does, the comments  
1272 and associated responses should be included as an appendix in the final  
1273 NCP. If the NCP does not require revisions, the sponsor shall respond to  
1274 each comment and make the comments and responses available to the  
1275 public on its website. A summary of the public input and a response can  
1276 also be included in the FAA's ROA.
- 1277 4.7.3.4 The FAA publishes a federal register notice that announces the availability  
1278 of the ROA. If public comments were received during the 60-day  
1279 comment period and a revised NCP with the comments enclosed was not  
1280 prepared, the ROA should briefly summarize the public comments  
1281 received and appropriate responses to those comments. It is not  
1282 recommended to include an attachment to the ROA with the comments  
1283 and responses without first consulting with the airport sponsor.
- 1284 4.7.3.4.1 The notice of availability of the ROA does not include a public comment  
1285 period for its review. However, in rare instances, the sponsor or the FAA  
1286 may receive comments on the ROA. If this occurs, the FAA, or sponsor  
1287 should respond to the commenter to discuss their comments and consider  
1288 this input during implementation.

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**CHAPTER 5. PREPARING NOISE EXPOSURE MAPS**1291 5.1 **Introduction.**

1292 5.1.1 Noise exposure maps (NEMs) are a primary component of the Part 150 Study. Title 14  
1293 Part 150 Section 150.21 and Appendix A describe the requirements for NEMs.

1294 5.1.2 The Noise Exposure Map comprises a set of scaled maps that show the airport, its noise  
1295 contours (existing and forecast), and the surrounding area. The following supporting  
1296 documentation must be included:

- 1297 • Existing condition aircraft operations as of the date of submission, based on the  
1298 preceding 12-month period or preceding full calendar year.
- 1299 • Forecast aircraft operations at the airport, based on reasonable assumptions. The  
1300 forecast year must be at least 5 years after the date the current conditions map is  
1301 submitted.
- 1302 • Descriptions of each noncompatible land use as of the date the map submitted to the  
1303 FAA.
- 1304 • An analysis of how forecast operations will affect compatibility and land uses  
1305 depicted.

1306 5.1.3 Part 150 (Section 150.1) prescribes the procedures, standards, and methodology  
1307 governing the development, submission, and review of NEMs. It prescribes single  
1308 systems for completing the three central tasks required to develop NEMs:

- 1309 • Measuring noise at airports and surrounding areas. This measurement generally  
1310 provides a highly reliable relationship between projected noise exposure and  
1311 surveyed reactions of people to noise.
- 1312 • Determining exposure of individuals to noise resulting from operations at an  
1313 airport.
- 1314 • Identifying the land uses that are normally compatible with various levels of  
1315 exposure to noise.

1316 5.1.4 Appendix A of this AC provides information on the physics of sound, the effects of  
1317 noise on people, and noise metrics.

1318 5.2 **Creating Base Maps and Databases.**1319 5.2.1 Requirements.

1320 5.2.1.1 Part 150 Section A150.103(b)(1) requires NEMs to graphically depict the  
1321 airport and its environs. The graphics must be of sufficient quality to  
1322 display the information required on the NEMs so it is clear and easy to  
1323 read. The maps must have an arrow indicating north, and they should be

- 1324 scaled no smaller than 1 inch to 2,000 feet (see Section 5.6.5), with the  
1325 scale used indicated on the face of the maps.
- 1326 5.2.1.2 The following data and features must be graphically depicted to scale on  
1327 the NEMs
- 1328 • Airport boundaries.
  - 1329 • Runway configurations and runway end numbers.
  - 1330 • Off-airport streets and other identifiable features.
  - 1331 • Land uses within DNL 65 dB and higher contours (it may be valuable  
1332 to show surrounding areas outside the noise contours as well).
  - 1333 • Geographic boundaries and names of the surrounding cities, counties,  
1334 and other jurisdictions that have the authority to plan and control land  
1335 uses within the depicted noise contours (see Part 150 Section  
1336 A150.105).
- 1337 5.2.1.3 Section A150.101 of Part 150 provides full descriptions of the information  
1338 required to be on the NEM graphics.
- 1339 5.2.2 Geographic Information Systems (GIS).
- 1340 5.2.2.1 GIS mapping technology has greatly facilitated NEM development,  
1341 making it easy to display data and geographic features. GIS technology is  
1342 a useful tool for developing base mapping and delineating current land  
1343 use, future land use, jurisdictions, zoning, population, housing, noise  
1344 sensitive sites, historic buildings/sites, airport-related easements, and  
1345 airport facilities/property.
- 1346 5.2.2.2 With a properly configured GIS database, the results of the analysis will  
1347 be consistent and repeatable. Many sources of for GIS data are readily  
1348 available online; for example, some counties may provide property zoning  
1349 records as a public service. There are also many commercial GIS software  
1350 packages of various levels of complexity that could be used for the Part  
1351 150 Study.
- 1352 5.2.2.2.1 Estimating Population.
- 1353 The Aviation Environmental Design Tool (AEDT), the software system  
1354 used for modeling aircraft noise, can import geographic data directly from  
1355 the U.S. Census Bureau’s TIGER/Line® Shapefiles along with population  
1356 data, and then export the results for GIS.<sup>19</sup> The Census Bureau organizes  
1357 its data into geographic units called census blocks. The census block maps

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<sup>19</sup> After each census, the U.S. Census Bureau releases public “redistricting” data, referred to as Public Law 94-171 data, which is displayed in maps. Based on census data contributed by each state, these thematic maps show population changes, and may show voting districts, counties, cities, census tracts, and blocks. Participation varies by state.

1358 have the highest spatial resolution with which the Census Bureau  
 1359 summarizes information. Often, several different land uses are contained  
 1360 within the area that makes up a census block. However, even though the  
 1361 population and household numbers are also summarized for each census  
 1362 block, the maps do not show how the population is distributed across the  
 1363 land uses. Caution is needed, therefore, when allocating the population to  
 1364 different land uses within the census block.

1365 5.2.2.2.2 Identifying Jurisdictions.  
 1366 The NEMs must clearly identify the jurisdictions within the noise  
 1367 contours. If there are multiple jurisdictions or complex jurisdictional  
 1368 boundaries, it may be beneficial to provide a supplemental graphic  
 1369 illustrating the geographic boundaries and names of the jurisdictions  
 1370 within the DNL 65 dB and higher contours that the airport sponsor must  
 1371 consult.

1372 5.2.2.2.3 Presenting Results.  
 1373 It is likely that analyses will be presented in both spatial (map) format, as  
 1374 well as in tables. The NEM is a set of maps that visualize base map  
 1375 geographic features (such as roads, runways, and rivers) and the census  
 1376 data in question (such as population, land uses, and number of houses).  
 1377 The mapped data are usually accompanied by tables that provide key  
 1378 results in a readable format.

### 1379 5.3 **Identifying and Classifying Existing Land Uses.**

1380 5.3.1 Part 150 Section 150.11 requires that determination of land use must be based on  
 1381 professional planning criteria and procedures utilizing the best practices in  
 1382 comprehensive planning, master land use planning, zoning, and building and site  
 1383 designing. Many systems are used in classifying land use. Part 150 does not require a  
 1384 particular system; however, using the classifications in [Table 1 of the Part 150](#)  
 1385 regulations will help align the final document with requirements needed for approval.  
 1386 The FAA's land use compatibility guidelines contained in [Part 150 Table 1](#) are based on  
 1387 Standard Land Use Coding Manual standards. Part 150 points out, however, that land  
 1388 use designations by local authorities take precedent over federal determinations:

1389 [D]esignations contained in the table do not constitute a Federal  
 1390 determination that any use of land covered by the program is acceptable or  
 1391 unacceptable under Federal, State, or local law. The responsibility for  
 1392 determining the acceptable and permissible land uses and the relationship  
 1393 between specific properties and specific noise contours rests with the local  
 1394 authorities. FAA determinations under Part 150 are not intended to  
 1395 substitute federally determined land uses for those determined to be  
 1396 appropriate by local authorities in response to locally determined needs  
 1397 and values in achieving noise compatible land uses.

1398 5.3.2 The documents should identify noise-sensitive land uses in greater detail than non-  
1399 noise-sensitive land uses. The NEM should distinguish noise-sensitive locations outside  
1400 the 65 DNL noise contour from those that are within the contour and subject to noise  
1401 exposure greater than 65 DNL.

1402 5.4 **Identifying Anticipated Changes to Existing Land Uses.**

1403 Many sources should be reviewed to determine potential future changes in land use that  
1404 could cause conflicts between the airport and the surrounding communities—  
1405 comprehensive plans, existing and future land use plans and maps, zoning maps and  
1406 regulations, land development regulations, transportation plans, and development plans  
1407 from jurisdictions near the airport. Information gained from this review will be used to  
1408 develop the land use base map for the Future Condition NEM.

1409 5.5 **Collecting Historical Aviation Activity Data.**

1410 A minimum of 12 consecutive months of historical air traffic activity records is needed  
1411 to accurately model existing noise exposure. This should be the most recent 12-month  
1412 period before the study started. If there are exceptional circumstances, such as runway  
1413 closure during this time, supplemental data can be used to create a representation of  
1414 normal aircraft operations at the airport. See 5.5.3 Data Sources for examples of these  
1415 alternate sources). If all the necessary data are not from the same source, it is important  
1416 to ensure the data are consistent and presents an accurate picture of the aircraft  
1417 operations at the airport over the 12-month period.

1418 5.5.1 Aviation Activity to Consider.

1419 The following types of aviation activity, for both fixed-wing and rotary-wing aircraft,  
1420 should be included:

- 1421 • Passenger air carriers
- 1422 • Cargo air carriers
- 1423 • Air taxi
- 1424 • Charters
- 1425 • Helicopters
- 1426 • General aviation
- 1427 • Military aircraft.

1428 5.5.2 Data to Collect.

1429 Data to collect and analyze for the NEM:

- 1430 • Fleet mix (aircraft airframe and engine type).
- 1431 • Number and type of operations (e.g., departure, arrival, touch-and-go, and run-up).
- 1432 • Day/night runway utilization.



- 1433 • Origin/destination information to determine trip/stage lengths and estimated aircraft  
1434 takeoff weights to determine profile stages.
- 1435 • Flight tracks and usage relevant to VFR and IFR usage, including approach and  
1436 departure IFPs or CVFPs in the Terminal Procedures Publication. Also, identify any  
1437 IFPs or CVFPs expected to be published or amended within the study interval.
- 1438 • Existing aircraft flight noise abatement operational measures.
- 1439 • Ground run-up and maintenance activities.
- 1440 • Relevant weather metrics.
- 1441 5.5.3 Data Sources.
- 1442 These sources can be consulted to obtain historical aviation operations data:
- 1443 • FAA Operations Network (OPSNET) is the official source of FAA air traffic  
1444 operations counts at towered airports. Where the tower operates less than 24 hours  
1445 daily, other sources are needed to supplement the tower counts.
- 1446 • Data from an airport or commercially operated flight tracking system, such as an  
1447 Airport Noise and Flight Track Monitoring System or credible web-based services.
- 1448 • Reliable aircraft logs (such as landing fee reports or fuel sales records) kept by the  
1449 airport sponsor, aircraft operators, or FBOs. To be useful, these logs need to record  
1450 the aircraft make and model. Alternatively, the logs could record the aircraft  
1451 registration number, which can be cross-referenced with the FAA aircraft registry  
1452 database to determine aircraft make and model.<sup>20</sup>
- 1453 • Completed IFR flight plan data, as made available through the FAA Traffic Flow  
1454 Management System Counts (TFMSC) database on the [FAA's Aviation System  
1455 Performance Metrics web site](#). IFR flight count, aircraft type data, time of day, and  
1456 stage length (city pair) data are available for most airports, even if there is no air  
1457 traffic control tower.<sup>21</sup> IFR counts of jet and turboprop operations, once  
1458 normalized, can represent the total operations of these aircraft types which normally  
1459 operate on IFR flight plans.<sup>22</sup> However, the IFR data will need to have estimates of  
1460 VFR activity added to more accurately represent the full count of operations. For  
1461 example, the IFR counts of piston aircraft will often be missing substantial  
1462 operations, since these aircraft types often operate under VFR rules and so are not  
1463 counted by the Traffic Flow Management System.
- 1464 • Observed activity (either in person or via recorded media) that logs aircraft make  
1465 and model. Observed short-term activity can be converted into an annual count  
1466 using a statistical sampling method (e.g., two weeks of observations in each of the

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<sup>20</sup> Airline flight schedules are not normally an acceptable record of actual activity, since operations can vary substantially from the planned flight schedule due to airline network decisions.

<sup>21</sup> Airport or consultant may request City Pair data from the ADO, or seek the requisite permissions on ASPM.

<sup>22</sup> To normalize the jet and turboprop IFR count data, use the higher of the arrival or departure count by aircraft type and multiply by two. This accounts for IFR flights that are not included in the count, due to IFR flight plan cancellation to fly a VFR approach, or for aircraft that depart VFR and file a flight plan once airborne.

1467 four seasons). This method is outlined in FAA Report FAA-APO-85-7, Statistical  
 1468 Sampling of Aircraft Operations at Non-Towered Airports.<sup>23</sup> Automated activity  
 1469 counters can be used if attached to visual systems that also capture aircraft  
 1470 registration numbers to provide sufficient information on aircraft make and model.

1471 • Bureau of Transportation Statistics, Form 41, Schedules T-100 and T-100(f)  
 1472 databases are reliable indicators of airline activity. Alternatively, aircraft operator  
 1473 letters (e.g., passenger or cargo airline or charter operator) or written survey results  
 1474 that document existing levels of use by aircraft type can be used.

1475 • Other recent studies accomplished specifically for, or relevant to, the airport with  
 1476 credible data sources.

1477 • See Section 5.6.4 regarding release of flight track data, from which runway use is  
 1478 calculated.

#### 1479 5.5.4 Data Verification.

1480 Data verification with ATC is recommended throughout the NEM development process  
 1481 to ensure the accuracy of NEM inputs at the time they are submitted to the FAA for a  
 1482 compliance determination.

### 1483 5.6 **Developing and Depicting Existing Modeled Aircraft Flight Tracks.**

1484 5.6.1 Flight tracks depict the paths of aircraft as projected on the ground for aircraft arrivals,  
 1485 departures, and touch-and-go operations. Calculating the annual average noise  
 1486 exposure, requires identifying the predominant arrival, departure, and training pattern  
 1487 flight tracks for each runway along with the number of each type of aircraft that used  
 1488 each runway and flight track. The dispersion around the predominant tracks can also be  
 1489 analyzed. These factors help determine the extent and shape of the noise contours and  
 1490 noise levels at noise-sensitive land uses.

1491 5.6.2 How often aircraft use individual flight tracks depends on a variety of factors, including  
 1492 the use of IFPs, ATC instructions, the aircraft's origin or destination, aircraft  
 1493 performance, wind direction and other weather conditions, and any operational noise  
 1494 abatement measures.

#### 1495 5.6.3 Using Flight Track Data.

1496 The use of flight track data, as collected by radar, multilateration, or ADS-B systems,  
 1497 for developing the modeled flight tracks is recommended as data is commonly  
 1498 available. An airport sponsor may obtain radar data from its own flight tracking system,  
 1499 FAA surveillance sources (see 5.6.2), or commercial sources. The resources needed to  
 1500 obtain flight track data and process it are factored into the study's schedule/scope.

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<sup>23</sup> See also ACRP Report 129, Evaluating Methods for Counting Aircraft Operations at Non-Towered Airports, 2015, at: <https://www.trb.org/Publications/Blurbs/172335.aspx>.

- 1501 5.6.4 Release of FAA Surveillance Data.
- 1502 The release of FAA radar data,(also known as recorded National Airspace System
- 1503 (NAS) Data, is governed by FAA Order 1200.22, *External Requests for National*
- 1504 *Airspace System (NAS) Data*, which is outlined in the Office of Airport Planning and
- 1505 Environment (APP-400) memorandum “Requests for Release of FAA Recorded,
- 1506 Historical National Airspace System Data for Airport Planning and Environmental
- 1507 Studies” (January 16, 2015, or any later updates). The memorandum describes the
- 1508 process for airports to use in working with the Office of Airports to obtain recorded
- 1509 NAS data. FAA can only release surveillance data for civil operations, as Department of
- 1510 Defense (DOD) requirements restrict the release of surveillance data for military flights.
- 1511 5.6.5 Depicting Flight Tracks.
- 1512 5.6.5.1 Part 150 Section A150.101(e)(2) requires flight tracks for existing
- 1513 conditions be graphically depicted. Separate flight track graphics must be
- 1514 depicted for the forecast timeframe if they are different than the existing
- 1515 conditions. In the interest of NEM legibility, an acceptable option is to
- 1516 depict flight tracks on a separate map instead of on the Existing Condition
- 1517 and Future Condition NEMs. If there are numerous flight tracks, several
- 1518 runways, or both, the depiction of flight tracks may be produced on more
- 1519 than one graphic (for example, one for arrivals and another for
- 1520 departures).
- 1521 5.6.5.2 The regulation requires the documentation to show flight tracks out to at
- 1522 least 30,000 feet from the end of each runway or otherwise identify them
- 1523 on the maps to correspond to accompanying narrative and/or tabular
- 1524 descriptions. For example, identify flight tracks by arrival or departure,
- 1525 existing or proposed, and indicate any “bundled” tracks that represent a
- 1526 compilation of multiple tracks. Flight track maps must use the same land
- 1527 use base maps used for the Existing Condition and the Future Condition
- 1528 NEMs and must use the same scale. The maps should be scaled no smaller
- 1529 than 1 inch to 2,000 feet. At most airports, this scale will require a paper
- 1530 size that does not easily fit into the published document. This requirement
- 1531 may be met by including the large graphic in a pocket within the published
- 1532 document.<sup>24</sup> A smaller-scale version (with the scale shown) that fits on an
- 1533 11” x 17” or 8.5” x 11” page may be included as a supplemental graphic.
- 1534 Other graphics that are not required by regulation but are used to
- 1535 supplement your NEM documentation may use a smaller scale.
- 1536 5.6.5.3 Use of non-standard profile, stage lengths, or aircraft not included in the
- 1537 currently approved FAA model must be approved by FAA’s Office of

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<sup>24</sup> An electronic copy may be submitted if it meets scale requirements and can be readily reviewed on a personal computer by interested parties; however, a full size hard copy is still required to be in the document.

1538 Environment and Energy and coordinated through the Office of Airport  
1539 Planning and Programming (APP-420).

1540 5.7 **Forecasting Future Aviation Activity.**

1541 5.7.1 The forecast of airport and aircraft activity should be for a year that is at least 5 years  
1542 from the year representing the Existing Condition NEM and be based on reasonable  
1543 assumptions.

1544 5.7.2 The starting points for all towered airport forecasts is the latest published FAA TAF for  
1545 the airport and forecasts from the most recent master plan. Regional planning bodies  
1546 and state aviation agencies may also have conducted airport system planning studies  
1547 that included forecasts of demand for the airport.

1548 5.7.3 Using FAA's TAF.

1549 The TAF is a detailed airport forecast that is published annually by that the FAA's  
1550 Office of Aviation Policy and Plans. The TAF is the official FAA forecast of aviation  
1551 activity for US airports. It currently covers all FAA and Federal Contract towered  
1552 airports included in the National Plan of Integrated Airport Systems (NPIAS).  
1553 Information on the TAF's methodology, which can vary by airport size, is published on  
1554 the [FAA's website](#). The TAF summary report for each airport includes, as appropriate  
1555 aircraft operations (total, air carrier, commuter/air taxi, local and itinerant general  
1556 aviation, and local and itinerant military), enplanements (total, air carrier, and  
1557 commuter). At most airports the TAF assumes an unconstrained demand for aviation  
1558 services. Data in the TAF are presented for a U.S. governmental fiscal year (October  
1559 through September), and generally cover the past 20 years historic activity and the next  
1560 25 years of predicated activity [FAA TAF](#).

1561 5.7.4 Developing a Local Forecast.

1562 5.7.4.1 If sponsors at towered airports have credible information that supports  
1563 aircraft operations that differ from the TAF, the ARP POC requires written  
1564 justification and supporting documentation for its approval before it can be  
1565 used to develop NEMs. At nontowered airports, development of a local  
1566 forecast is necessary since the TAF does not actively predict future  
1567 operations at nontowered facilities. The general requirement for FAA  
1568 approval of the Part 150 Study's forecasts is that they are based on  
1569 reasonable assumptions, supported by an acceptable forecasting analysis,  
1570 and are consistent with the TAF. Refer to AC 150/5070 Airport Master  
1571 Plans on forecast evaluations for TAF consistency and the forecast review

- 1572 process. The forecast should be approved by the ADO planner and this  
1573 formal approval included in the NEM documentation.
- 1574 5.7.4.2 Two FAA publications can also help prepare local forecasts for  
1575 developing the Future Condition NEM:
- 1576 • [Forecasting Aviation Activity by Airport, dated July 2001](#), prepared by  
1577 the FAA’s Office of Aviation Policy and Plans, Statistics and Forecast  
1578 Branch.
  - 1579 • AC 150/5070-6, *Airport Master Plans*, Chapter 7, Aviation Forecasts.
- 1580 5.7.4.3 The ARP POC can provide additional guidance on using forecasting tools,  
1581 techniques, and methods. Whether the aviation forecasts are being  
1582 prepared by the airport planning staff or by consultants, early consultation  
1583 and frequent discussions with FAA staff are encouraged.
- 1584 5.7.4.4 Written approval to use the local forecast in the Part 150 Study from the  
1585 FAA ADO or Regional Office is required before developing the future  
1586 condition contours.
- 1587 5.7.5 Future Fleet Mix.
- 1588 Compile and analyze the aircraft and airport operations forecast to determine the  
1589 operational characteristics for the average annual day of the forecast period. A key  
1590 variable for future conditions is the fleet mix. Since newer aircraft tend to be quieter  
1591 than older aircraft, selection of appropriate aircraft types for the future condition is  
1592 important because and can have a significant effect on the size of the noise contours.  
1593 Sources to determine the future fleet mix include new aircraft orders that may replace  
1594 certain existing aircraft include Securities and Exchange Commission (SEC) filings and  
1595 annual reports of airlines, and order backlogs of aircraft manufacturers, and third-party  
1596 vendor data on aircraft fleets and orders.
- 1597 5.8 **Running the Noise Model.**
- 1598 Only a computer-based mathematical model is capable of predicting the noise exposure  
1599 associated with the complex operation of an airport and projecting that exposure to  
1600 some future period.
- 1601 5.8.1 Using the Most Current Noise Model.
- 1602 5.8.1.1 Part 150 Sections A150.1(b) and A150.103(a) require that noise contours  
1603 be developed using an FAA-approved methodology or computer program.  
1604 The following model is approved for use in Part 150 Studies:
- 1605 • AEDT is the FAA-approved tool for modeling noise. Information on  
1606 ordering AEDT and guidance on its use are available on the FAA

1607 website.<sup>25</sup> Use the AEDT for modeling noise exposure unless unusual  
 1608 circumstances dictate using another model. Use the most current  
 1609 version of the model at the time data are ready for input to generate  
 1610 noise contours. If FAA issues a new version of a model after the noise  
 1611 analysis for a Part 150 Study has begun, there is no requirement to use  
 1612 the newer version of the model or to redevelop the analysis. However,  
 1613 the project sponsor has the discretion to update project methodology at  
 1614 any time to the newest model version if this would substantially  
 1615 improve or change the analysis and provide a stronger basis for  
 1616 informing decision-makers and the public. In the case where a project  
 1617 is reconstructed with a new base year and forecast years, use the most  
 1618 recent version of the model. If use of another model is desired, it must  
 1619 be approved by AEE).<sup>26</sup>

1620 • Helicopter noise has been fully integrated into AEDT. Therefore, it is  
 1621 not necessary to use supplemental models to model rotary wing  
 1622 aircraft operations as well as new heliports.

1623 5.8.1.2 The FAA noise models are maintained to stay current with evolving best  
 1624 practices in acoustic and flight performance modeling. However, the FAA  
 1625 recognizes that some noise analyses may require additional modeling  
 1626 methods to supplement the current FAA modeling capability. Some noise  
 1627 analyses may also require non-standard inputs and methods to properly  
 1628 model the unique circumstances at a given airport. In these cases, the FAA  
 1629 requires modelers to submit requests to use all non-standard modeling  
 1630 inputs and methods, such as aircraft substitutions, to the FAA for approval  
 1631 by AEE before use in any noise analysis. To expedite approval, the  
 1632 requests must first be coordinated with the airport's FAA Office of  
 1633 Airports (ADO or Region) POC. The ADO or Region will coordinate the  
 1634 request through APP-400. An approval letter must be obtained from AEE  
 1635 before using the inputs in the Part 150 Study. The approval letter must be  
 1636 included in the NEM submission.

1637 5.8.1.3 Requests to use non-standard input/methods should include documentation  
 1638 that demonstrates the reasons and the inputs/methods are more appropriate  
 1639 than the FAA-approved model. Before approving, AEE may request  
 1640 additional information. Previous approvals for similar studies will not

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<sup>25</sup> Available at: [https://aedt.faa.gov/2c\\_information.aspx](https://aedt.faa.gov/2c_information.aspx).

<sup>26</sup> Helicopter noise has been fully integrated into AEDT. Therefore, it is no longer necessary to use supplemental models to model rotary wing aircraft operations as well as new heliports.

- 1641 guarantee approval for the new study since the FAA reviews each new  
1642 study as a separate case.
- 1643 5.8.1.4 For models other than AEDT, data input requirements may differ from  
1644 those specified in the following subsections.
- 1645 5.8.2 Using the Required Noise Metric.
- 1646 5.8.2.1 For aviation noise analysis, the FAA has determined the yearly DNL, the  
1647 day-night average sound level, as the primary metric for expressing the  
1648 cumulative noise level individuals are exposed to resulting from aviation  
1649 activities. The FAA also recognizes the Community Noise Equivalent  
1650 Level (CNEL) for analyses at airports in California, the metric this state  
1651 requires and applies to evening operations between 7:00 p.m. and 9:59  
1652 p.m. with a 5dB penalty per operation.
- 1653 5.8.2.2 The cumulative metric, whether DNL or CNEL in California, must be  
1654 used to analyze and characterize multiple aircraft noise events as well as to  
1655 determine the cumulative noise exposure that individuals experience. Part  
1656 150 Section A150.205(c) defines DNL as the 365-day average day-night  
1657 sound level in decibels. The symbol used to represent the DNL calculation  
1658 is  $L_{dn}$ . It is computed with following formula:
- $$1659 \quad L_{dn} = 10 \log_{10} \frac{1}{365} \sum_{i=1}^{365} 10^{L_{dni}/10}$$
- 1660 Where  $L_{dni}$  is the day-night average sound level for the  $i^{\text{th}}$  day out of one  
1661 year, and the summation is from  $i=1$  to 365.
- 1662 5.8.2.3 AEDT estimates existing and future year average effects using average  
1663 annual input conditions. Using this definition to model noise would  
1664 require running 365 cases of the model and averaging the results. To avoid  
1665 excessive computation, AEDT uses the concept of an “average annual  
1666 day.” An average annual day is a reasonable representation of the average  
1667 daily conditions at the airport in a typical existing and future year.<sup>27</sup> These  
1668 average conditions include the number and type of operations, routing  
1669 structure, runway configuration, aircraft weight, temperature, and wind.
- 1670 5.8.2.4 Supplemental noise analyses can be used to assist in the public's  
1671 understanding of noise impact. Supplemental analyses are most often used  
1672 to describe aircraft noise impacts for specific noise-sensitive locations, and

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<sup>27</sup> The repetitive cycle of events in most environments leads to the natural choice of a 24-hour day as the base period for evaluation of environmental noise since most airport operations are stable in their day-to-day schedules. However, at many airports, seasonal variations in schedules will change the frequency of aircraft operations during various months. Thus, in assessing the environmental effect of an airport, the daily average noise level, averaged over an annual period, should be considered. This would be expressed as a yearly average of daytime/nighttime average sound level.

1673 should be reported in an appendix. Use of supplemental metrics should fit  
 1674 the circumstances. Appendix A provides more detail about supplemental  
 1675 metrics and Table A-3 describes conditions under which supplemental  
 1676 metrics could be considered. Such supplemental noise analysis is not, by  
 1677 itself, a measure of adverse or significant aircraft noise or impact. AEE  
 1678 approval for supplemental metrics is not required if the metrics to be  
 1679 reported are listed in FAA Order 1050.1 or the *Desk Reference for Airport*  
 1680 *Actions* that accompanies FAA Order 5050.4. This so-called blanket  
 1681 approval of the metrics listed in the *Desk Reference* applies with the  
 1682 following caveat: “Some general discussion of potential secondary effects  
 1683 (e.g., sleep disturbance, disruptions of classroom learning, low-frequency  
 1684 impacts) may be appropriate. However, this discussion must not draw any  
 1685 specific conclusions about impacts or suggest that the findings are  
 1686 significant in any way if there are no approved FAA criteria and standards.  
 1687 Conversely, the discussion must include effective language about existing  
 1688 scientific uncertainties and the lack of FAA assessment methodology,  
 1689 impact criteria, and policy guidance in the area examined by supplemental  
 1690 metrics.”

1691 5.8.3 Required Input Data.

1692 For calculating noise contours, AEDT requires this input:

- 1693 • Airport parameters, such as latitude, longitude, and average temperatures.
- 1694 • Runway and helipad identifiers.
- 1695 • Runway end and/or helipad data such as coordinates, width, and elevation.
- 1696 • Flight track identifiers and geometry out to at least 30,000 feet laterally from the  
1697 end of each runway.
- 1698 • The number and type of aircraft that use each flight track and the local time each  
1699 operation occurred. For calculating DNL/CNEL, the time of each operation must  
1700 be sufficient to determine whether it falls during:
  - 1701 • Daytime hours from 7:00:00 a.m. until 6:59:59 p.m. local time.
  - 1702 • Evening hours from 7:00:00 p.m. until 9:59:59 p.m. local time (for CNEL only;  
1703 otherwise counted as daytime hours).
  - 1704 • Nighttime hours from 10:00:00 p.m. until 6:59:59 a.m. local time.
- 1705 • Average local weather conditions: The AEDT database contains a 10-year average  
1706 of weather conditions for each airport. Supplemental sources of average weather  
1707 data including the National Oceanic and Atmospheric Administration National  
1708 Climatic Data Center (NCDC) should therefore be used where AEDT requires the  
1709 definitions for temperature, air pressure, relative humidity and dew point.

1710 5.8.4 Optional Input Data.

1711 Optional input information that may be used in some situations includes the following:



- 1712           • U.S. Census Bureau TIGER® street files, American Community Survey Data,  
1713           and/or Public Law 94-171 population data.
- 1714           • Location of navigational aids (NAVAIDs) and fixes.
- 1715   5.8.5   Noise-Power-Distance Curves.  
1716           Part 150 Section A150.103(b)(6) requires the use of government-furnished data  
1717           depicting aircraft noise generation and performance characteristics if these data are not  
1718           already part of the noise model’s database. These basic acoustical data are defined as  
1719           Noise-Power-Distance (NPD) curves. Airport sponsors and consultants are not allowed  
1720           to modify the noise model by altering the model’s basic acoustic data (i.e., the NPD  
1721           curves) or spectral classes. However, users can still create a user-defined aircraft with a  
1722           user-defined NPD, but this requires AEE review and approval.
- 1723   5.8.6   Aircraft Substitutions.  
1724           The FAA has provided [information on its protocol for submitting AEDT non-standard](#)  
1725           [modeling requests on the FAA website](#). Approval should be coordinated through the  
1726           ARP POC. One aircraft type may be substituted for another when noise and/or  
1727           performance data are not readily available. AEDT includes approved aircraft  
1728           substitutions that do not require AEE approval. Any other aircraft substitution must be  
1729           coordinated with AEE to determine acceptability for use.
- 1730   5.8.7   User-Defined Aircraft Types and Profiles.
- 1731           5.8.7.1       AEDT standard database aircraft and departure and approach profiles  
1732                    should be used to model existing and forecast aircraft operations, unless  
1733                    the need for custom aircraft and/or departure and approach profiles is  
1734                    deemed necessary because these data may not realistically represent the  
1735                    airport’s flight operations. Collection of actual on-site or operator specific  
1736                    profile information is needed only if necessary to adjust for known, unique  
1737                    operating conditions. User-specified modifications to standard AEDT  
1738                    profiles affect both the estimated thrust of the engine, and the distance  
1739                    from source to receiver, as well as critical parameters in the final  
1740                    computation of noise for contours and grid point analysis.
- 1741           5.8.7.2       If non-standard profiles are necessary for the project, AEE approval is  
1742                    required before using them. The process to follow for gaining this  
1743                    approval are in [Guidance on Using the Aviation Environmental Design](#)  
1744                    [Tool \(AEDT\) to Conduct Environmental Modeling for FAA Actions](#)  
1745                    [Subject to NEPA](#). The process includes going through the ARP POC,  
1746                    submitting the request for approval to use non-standard aircraft and/or  
1747                    profiles, and obtaining an approval letter from AEE, which must be  
1748                    included in the NEM submission.
- 1749           5.8.7.3       **Noise Abatement Departure Profiles (NADPs).**  
1750                    AEDT contains ICAO-A and ICAO-B profiles, which align with the  
1751                    Close-In and Distant profiles in Advisory Circular 91-53A NADPs.

1752 However, most airline operators will have specific Close-In and Distant  
 1753 profiles specific to aircraft type. The airlines develop standardized profiles  
 1754 that align with AC 91-53A for repeated, safe use by pilots. They are  
 1755 similar to the ICAO-A and –B profiles in AEDT, but can vary. If  
 1756 development of user-defined profiles is necessary to more closely  
 1757 incorporate airline specific profiles into AEDT, airport sponsors or their  
 1758 consultants must submit the profiles to AEE through the ARP POC for  
 1759 review and approval using the format outlined in [Guidance on Using the](#)  
 1760 [Aviation Environmental Design Tool \(AEDT\) to Conduct Environmental](#)  
 1761 [Modeling for FAA Actions Subject to NEPA](#).

1762 5.8.7.4 **Ground Noise.**

1763 Although not specifically supported in AEDT, taxi noise can be modeled  
 1764 by creating an overflight track and a fixed-point overflight profile. The  
 1765 [AEDT Supplemental User Manual](#)<sup>28</sup> provides instructions for modeling  
 1766 fixed-wing aircraft taxi noise, including an example overflight taxi profile.  
 1767 For modeling long duration, stationary ground noise, the AEDT aircraft  
 1768 run-up function should be used. As these are non-standard profiles, the  
 1769 profiles and their supporting documentation should be submitted to AEE  
 1770 through the ARP POC for approval.

1771 5.8.7.5 **Military Aircraft.**

1772 The aircraft and noise data in the AEDT database are from the U.S. Air  
 1773 Force NOISEMAP model. For some military aircraft, the AEDT aircraft  
 1774 database does not specify departure and approach profiles. In such cases,  
 1775 fixed-point profiles for these military aircraft need to be created and their  
 1776 justification (with supporting documentation) provided to AEE through  
 1777 the ARP POC. For these newly created profiles, however, AEE does not  
 1778 have a basis for evaluating their correctness given the lack of data. Their  
 1779 role is limited, therefore, to reviewing the supporting data, the  
 1780 methodology for determining the profiles, and the justification.

1781 5.8.7.6 **Touch-and-Go (TGO) and Circuit Flight (CIR) Profiles.**

1782 5.8.7.6.1 The AEDT database contains TGO and CIR profiles for almost all  
 1783 airplanes that have approach and departure performance coefficients.  
 1784 These TGO and CIR database profiles are not considered standard.  
 1785 Instead, they are generic profiles that require modifying to reflect their  
 1786 specific airport operational conditions. The steps for modifying the  
 1787 profiles are outlined in the AEDT User’s Guide.

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<sup>28</sup> AEDT is regularly updated. It is recommended that all AEDT users check the FAA’s website (<https://aedt.faa.gov/>) for updates.

- 1788 5.8.7.6.2 Adjustments to level segment altitudes do not require AEE approval.  
1789 Working through the ARP POC, airport sponsors, or through their  
1790 consultants, must provide AEE with justification and documentation on  
1791 the adjustments made to the standard TGO and CIR profiles if the steps  
1792 taken on the profiles are different from those outlined in the AEDT User's  
1793 Guide.
- 1794 5.8.7.7 **Helicopter Profiles.**  
1795 Helicopter profiles are included in the AEDT database for several  
1796 common helicopter types. These profiles should be reviewed to ensure  
1797 they are appropriate for the airport's operational conditions. Working  
1798 through the ARP POC, sponsors or their consultants must provide AEE  
1799 with justification and documentation when creating user-defined  
1800 helicopter profiles or substitutions when no profiles exist in AEDT. For  
1801 newly created profiles, AEE does not have a basis for evaluating their  
1802 correctness of user-defined profiles, so their role is limited to reviewing  
1803 the supporting data, methodology to determine the user-defined profiles,  
1804 and their justification.
- 1805 5.8.7.8 **Profile Stage or Trip Distance.**
- 1806 5.8.7.8.1 Profile stage identifies the stage lengths for departure profiles. Stage  
1807 length is a range of trip distances, or the distance between the aircraft  
1808 departure and arrival points. Stage length is important because the longer  
1809 the trip, the heavier the average takeoff weight due to increased fuel  
1810 requirements, and the greater the noise potential. Historically, it has been  
1811 easier to obtain trip length than average aircraft weight data, so stage  
1812 length has been used as a surrogate for aircraft takeoff weight. However,  
1813 given that aircraft weight directly affects the departure profile, it is best to  
1814 obtain average takeoff weight if feasible from aircraft operators or using  
1815 [BTS](#) T-100 segment data. AEE review and approval is not required if trip  
1816 length or estimated takeoff weight is used as the basis for determining  
1817 stage length.
- 1818 5.8.7.8.2 Other approaches to determine stage length require AEE review and  
1819 approval, the request routed through the FAA ADO or Region point of  
1820 contact and supported with justification and documentation.
- 1821 5.8.8 Noise Model Questions and Documentation.  
1822 Questions or uncertainties about the correct use of noise models should be directed to  
1823 the airport's ARP POC for resolution or verification. Sponsors and their consultants  
1824 should be prepared on request to provide AEDT and other noise model files to the FAA  
1825 electronically.

- 1826 5.9 **Generating Existing Condition Noise Contours.**
- 1827 5.9.1 Determining the operational characteristics for the average annual day requires  
1828 compiling and analyzing airport and aircraft operations data for the most recent full  
1829 calendar year or the most recent 12 consecutive months. This information should be  
1830 formatted for input into the AEDT (or other FAA-approved model). The noise modeling  
1831 should account for any operational noise abatement measures in use during the selected  
1832 12-month period.
- 1833 5.9.2 Closed, continuous noise contours must be generated for at least DNL 65, 70, and 75  
1834 dB. According to Part 150 Section A150.101(a), additional noise contours below DNL  
1835 65 dB are optional. If the local jurisdictions have adopted a land use compatibility  
1836 standard that identifies noncompatible uses in areas exposed to less than DNL 65 dB,  
1837 the NEM should show contours corresponding to those levels. The NEM documentation  
1838 should explain all local reasons for establishing noise sensitivity/compatibility below  
1839 DNL 65 dB and include evidence of the jurisdiction adopting the standard. With a  
1840 locally adopted standard, the FAA may approve noise abatement or mitigation measures  
1841 in areas below DNL 65 dB (discussed in Chapter 7 of this AC). These approved noise  
1842 measures may be eligible for federal funding but are considered a lower priority. If a  
1843 contour other than 65, 70, or 75 dB is modeled for reasons other than a local standard,  
1844 the information should go in an appendix.
- 1845 5.9.3 Noise contours should be digitally superimposed over the land use base map that  
1846 depicts the required information (described in Section 5.13). Field reviews should be  
1847 used to verify the locations of noise sensitive areas, specific noise sensitive sites, and  
1848 current land uses within the noise contours that are DNL 65 dB and above. This is  
1849 particularly important if there has been an extended period between initial data  
1850 collection and completion of the NEMs. The DNL 65, 70 and 75 dB noise contours (and  
1851 locally significant contours, if applicable), then, should be incorporated into the GIS or  
1852 other mapping program in order to quantify noise exposure in terms of population,  
1853 households, and land use.
- 1854 5.9.4 Although not required by Part 150, additional locations for AEDT receptors can be  
1855 defined in a grid point analysis to calculate DNL values at specific noise-sensitive sites.  
1856 The airport sponsor may choose to report these results in tables in the document to  
1857 provide additional information to the public.
- 1858 5.9.5 Timeframe Considerations and Requirements for Existing Condition NEM Submission.  
1859 The Existing Condition NEM must identify each noncompatible land use with the year  
1860 the NEM is submitted to the FAA ADO or Regional Office. Developing the NEMs  
1861 frequently takes 6 to 12 months. There may be difficulty obtaining all the data  
1862 necessary for generating noise contours or developing land use base maps. Delays can  
1863 be encountered in obtaining approvals for user-specified noise model modifications or  
1864 forecasts, and local controversy can delay the NEM process. By the time the NEMs  
1865 reach the FAA, the data used to develop the NEMs may not be current and  
1866 noncompatible land uses may not be accurately identified.

- 1867 5.9.6 When the Timeframe for the Existing Condition NEM Differs from the Year of  
1868 Submission.
- 1869 If the Existing Condition NEM is based on data for a timeframe other than the year of  
1870 submission, the transmittal letter to the FAA must certify that the data nonetheless  
1871 represent current conditions. Specifically, the NEM submission must verify that the  
1872 airport layout, runway use percentages, flight tracks, general aircraft mix, operational  
1873 data, and noncompatible land uses are equivalent and that changes in total numbers of  
1874 operations do not alter the accuracy on identified noncompatible land uses (usually  
1875 indicated by change of DNL 1.5 dB or greater). If there are questions about this, the  
1876 local FAA ADO or Regional Office is the best point of contact.
- 1877 5.9.7 When Changes in Operational Data Occur Before Submission.
- 1878 If changes have occurred that could alter the noise contour over noncompatible land  
1879 uses, the assessment using an AEDT computer model should nonetheless proceed. The  
1880 ARP POC should be able to handle questions on this matter.
- 1881 5.9.8 When the Existing Condition NEM Data Are Not Current.
- 1882 If the Existing Condition NEM does not represent current noncompatible land use  
1883 conditions, the airport sponsor cannot certify that the Noise Exposure Map is correct  
1884 (Part 150 Section 150.21(b)), and the Existing Condition NEM must be updated.
- 1885 5.10 **Noise Monitoring.**
- 1886 5.10.1 Part 150 does not require noise monitoring. Noise monitoring may be used for data  
1887 acquisition and refinement and to enhance public acceptance, but not to calibrate the  
1888 noise model or for enforcement purposes.
- 1889 5.10.2 If noise monitoring is used, it should be accomplished in accordance with Part 150  
1890 Section A150.5, measuring and analyzing sound levels using the “A” frequency  
1891 weighting filter and slow response setting. For computation of the DNL, measurements  
1892 of individual aircraft events must be reported in sound exposure level (SEL), as defined  
1893 in Part 150 Section A150.205. Average sound level may be calculated from the SELs of  
1894 the individual events. The Society of Automotive Engineers Aerospace Recommended  
1895 Practice ARP4721, *Monitoring Aircraft Noise and Operations in the Vicinity of*  
1896 *Airports*, provides additional guidance. The narrative should indicate that the noise  
1897 monitoring followed Part 150 guidelines.
- 1898 5.10.3 The FAA does not endorse the use of noise monitor data to calibrate noise models.  
1899 Noise monitor installations can vary greatly from airport to airport and data  
1900 measurement and collection methods are not yet fully standardized. In addition, noise  
1901 models such as AEDT compute average conditions over the course of a year. Variations

- 1902 in parameters—such as weather, aircraft payload, tracks, pilot techniques, ambient  
1903 noise—make it difficult to compare monitor data to model output.
- 1904 5.10.4 Depicting Aircraft Noise Monitoring Sites on the NEMs.  
1905 If noise monitoring is used in the study, the locations of the aircraft noise monitoring  
1906 sites must be graphically depicted, as required by Part 150 Section A150.101(e)(7).  
1907 Noise monitoring sites may be depicted on a supplemental land use base map, instead of  
1908 the NEMs, in the interest of avoiding too much clutter. The same rules apply here as for  
1909 supplemental graphics depicting flight tracks (see Section 5.6 of this AC).
- 1910 5.11 **Generating Future Condition Noise Contours.**
- 1911 5.11.1 The airport sponsor can only designate one future condition map as the Future  
1912 Condition NEM for a finding under Part 150. The NEM forecast map must be based on  
1913 reasonable forecast aircraft operations at the airport and on other reasonable planning  
1914 assumptions beginning five years after the year the NEMs are submitted to the FAA.  
1915 The submission can also include additional maps for supporting information, analytical  
1916 purposes, or longer-range planning.
- 1917 5.11.2 The forecast aircraft and airport operations should be compiled and analyzed to  
1918 determine the operational characteristics for the average annual day for the forecast  
1919 period. As discussed in 5.7.1, a key variable for the forecast is the fleet mix. Newer  
1920 aircraft tend to be quieter than older aircraft. Part 150 Section 150.21(a)(1) requires that  
1921 the forecast map be based on reasonable planning assumptions, including any planned  
1922 airport development. Therefore, the Future Condition NEM may show a different  
1923 airfield configuration or airport layout than the Existing Condition NEM. The narrative  
1924 accompanying the NEMs must adequately explain all assumptions.
- 1925 5.11.3 The Future Condition NEM should be superimposed over a future land use map, if  
1926 available. The future land use map should depict land use changes anticipated by the  
1927 year of the Future Condition NEM, and the accompanying text explain the assumptions  
1928 regarding those future land use changes.
- 1929 5.11.4 Timeframe Considerations for Future Condition NEM Submission.
- 1930 5.11.4.1 Developing the NCP frequently takes 12 to 18 months following  
1931 completion of the NEMs. Consultation requirements, local issues,  
1932 complex environmental analysis, and local controversy can delay the NCP  
1933 process. For these reasons, airport sponsors should consider submitting the  
1934 NEMs and NCP separately. The year selected for the Future Condition  
1935 NEM should take into consideration the anticipated timeline for  
1936 completing the NCP, if one is going to be prepared.
- 1937 5.11.4.2 The FAA encourages airport sponsors to take a long-range look at land use  
1938 and forecast noise impacts around the airport. The long-range plans can  
1939 assist the decision making of land use planning agencies. They often do

1940 not provide a solid basis on which to base federal funding decisions for  
 1941 proposed noise measures. Federal participation is determined using an  
 1942 accepted NEM, and the FAA has discretion to use either the Existing or  
 1943 Future NEM depending on which is more appropriate. Questions about the  
 1944 use of either Existing or Future NEMs as the basis of federal funding  
 1945 decisions should be coordinated with the FAA ADO or Regional point of  
 1946 contact, including discussing how selection of either NEM may affect the  
 1947 NCP implementation and timeframe for updating the NEMs and NCP.

1948 5.11.5 The “Future Condition NEM, without NCP Implementation”.

1949 This NEM should factor in existing operational noise abatement measures that are  
 1950 expected to still be in effect in the forecast year and include planned changes in airport  
 1951 layout expected to be in place by the forecast year. It would not include new or  
 1952 modified measures recommended for implementation in the NCP.

1953 5.11.6 The “Future Condition NEM, with NCP Implementation”.

1954 This NEM should include existing operational noise abatement measures expected to  
 1955 still be in effect in the forecast year as well as planned changes in airport layout  
 1956 expected to be in place by the forecast year. It would also include new or modified  
 1957 measures recommended for implementation in the NCP.<sup>29</sup>

1958 5.12 **Determining Compatible and Noncompatible Land Uses.**

1959 Different uses of land have different sensitivities to noise. Land use compatibility is  
 1960 primarily determined by whether the level of noise interferes with noise-sensitive  
 1961 human activities. The effects of noise may include sleep disruption; speech interference;  
 1962 inability to concentrate, study, or performing critical tasks; reduced enjoyment of  
 1963 performing arts, religious observances, and outdoor activities; and failure to hear  
 1964 warning sounds. Individuals may have different perceptions of acceptable or  
 1965 unacceptable levels of noise for any given activity. ASNA requires the FAA to identify  
 1966 land uses that are normally compatible with various levels of exposure to noise  
 1967 regardless of the diversity of individual perceptions. See [Part 150 Table 1](#) for land use  
 1968 compatibility guidelines.

1969 5.12.1 General Guidelines for Determining Noise-Sensitive Land Uses.

1970 5.12.1.1 **Residential Facilities.**

1971 [Part 150 Table 1](#) shows structures designed for residential use that are  
 1972 considered noise sensitive. NEM land use classifications should  
 1973 differentiate single-family, multi-family, mobile homes, transient, and  
 1974 institutional residential structures from each other unless local planning  
 1975 and zoning data does not allow this distinction. Residential facilities may  
 1976 include the following:

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<sup>29</sup> Not all of the NCP procedures may be approved, however.

- 1977 • Single family homes
  - 1978 • Multi-family residential structures
  - 1979 • Mobile homes, manufactured homes, and trailer houses
  - 1980 • Retirement homes and assisted-living facilities
  - 1981 • Fraternity and sorority houses
  - 1982 • Residence halls and dormitories
  - 1983 • Orphanages
  - 1984 • Convents, monasteries, and rectories
  - 1985 • Hotels, motels, and bed and breakfast inns
  - 1986 • Rooming and boarding houses
  - 1987 • Campgrounds, recreational vehicle parks, and trailer parks
- 1988 5.12.2 Noise-sensitive Settings.
- 1989 [Table 1 of Part 150](#) does not reference national, state, and local parks, wilderness areas,  
 1990 and wildlife refuges where other noise is very low and a quiet setting is a generally  
 1991 recognized purpose and attribute. Consulting with the ARP POC will help determine if  
 1992 these “quiet setting resources” are located in the noise contour so the FAA can  
 1993 determine what particular land uses are appropriate for certain measured or calculated  
 1994 noise exposure levels.
- 1995 5.12.3 Compatible versus Noncompatible Land Uses.
- 1996 5.12.3.1 ASNA required the FAA to identify land uses that are “normally  
 1997 compatible” or “noncompatible” with various aircraft-generated noise  
 1998 levels. Land use guidelines, however, even those adopted by regulation,  
 1999 are planning tools that provide general indications, not absolutes, as to  
 2000 whether particular land uses are appropriate for certain measured or  
 2001 calculated noise exposure levels.
- 2002 5.12.3.2 According to Part 150 Section A150.101, Table 1, “the responsibility for  
 2003 determining the acceptable and permissible land uses rests with the local  
 2004 authorities. FAA determinations under Part 150 are not intended to  
 2005 substitute federally determined land uses for those determined to be  
 2006 appropriate by local authorities in response to locally determined needs  
 2007 and values in achieving noise compatible land uses.” Locally adopted  
 2008 standards take precedence over federal guidelines. However, these  
 2009 standards must be applied consistently. For example, designations of  
 2010 noncompatible land uses within the locally adopted contours should apply  
 2011 to all noise generating sources, not just airports. In addition, some states



- 2012 such as California may have factors that render certain land uses  
2013 compatible.
- 2014 5.12.3.3 **Identifying Compatible versus Noncompatible Land Uses on NEMs.**
- 2015 5.12.3.3.1 For NEMs, land uses are identified as either compatible or noncompatible,  
2016 without footnotes, caveats, qualifications, stipulations, or conditions. Each  
2017 parcel within the DNL 65 dB and higher contours has a yes/no  
2018 determination.
- 2019 5.12.3.3.2 There may be situations where land uses that might normally be identified  
2020 as noncompatible under Part 150 are considered compatible, for example,  
2021 land uses that have been acoustically treated (sound insulated) or have an  
2022 aviation easement and so been rendered compatible for purposes of Part  
2023 150. Instances such as these should be identified as compatible if the  
2024 airport sponsor already mitigated the land uses under a previously  
2025 approved Part 150 Study.
- 2026 5.12.3.3.3 In accordance with Part 150 Section A150.101(e)(5), a land use is not  
2027 identified as noncompatible if it self-generates noise or the ambient noise  
2028 from other non-aircraft and non-airport uses (such as highways and  
2029 railroads) is equal to or greater than the noise from aircraft and airport  
2030 sources.
- 2031 5.13 **NEM Requirements.**
- 2032 The map portion of the NEM submission package must include at least Existing  
2033 Condition and Future Condition NEMs with the following information.
- 2034 5.13.1 Indicate the Year the Map Represents.
- 2035 The year that the Existing Condition and Future Condition NEMs represent must be  
2036 indicated on the face of each map. The future condition must be at least 5 years beyond  
2037 the year shown on the Existing Condition NEM. If the year the map represents is not the  
2038 year of submittal and at least 5 years in the future, the airport sponsor must certify that  
2039 the Existing Condition NEM is still valid and the forecast year would nonetheless  
2040 represent a year at least five years from the Existing Condition NEM (see Section 5.9).
- 2041 5.13.2 Depict the Airport and Its Environs.
- 2042 Airport boundaries, runway configurations including runway end numbers, and streets  
2043 and other identifiable features in the airport environs must be identified.
- 2044 5.13.3 Depict Noise Contours.
- 2045 Continuous noise contours of at least DNL 65, 70, and 75 dB must be graphically  
2046 depicted.

- 2047 5.13.4 Identify Noise-Sensitive Public Buildings and Historic Properties.  
2048 Part 150 Section A150.101 (e) requires that the locations of noise-sensitive public  
2049 buildings including schools, hospitals, nursing homes and other health care facilities,  
2050 and properties eligible for listing or listed in the National Register of Historic Places be  
2051 depicted. These structures and historic properties must be clearly depicted on the map in  
2052 a manner that allows them to be readily identified, such as by using special symbols.  
2053 There must be a legend on the face of each map that relates the selected markings to the  
2054 specific types of structures and historic properties that have been identified. If there are  
2055 no noise sensitive structures within the contour, the NEM narrative should state this.
- 2056 5.13.5 Identify Noncompatible Land Uses.  
2057 NEMs must identify noncompatible land uses within the noise contours. These  
2058 noncompatible land uses should be clearly identified on the map in a manner that allows  
2059 them to be readily identified, such as, by colors, shading, and cross-hatching. There  
2060 must be a legend on the face of each map that relates the selected markings to the  
2061 specific noncompatible land uses that have been identified.
- 2062 5.13.6 Identify Jurisdictions.  
2063 Geographic boundaries and names of the jurisdictions with authority to plan and control  
2064 land uses within the noise contours must be depicted and identified.
- 2065 5.13.7 Use a Sufficient Scale.  
2066 The NEMs must be of sufficient scale to be clear and readable, and the scale should be  
2067 indicated on the face of the map. Part 150 Section A150.103 (b) (1) requires the scale of  
2068 a map to be no smaller than 1 inch to 2,000 feet. Depending on the size of the noise  
2069 contours, this scale may require a paper size that does not easily fit into the published  
2070 document. Therefore, this requirement may be met by including the large graphic in a  
2071 pocket within the published document. A smaller-scale version (with the scale shown)  
2072 that fits on an 11" x 17" or 8.5" x 11" page may be included as a supplemental graphic.  
2073 See Section 5.6.5 for further details.
- 2074 5.14 **NEM Submittal.**
- 2075 5.14.1 The NEMs are more than just two graphics depicting the existing and forecast year  
2076 noise contours and noncompatible land uses. The Noise Exposure Maps *and* supporting  
2077 documentation (listed below) constitute the NEM submission.
- 2078 5.14.2 Part 150 submittals can consist of NEMs without an NCP or NEMs and an NCP  
2079 together. NEMs may be submitted immediately upon completion or at the end of the  
2080 study process. See Sections 5.9 and 5.13 for a discussion on the need for current  
2081 information at the time of submittal of NEMs—either separately or in combination with  
2082 the NCP.
- 2083 5.14.3 The airport sponsor should retain all study files, including the electronic AEDT input  
2084 files used to generate the NEMs. The FAA may from time to time request these files for  
2085 review. Because there is a requirement to update the NEMs if there is a significant

2086 change in the noise environment over noncompatible land uses, having the data files in  
2087 electronic form makes this task much less costly or tedious.

2088 5.14.4 First-time map submissions do not need to be specifically identified as such, but  
2089 revisions to NEMs previously in compliance with Part 150 do need this identification  
2090 and it would help for reader reference to include the date of the previous NEMs.

2091 5.14.5 Including Supporting Documentation.

2092 The NEM submittals should comprise documentation to support the current and forecast  
2093 years:

- 2094 • Type and frequency of aircraft operations
- 2095 • Number and type of aircraft operations during daytime and nighttime periods
- 2096 • Runway use percentages
- 2097 • Flight tracks and flight track use percentages
- 2098 • Operational noise abatement measures that were modeled
- 2099 • Location of any aircraft noise monitoring sites
- 2100 • Existing land uses and demographic data
- 2101 • Planned land use changes
- 2102 • Anticipated demographic changes in the surrounding areas
- 2103 • Estimated number of housing units and people residing within each noise contour
- 2104 • The land use compatibility table used to determine noncompatible land uses
- 2105 • A description of how forecast operations will affect the compatibility of land uses
- 2106 • A listing of consulted parties
- 2107 • A copy of all written comments received during consultation or verification that  
2108 none were received
- 2109 • A narrative description supported by documentation of the consultation  
2110 accomplished on the NEMs and of the opportunities afforded the public to review  
2111 and comment during the development of the NEM documentation

2112 5.14.6 Including the Airport Name and Airport Sponsor's Name on the NEM Submission.

2113 The NEM submission will identify the airport name and the airport sponsor. It is  
2114 desirable to have this information on a cover page of the submission. However, Part 150  
2115 does not specify a particular format, as long as this information is included and clearly  
2116 understandable.

2117 5.14.7 Submitting the NEMs for Preliminary Review.

2118 The FAA encourages airport sponsors to submit the NEMs and supporting  
2119 documentation for preliminary review before the formal submission so the FAA can  
2120 determine whether the NEMs comply with Part 150 requirements. The sponsor may

2121 request the FAA’s informal advice, policy review, or technical guidance at any time  
 2122 during the development of the NEMs. Depending on comments from the FAA,  
 2123 revisions to the NEMs and supporting documentation may be needed before formally  
 2124 submitting them to the FAA.

2125 5.14.8 Formally Submitting NEMs.

2126 Formal submission requirements for NEMs and supporting documentation are outlined  
 2127 below and examples of two of them—the cover letter and airport sponsor  
 2128 certifications—are provided in Appendix D. It is recommended, but not required, that  
 2129 the submission include the checklist that is in Appendix B to show up front the  
 2130 requirements of Part 150 for NEMs have been met.

2131 5.14.8.1 **Cover Letter.**

2132 The formal submission of the NEMs should be accompanied by a signed  
 2133 and dated cover letter from the airport sponsor. The letter should indicate  
 2134 that the sponsor, not its consultant or other party, is submitting the NEMs.  
 2135 The cover letter should state that the NEMs and supporting documentation  
 2136 are being submitted under the provisions of Title 1 of the ASNA  
 2137 (recodified at 49 U.S.C. Section 47503) and Part 150, for appropriate FAA  
 2138 determination.

2139 5.14.8.2 **Sponsor’s Certification.**

2140 The NEMs and supporting documentation must include the “sponsor’s  
 2141 certification,” preferably on a page at the beginning of the document.  
 2142 However, the regulation requires no specific format. The following  
 2143 considerations apply to the certification.

- 2144 • The Airport Sponsor is required to certify that it has afforded  
 2145 interested persons adequate opportunity to submit their views, data,  
 2146 and comments about the correctness and adequacy of the draft NEMs  
 2147 and descriptions of forecast aircraft operations (Part 150 Section  
 2148 150.21(b)).
- 2149 • Part 150 Section 150.21(e) requires the airport sponsor to certify that  
 2150 each map (or revised map) and description of consultation and  
 2151 opportunity for public comment are true and complete under penalty of  
 2152 18 U.S.C. Section 1001.
- 2153 • The Airport Sponsor must attest to the accuracy of map data by stating  
 2154 that the Existing Condition NEM accurately identifies noncompatible  
 2155 land uses as of the date of submittal.<sup>30</sup> See Section 5.9 of this AC for a  
 2156 discussion on the timeframe considerations for Existing Condition  
 2157 NEM submissions.

2158 The same verification and certification must be provided for the map  
 2159 developed for the existing and forecast years. For delayed

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<sup>30</sup> See Part 150 Section 150.21(e)

2160 submissions, the verification should explain why the underlying  
2161 assumptions are still reasonable and the forecast NEM continues to  
2162 represent conditions at least 5 years from the year of submission.

2163 5.14.8.3 **Supporting Documentation.**

2164 5.14.8.3.1 Accompanying information needs to document the reasonable  
2165 assumptions about future type and frequency of aircraft operations,  
2166 number of nighttime operations, flight patterns, airport layout and planned  
2167 airport development, planned land use changes, and demographic changes  
2168 in the surrounding areas. This information also needs to explain how the  
2169 forecast operations will affect the compatibility and land uses depicted on  
2170 the map.

2171 5.14.8.3.2 In addition, the airport is requested to include the geospatial map file of  
2172 the existing and future contours in the final submission.

2173 5.14.8.4 **Required Number of Copies Submitted.**

2174 Five hardcopies and one electronic file (including geospatial file of  
2175 existing and future contours) of the NEMs and supporting documentation  
2176 should be submitted to the FAA ADO or Region point of contact unless  
2177 informed otherwise. The local FAA office may request fewer, or  
2178 additional, copies to expedite their review and response time.

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2180 **CHAPTER 6. REVIEW AND UPDATING EXISTING PART 150 STUDIES**

2181 6.1 **Overview.**

2182 6.1.1 Airport sponsors should periodically review the airport’s existing Part 150 Study to  
 2183 determine whether the NEMs still accurately reflect current operational conditions and  
 2184 land use patterns and that the NCP measures are being implemented according to their  
 2185 schedule. The review should examine the NCP and decide if it is time to reevaluate  
 2186 approved noise abatement and mitigation measures or to add new ones. For example,  
 2187 the review could raise these questions:

- 2188 • Are changes to previously approved measures warranted? Or could new measures  
 2189 be proposed to reduce impacts further?
- 2190 • Have all the land use measures been completed? For example, are previously  
 2191 approved measures still appropriate, especially operational noise abatement  
 2192 measures?
- 2193 • Should the noise measures portion of the NCP be expanded?
- 2194 • Has there been a change in fleet mix, number of operations, runway usage, IFPs, or  
 2195 nighttime operations that would change the noise contour to the degree that NEMs  
 2196 must be revised according to the statute and thereby change the existing NCP (see  
 2197 Section 6.2.3).
- 2198 • Quantifying changes and their effect on noise contours becomes very important  
 2199 when sponsors are seeking funding for sound insulation programs.
- 2200 • How successfully are the local land use jurisdictions carrying out measures within  
 2201 their authority?

2202 6.1.2 Part 150.23(e)(8) requires airport sponsors to identify the period covered by the NCP  
 2203 program and schedule for implementation. At the end of this period is an opportune  
 2204 time to review the Part 150 Study to assess the NCP’s progress, seeking assistance on  
 2205 updating the NEM or NCP from the ARP POC.

2206 6.2 **Updating NEMs.**

2207 ASNA and Part 150.21(d)(1) require, in general, that airport sponsors update their  
 2208 NEMs when the DNL<sup>31</sup> increases or decreases at least 1.5 dB over noise-sensitive land  
 2209 uses. Such a revision is *required* only if the relevant change in the operation of the  
 2210 airport occurs during the forecast period of the applicable noise exposure map submitted  
 2211 by an airport operator; or the implementation period of the airport operator’s noise  
 2212 compatibility program.<sup>32</sup> The definition of “substantial new noncompatible use” in Part  
 2213 150 Section 21(d)(1) should not be interpreted to apply only to areas that experience a  
 2214 1.5 dB increase or newly noncompatible land uses experiencing less than 1.5 dB

<sup>31</sup> FAA recognizes CNEL for California projects.

<sup>32</sup> See Section 174 of FAA Reauthorization Act 2018.

2215 increase. Also of concern are land uses becoming noncompatible because the noise  
 2216 level increases from 64 dB to 65 dB. If numbers of aircraft operations significantly  
 2217 increase or decline or the fleet mix changes to substantially louder or quieter aircraft,  
 2218 NEM updates might be needed if these changes alter the airport's noise contours.<sup>33</sup>  
 2219 This, in turn, can have ramifications for the NCP and the funding considerations of  
 2220 previously approved NCP measures. FAA noise-related funding decisions are based on  
 2221 accurate NEMs. Some techniques for determining whether NEMs need to be updated  
 2222 are described in the next subsections.

#### 2223 6.2.1 Timing of Updates.

2224 Some airports may prefer to update their NEMs on a regular basis. The schedule could  
 2225 match forecast conditions or be on a specific schedule, such as 5 years. An update is  
 2226 particularly important if the airport receives or intends to request federal funds to carry  
 2227 out noise measures. If an NEM update is included as an FAA-approved NCP measure, it  
 2228 is potentially eligible for federal funding provided it also meets the AIP justification  
 2229 requirements.<sup>34</sup> Periodic updates might be necessary because of local commitments to  
 2230 report this information, or state requirements. ASNA and Part 150 require that, if the  
 2231 NEM is updated and shows a change in compatible land use, the airport sponsor update  
 2232 the NCP. This should be listed as an Administrative Measure within the NCP.<sup>35</sup>

#### 2233 6.2.2 State Requirements.

2234 Some states require airports to develop NEMs similar to the Part 150 Study, so sponsors  
 2235 should check whether their states have such regulations. Although these state  
 2236 requirements do not supersede the Part 150 regulations, the results of those other studies  
 2237 can be used as a gauge to determine whether NEMs must be updated under 14 CFR Part  
 2238 150 Section 21(d).

#### 2239 6.2.3 Assessing Changes to Noise Contours.

2240 Although changes to land use within an airport's NEM are relatively easy to determine  
 2241 through a windshield survey, such as by driving through the communities or by  
 2242 reviewing recent aerial photography, it is often difficult to know whether an increase or  
 2243 decrease of DNL 1.5 dB has occurred over noncompatible land use without running the  
 2244 AEDT. Unforeseeable impacts associated with IFPs, air traffic management, or air  
 2245 commerce may have occurred since the time the NCP was approved. Therefore, a  
 2246 variety of factors need to be considered and professional judgment applied when  
 2247 assessing potential changes to noise contours resulting from changes to aircraft  
 2248 operations.

##### 2249 6.2.3.1 **Assessing the Nature of Operational Changes.**

2250 Airport sponsors should have an electronic set of the study files, including  
 2251 all those used to develop the NEMs, so adjustments to determine whether

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<sup>33</sup> For example, day night split change, significant change in fleet mix, quieter aircraft, nighttime cargo operations, and changes in operational procedures.

<sup>34</sup> See AIP Handbook at: [https://www.faa.gov/airports/aip/aip\\_handbook/](https://www.faa.gov/airports/aip/aip_handbook/).

<sup>35</sup> See Part 150 Section 23(e)(9).



2252 there is a DNL 1.5 dB increase or decrease over noncompatible land uses  
 2253 will not be too burdensome. When operational noise abatement measures  
 2254 can no longer be used in accordance with the approved measure or when  
 2255 there are other changes to air traffic management, the new traffic flows  
 2256 need to be evaluated. If the operational changes include changes to runway  
 2257 utilization, flight tracks, or flight track utilization, then AEDT should be  
 2258 used to assess these changes.

2259 6.2.3.2 **Using the FAA Approved Computer Program.**

2260 Since AEDT is the current FAA-approved computer model for assessing  
 2261 operational changes, updating AEDT files to assess operational changes  
 2262 should not involve extensive resources. AEDT accepts older Integrated  
 2263 Noise Model (INM) input files. Questions about modeling should be  
 2264 directed to the FAA along with documentation of the types of changes that  
 2265 have occurred at the airport. This documentation could briefly describe the  
 2266 change(s) and include supporting statistical data or graphical depictions of  
 2267 operational changes.

2268 6.2.3.3 **Screening.**

2269 6.2.3.3.1 In very limited circumstances, using the [Area Equivalent Method \(AEM\)](#)  
 2270 may help determine whether the overall area within the noise contour has  
 2271 increased by 17 percent or more (this would indicate a potential 1.5 dB  
 2272 increase requiring an NEM update).<sup>36</sup> The AEM provides an indication of  
 2273 the overall percent of change to the noise contour area in tabular form.  
 2274 Assessments using the FAA's AEM computer model are appropriate  
 2275 under the following types of changes to airport operations:

- 2276 • Non-locational in nature (involving changes in flight tracks) and only  
 2277 affect the number of aircraft operations
- 2278 • Aircraft fleet mix adds noisier aircraft
- 2279 • Day/night split of aircraft operations adding more nighttime,  
 2280 operations or changes runway use percentages

2281 6.2.3.3.2 If operational changes include helicopter operations, AEM cannot be used.  
 2282 The AEM algorithms that relate aircraft Landing-Takeoff cycles to  
 2283 contour area were not designed to include helicopter operations.  
 2284 Consequently, given degree of uncertainty when trying to model  
 2285 helicopter operations in AEM, AEDT is the most appropriate.

2286 6.2.3.3.3 The AEM provides extremely limited information as a Part 150 screening  
 2287 tool because of the specificity required for all Part 150 assessments. As a

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<sup>36</sup> The AEM can only be used to evaluate changes to fleet mix or numbers of operations because the model assumes a single runway and single direction operations. It cannot determine if the shape of the noise contour has changed.

2288 result, the FAA must approve use of AEM for Part 150 Studies ahead of  
2289 time. AEM cannot be used to certify that an outdated NEM is valid.

2290 **6.3 Revising NCPs.**

2291 Revising an NCP is not always required when NEMs are updated. Part 150 states that  
2292 NCPs should include a provision for revising the program if made necessary by revision  
2293 of the NEMs. If the NEMs are revised and the new maps reveal that land uses  
2294 previously designated noncompatible are now compatible or vice versa, then NCP  
2295 elements based on the previous NEMs may no longer be applicable or new elements  
2296 may be needed. In this case, NCP measures affected by changes in the noise contour  
2297 need to be updated, especially to remain eligible for AIP funding. The FAA will  
2298 consider whether ongoing noise measures that are near completion will remain eligible  
2299 and justified.

2300 **6.3.1 Determining When an NCP Update is Necessary.**

2301 Although Part 150 Section 23(e)(8) requires identifying the period covered by NCPs,  
2302 Part 150 does not specifically state when an NCP update is or is not required. FAA  
2303 policy on funding noise projects has practical implications to seriously consider when  
2304 deciding whether to update an NCP. For example, if revised NEMs reveal a significant  
2305 increase or decrease in the size of the noise contours over noncompatible land uses, the  
2306 relationship needs to be examined between the updated NEMs and the geographical  
2307 extent of previous FAA-approved NCP noise abatement measures such as property  
2308 acquisition /or sound insulation. Operational noise abatement measures may no longer  
2309 be effective due to land use encroachment or changes in air traffic flow patterns and the  
2310 airport and other airports in the vicinity. Sometimes the NCP may need to be updated  
2311 after an airport infrastructure development project.

2312 **6.3.1.1 Cases Where NEMs Reveal Additional Noncompatible Land Uses.**

2313 When revised NEMs reveal additional noncompatible land uses within the  
2314 DNL 65 dB contour, the number of additional properties that would be  
2315 potentially eligible for mitigation according to approved measures in the  
2316 NCP need to be determined and included in an NCP revision.

2317 **6.3.1.2 Cases Where the NEMs Reveal a Reduction in Noncompatible Land  
2318 Uses.**

2319 If revised NEMs reveal a reduction in the number of noncompatible land  
2320 uses inside the DNL 65 dB or greater noise contours, then properties  
2321 previously considered to be eligible for mitigation using FAA funding  
2322 may lose their eligibility. Noncompatible land uses that shift from being  
2323 inside a higher noise contour to a contour of lesser noise would also not be  
2324 eligible for previously approved mitigation (such as acquisition) unless  
2325 that same type of mitigation was included in the previously approved NCP  
2326 for the lower noise contour area. Reduction in noncompatible land uses  
2327 need to be included in a revised NCP.

2328 6.3.2 AIP Priority Rating.  
2329 FAA program guidance provides that noise mitigation projects will receive an AIP  
2330 priority rating based upon the noise contour in which they are located. Projects inside  
2331 higher-level noise contours receive a higher priority rating than projects inside lower-  
2332 level noise contours. Because of the competition for AIP funding with other airports'  
2333 noise mitigation projects, the goal of the priority rating system is to ensure that federal  
2334 funding of noise mitigation projects is directed first to the more highly noise-impacted  
2335 projects. See FAA Order 5100.38.

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2337 **CHAPTER 7. PREPARING NOISE COMPATIBILITY PROGRAMS**

2338 7.1 **Introduction.**

2339 An NCP contains the measures airport sponsors propose to implement for reducing  
 2340 existing noncompatible land uses and preventing the introduction of new noncompatible  
 2341 land uses within the area covered by the sponsor's NEMs. The NCP may also consider  
 2342 actions proposed by other responsible agencies.

2343 7.1.1 Purposes of the NCP.

2344 The purposes of the NCP are fourfold:

- 2345 • Promote a planning process in which airport sponsors can study airport noise  
 2346 impacts as well as the costs and benefits of alternative noise reduction techniques.
- 2347 • Encourage land use jurisdictions through the planning process to examine existing  
 2348 and forecast noncompatible land uses and consider actions to reduce them.
- 2349 • Use public participation and agency coordination to facilitate creating a noise  
 2350 abatement plan that all interested parties (to the best of their ability) can agree on,  
 2351 that is suited to a particular airport, and will not unduly affect the national air  
 2352 transportation system.
- 2353 • Develop noise reduction techniques and land use control that, to the extent they can:
- 2354 • Confine aircraft DNL values of 75 dB or greater to areas within the airport  
 2355 boundary.<sup>37</sup>
- 2356 • Establish and maintain compatible land uses in the areas between the DNL 65 and  
 2357 75 dB contours.

2358 7.2 **NCP Standards for Analysis and Approval.**

2359 Based on the airport noise exposure and the noncompatible land use identified in the  
 2360 NEM documentation, the NCP's final measures<sup>38</sup> must meet these requirements:

- 2361 • Reduce existing noncompatible uses.
- 2362 • Prevent or reduce the probability of additional noncompatible uses being  
 2363 established.
- 2364 • Does not impose an undue burden on interstate or foreign commerce.
- 2365 • Can be revised if changes in the NEM show NCP revision is necessary.
- 2366 • Is not unjustly discriminatory.
- 2367 • Does not reduce safety or adversely affect the safe and efficient use of airspace.

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<sup>37</sup> For California, the FAA accepts the CNEL, which is similar to the DNL metric, but adds an evening weighting.

<sup>38</sup> Title 14 CFR Part 150 Appendix B150.5.

- 2368                   • Meets local needs and national air transportation system needs, considering  
2369                   tradeoffs between the airport’s economic benefits and the airport’s noise impact.
- 2370                   • Can be implemented in a manner consistent with the powers and duties of the FAA  
2371                   Administrator (e.g. the NCP should not include measures that conflict with the  
2372                   FAA’s authority over airspace).

2373    7.3       **Consideration of Program Alternatives.**

2374           The FAA examines NCP recommendations using all of the 14 CFR Part 150 approval  
2375           criteria. Under Part 150 Section B150.7(b), each NCP must at a minimum consider  
2376           whether the following noise compatibility program alternatives apply at the airport. The  
2377           consideration of additional measures is optional, and can be recommended during the  
2378           consultation process by any consulting party. Table 7-1 list possible actions that could  
2379           be considered for airport-specific noise problems. These measures come directly from  
2380           ASNA (recodified at 49 U.S.C. Section 47504) and are also found in Part 150 Section  
2381           B150.7(b).

2382    7.3.1    Program Alternatives That Must Be Considered.

2383           These minimum measures must be considered for applicability and feasibility at airports  
2384           developing an NCP,

2385           7.3.1.1       **Acquisition.**

2386                   Acquisition of land and interests therein, including but not limited to air  
2387                   rights (e.g., over flight rights), easements, and development rights to  
2388                   ensure property use is for purposes which are compatible with airport  
2389                   operations.

2390           7.3.1.2       **Construction and Shielding.**

2391                   Construction of noise barriers and acoustical shielding including the sound  
2392                   insulation<sup>39</sup> of public buildings.

2393           7.3.1.3       **Runway Use.**

2394                   Implementation of a preferential runway use plan.

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<sup>39</sup> The term “sound insulation” is also called “sound attenuation,” “noise insulation,” or “sound proofing.”

2395

**Table 7-1. Matrix of Possible Noise Control Alternatives<sup>40</sup>**

IF YOU HAVE NOISE FROM:										CONSIDER THESE ACTIONS:
NOISE FROM TAXIING	DEPARTURE	APPROACH	LANDING ROLL	TOUCH-DOWN AND GO FLIGHTS	ENGINE RUN-UPS	GROUND EQUIPMENT	MILITARY OPERATION	NIGHTTIME OPERATION		
<b>AIRPORT LAYOUT CHANGES</b>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Changes in Runway Location or Length
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Isolating Maintenance Run-ups or Use of Noise Barriers and Acoustical Shielding
<b>AIRPORT &amp; AIRSPACE USE AND AIRCRAFT OPERATION</b>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Preferential or Rotational Runway Use
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Preferential Flight Track Use
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Modification to Approach and Departure Procedures
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Restrictions on Ground Movement of Aircraft
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Restrictions on Engine Run-ups or Use of Ground Equipment
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Use Restrictions
<b>LAND USE</b>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Comprehensive Planning
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Compatible Use Zoning/Zoning Regulations
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Building Code Provisions
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Subdivision Regulations
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Real Estate Disclosure
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Land Acquisition and Relocation
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Acquisition of Vacant Land
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Noise Insulation
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Acquisition of Easements or Development Rights
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Purchase Assurance/Sales Assurance/Transaction Assistance
<b>NOISE PROGRAM MANAGEMENT</b>										
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Pilot Awareness Program
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Periodic Program Monitoring
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Establish a Noise Abatement Contact/Noise Complaint Hotline
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Noise Monitoring
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Establish Community Participation Program

2396

<sup>40</sup>These measures come directly from the ASNA (recodified at 49 United States Code (U.S.C.) 47504) and are also found in Part 150 Section B150.7(b).

- 2397            7.3.1.4        **Flight Tracks and Procedures.**  
 2398            Use of flight visual and instrument flight tracks, including the  
 2399            modification of charted IFPs and CVFPs, to control the operation of  
 2400            aircraft to reduce noise exposure to individuals or specific noise-sensitive  
 2401            areas around the airport.
- 2402            7.3.1.5        **Restrictions.**  
 2403            Restrictions that affect Stage 2 and Stage 3 aircraft must comply with 14  
 2404            CFR Part 161 requirements. Title 14 CFR Part 161 implements relevant  
 2405            portions of ANCA that relate to restrictions on flight operations. Many of  
 2406            the restrictions specified in ASNA may be superseded by technological  
 2407            advances or procedures and are no longer appropriate. Part 161 restrictions  
 2408            on the use of the airport by any type or class of aircraft based on their  
 2409            noise characteristics can include any of the following:
- 2410            • Denial of use of the airport to aircraft types or classes that do not meet  
 2411            federal noise standards.
  - 2412            • Capacity limitation based on the relative noisiness of different types of  
 2413            aircraft.
  - 2414            • Mandatory requirements for aircraft using the airport to use noise  
 2415            abatement takeoff or approach procedures previously approved as safe  
 2416            by the FAA.<sup>41</sup>
  - 2417            • Landing fees based on FAA certificated or estimated noise emission  
 2418            levels, or on time of arrival.
  - 2419            • Partial or complete curfews.
- 2420            7.3.1.6        **Other Alternatives or Combinations of Measures.**  
 2421            Other actions or combinations of actions which would realize noise  
 2422            control or abatement benefits for the public within the noise-impacted  
 2423            area, such as refined aircraft departure profiles.
- 2424            7.3.1.7        **FAA-Recommended Alternatives.**  
 2425            Under Part 150 Section B150.7(b)(7), airport sponsors must consider  
 2426            “other actions recommended for analysis by the FAA for the specific  
 2427            airport.” Although it is expected that FAA recommendations would  
 2428            usually be offered during the consultation process, the FAA may also  
 2429            provide them after the NCP has been submitted. The FAA may  
 2430            recommend a new alternative not previously considered or a variation of  
 2431            an alternative that was considered and rejected.



- 2432 7.3.2 Implementation Authority.
- 2433 7.3.2.1 In accordance with Part 150 Section B150.7(c), the NCP must indicate for  
2434 each considered measure the category of the entity or combination of  
2435 entities that has authority to implement the measures. Entities with this  
2436 authority might include:
- 2437 • Airport operators or sponsors
  - 2438 • State agencies or political subdivisions of a governing body
  - 2439 • The FAA
  - 2440 • Other federal agencies
- 2441 7.3.2.2 The NCP should also indicate the willingness of the entity or entities to  
2442 implement the alternatives.
- 2443 7.3.3 Alternatives Description and Analysis.
- 2444 7.3.3.1 Part 150 Section 150.23(e)(2) requires a description and analysis of the  
2445 considered noise abatement alternatives and a discussion of why specific  
2446 measures were rejected for inclusion in an airport sponsor’s final NCP.  
2447 The description should be sufficiently detailed to be clearly understood.  
2448 The amount of analysis will vary with each alternative and with the  
2449 amount of interest in pursuing particular requirements.
- 2450 7.3.3.2 Generally, Part 150 does not specify the analytical detail required to  
2451 justify rejected alternatives. The rationale presented in the documentation  
2452 for rejecting alternatives should be reasonable and not arbitrary or  
2453 capricious. The analysis should ensure measures are not rejected because  
2454 of faulty technical analysis or flawed conclusions (for example, by  
2455 claiming a particular measure is illegal when it is not).
- 2456 7.3.3.3 Requirements for analyzing alternatives that are recommended for the  
2457 NCP are detailed in the next section.
- 2458 7.4 **Alternatives Recommended for Implementation.**
- 2459 7.4.1 The NCP documentation must clearly indicate which noise abatement alternatives are  
2460 recommended for FAA approval/implementation. These must be recommended by  
2461 airport sponsors, not their consultants or other parties; however, sponsors may  
2462 recommend measures proposed by other parties. NCP alternatives are premised on  
2463 existing and projected noise levels. They should be reexamined when there are changes  
2464 in operations or layout at the airport that would result in an increase or decrease of

- 2465 1.5 dB in noise exposure over noncompatible land uses, or changes in land uses around  
2466 the airport.
- 2467 7.4.2 Even though the Part 150 regulation, FAA staff, the public, and other consulted parties  
2468 may recommend the consideration of specific alternatives, airport sponsors have the  
2469 final decision on which alternatives to reject and which to recommend in the NCP.
- 2470 7.4.3 Analytical Requirements and Program Standards.  
2471 There are no exceptions to the analytical requirements and the program standards  
2472 imposed by Part 150 Section B150.5. Insufficient analysis in NCP documents could  
2473 lead to disapproval of an otherwise perfectly reasonable recommendation.
- 2474 7.4.3.1 **Requirements for Continuation of Past Practices.**  
2475 Recommendations of measures that are continuations of past practices but  
2476 not previously approved in an NCP (for example, noise practices that were  
2477 put in place locally outside of the formal Part 150 Process), must meet the  
2478 same analytical requirements and program standards as new measures if  
2479 they are submitted for FAA approval. If sponsors do not desire formal  
2480 FAA approval for noise abatement and mitigation practices already in  
2481 place at the airport, the NCP document must describe them in its  
2482 introduction existing conditions section as part of baseline conditions.  
2483 These practices also must be described in the narrative as practices that  
2484 were modeled for developing the Existing Condition NEM. These  
2485 modeled and described practices must accurately reflect what is occurring  
2486 at the airport. For instance, if an FAA-approved IFP in a previously  
2487 approved NCP is no longer used, actual flight tracks must be modeled as  
2488 the NEM baseline and described in the narrative.
- 2489 7.4.3.2 **Re-Approval of Previously Approved Alternatives.**
- 2490 7.4.3.2.1 No FAA action is required to implement measures that have been  
2491 approved in a previous NCP. However, if an approved alternative is not  
2492 implemented within five years of the date of approval, it is considered  
2493 expired and not part of the baseline conditions, and needs to be  
2494 re-analyzed in an NCP update. Modified measures the FAA approved in  
2495 an earlier NCP which are submitted for reapproval must meet the  
2496 analytical requirements and program standards as if they were a first-time  
2497 request for approval. Updated NCPs replace the most recent, previously  
2498 approved NCP.
- 2499 7.4.3.2.2 Upon re-evaluation, a previously approved alternative may need to be  
2500 modified to improve noise-reduction benefits or removed because it is no  
2501 longer applicable due to changes in land uses. A measure may no longer  
2502 be feasible or effective due to safety, efficiency, air traffic management, or  
2503 other airspace constraints in the vicinity. Only the re-evaluated alternatives  
2504 that are shown to be feasible and noise beneficial for FAA re-approval  
2505 should be submitted in the NCP update.

- 2506            7.4.3.3        **Previously Approved but Unchanged Operational Measures.**  
2507                                      Previously approved operational measures successfully in place at the  
2508                                      airport and depicted on the NEMs do not normally have to be reevaluated  
2509                                      when updating an NCP—as long as no changes have been made to the  
2510                                      measures. These measures are reported as part of the baseline conditions at  
2511                                      the airport, with no request for an FAA re-approval. A sponsor needs to  
2512                                      produce a table summarizing all previously proposed measures (from  
2513                                      previous NCPs), FAA approval status, implementation status, and action  
2514                                      required/requested by FAA. Questions that arise concerning these  
2515                                      measures should be discussed with the ARP POC.
- 2516       7.4.4       Implementation Responsibilities.  
2517                                      Part 150 Sections 150.23(e)(8) and B150.7(c) require the study to identify the agency or  
2518                                      agencies responsible for implementing each recommended alternative. Part 150 Section  
2519                                      B150.7(c) further requires an indication of whether those agencies have agreed to  
2520                                      implement measures within their authority. Do not include measures as  
2521                                      recommendations in NCPs if there is no indication the responsible authority plans to  
2522                                      take action toward carrying it out. Part 150 Section 150.23(e)(8) requires the NCP  
2523                                      documentation to include any essential government actions that will be necessary to  
2524                                      implement specific alternatives such as zoning changes or amending comprehensive  
2525                                      plans.
- 2526       7.4.5       Implementation Schedule.  
2527                                      Part 150 Sections 150.23(e)(8) and B150.7(c) require NCPs to include an estimated  
2528                                      schedule for implementing its alternatives. This information should be written to  
2529                                      sufficiently address the requirement in Part 150 Section 150.23(e)(8) for indicating the  
2530                                      period the NCP covers. If an approved alternative is not implemented within five years  
2531                                      of the date of approval, it will need to be reevaluated with respect to any updated NEM.  
2532                                      This is particularly true for an ongoing sound insulation or land acquisition program  
2533                                      carried out under Part 150. Schedules should be updated as necessary.
- 2534       7.4.6       Implementation Costs.  
2535                                      Part 150 Section 150.23(e)(8) requires the NCP documentation to include an indication  
2536                                      of the anticipated costs of the recommended measures and the anticipated funding  
2537                                      sources.
- 2538       7.4.7       Changes to Previous Plans.  
2539                                      Under Part 150 Section 150.23(e)(6), the NCP documentation must indicate how, if at  
2540                                      all, the recommended measures may change any independently undertaken noise  
2541                                      control plan or actions or an approved and implemented Part 150 land use compatibility  
2542                                      program.

- 2543 7.5 **Categories of Program Alternatives.**
- 2544 7.5.1 Given the program alternatives that must be evaluated in an NCP, most airport sponsors  
2545 typically propose program alternatives in three general categories: noise abatement  
2546 (aircraft operations/airport layout), land use, and program management (administrative  
2547 actions). Individual recipients (such as a homeowner or school) of noise compatibility  
2548 projects may be entitled to more than one program alternative if the measures are  
2549 approved in the sponsor’s NCP, enhance land use compatibility, provide additional  
2550 protection for the airport, and the total cost of the measures is reasonable in relation to  
2551 the property value. For example, sound insulation may be combined with acquisition of  
2552 an easement, or a sponsor may acquire residential property and install sound insulation  
2553 with an easement, before offering it for resale.
- 2554 7.5.2 The three general categories of noise measures are explained below.
- 2555 7.5.3 Noise Abatement Measures.
- 2556 7.5.3.1 Noise abatement measures may include either operational or infrastructure  
2557 components:
- 2558 • Operational, such as implementing a preferential runway system or  
2559 using charted instrument flight procedures to direct aircraft to fly  
2560 specified tracks.
  - 2561 • Airport infrastructure development such as noise barriers or engine run  
2562 up enclosures.
- 2563 7.5.3.2 Airport sponsors must comply with title 14 CFR Part 161 (see Sections  
2564 1.2.1, 3.4, and 7.3.1.5 of this AC) before implementing any mandatory  
2565 airport noise or access restriction affecting Stage 2 or Stage 3 aircraft,  
2566 regardless of aircraft weight. A mandatory airport noise or access  
2567 restriction that affects any aircraft type (any stage or non-staged aircraft)  
2568 must comply with the grant assurances.
- 2569 7.5.3.3 In addition to showing that the operational measures would reduce  
2570 existing noncompatible land uses (provide a net reduction) or prevent  
2571 future noncompatible land uses, Part 150 Section 150.33 requires the FAA  
2572 to conduct a separate evaluation of the operation to determine their  
2573 potential impacts on aviation safety and efficiency. Before operational  
2574 noise abatement measures that may affect aviation safety are implemented,  
2575 they must have a favorable SRM finding per FAA Order 5200.11.
- 2576 7.5.3.4 The objective in choosing specific aircraft operational measures is to  
2577 achieve the best combination of noise abatement strategies and compatible  
2578 land use measures that work best for the airport and the surrounding

2579 environment, consistent with the FAA Administrator’s other obligations  
2580 such as safety and efficiency.

2581 7.5.4 Land Use Measures.

2582 Land use noise measures comprise two types:

2583 7.5.4.1 **Remedial Measures.**

2584 These measures are intended to reduce existing noncompatible land uses.  
2585 The four most commonly used remedial noise mitigation measures:

- 2586 • Land acquisition (Section 7.13)
- 2587 • Sound insulation (Section 7.14)
- 2588 • Easement acquisition (Section 7.15)
- 2589 • Purchase assurance / sales assurance / transaction assistance (Section  
2590 7.16)

2591 7.5.4.2 **Preventive Measures.**

2592 7.5.4.2.1 Preventative measures are normally within the sole authority of the local  
2593 land use jurisdictions and are intended to prevent the introduction of  
2594 additional noncompatible land uses. These are the most commonly used  
2595 preventive land use noise measures:

- 2596 • Comprehensive planning
- 2597 • Zoning regulations
- 2598 • Subdivision regulations
- 2599 • Acquisition of easements or development rights
- 2600 • Revised building codes for sound insulation
- 2601 • Real estate disclosure
- 2602 • Acquisition of vacant land

2603 7.5.4.2.2 The FAA believes that preventing additional residential land uses within  
2604 the DNL 65 dB noise contour and creating non-noise sensitive land uses  
2605 (such as industrial) is highly preferred over allowing residential uses, even  
2606 with sound attenuation or aviation easements.

2607 7.5.4.2.3 [Table 1 of Part 150](#) notes that the FAA does not substitute federally  
2608 determined land uses for those determined to be appropriate by local  
2609 authorities in response to locally determined needs and values in achieving  
2610 noise compatible land uses. Airport sponsors and local land use  
2611 jurisdictions are urged to pursue all possible avenues to discourage new  
2612 residential development within the levels of noise exposure designated as  
2613 “significant” in Part 150. If local needs dictate permitting noncompatible

2614 developments inconsistent with [Table 1 of Part 150](#), any noncompatible  
2615 land use structures (such as residences) constructed after October 1, 1998,  
2616 are not eligible for remedial mitigation using federal financial assistance  
2617 (see Section 7.6 of this AC for more information).

2618 7.5.5 Program Management Measures.

2619 7.5.5.1 Part 150 does not require sponsors to quantify benefits for program  
2620 management measures in an NCP if they do not lend themselves to  
2621 quantification. For example, it may be difficult to quantify the  
2622 effectiveness and benefits of an awareness program for pilots. The NCP  
2623 description of program management measures, however, should include  
2624 evidence they are related to successful implementation of your NCP. As  
2625 an example of a program management measure, Part 150 Section 150.35  
2626 requires revising the NCP if the NEMs are significantly revised. Many  
2627 airport sponsors schedule automatic revisions or reviews of the NCP and  
2628 NEMs within a specified timeframe, which encourages long-term  
2629 successful implementation.

2630 7.5.5.2 Other program management measures:

- 2631
- 2632 • Periodic program monitoring
  - 2633 • Establishing committees to keep the public informed of NCP progress
  - 2634 • Establishing a noise abatement contact at the airport
  - 2635 • Establishing a noise complaint hotline

2635 7.5.6 Approval of Land Use Mitigation Measures after October 1, 1998.

2636 7.5.6.1 The FAA published a policy in April of 1998 advising land use  
2637 jurisdictions across the country that it will no longer approve remedial  
2638 (after-the-fact) noise mitigation measures for new noncompatible  
2639 development that occurs in the vicinity of airports that had a noise contour  
2640 map distributed to the public after October 1, 1998.<sup>42</sup> Noncompatible land  
2641 uses must be in existence on that date.

2642 7.5.6.2 The FAA recognizes that there will be gray areas which will have to be  
2643 addressed on a case-by-case basis within these policy guidelines. For  
2644 example, minor development on vacant lots within an existing residential  
2645 neighborhood that is clearly not extensive would not be considered new  
2646 noncompatible development. It may, for practical purposes, need to be

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<sup>42</sup> FAA's policy was published in the Federal Register on April 3, 1998 (63 FR 16409-16414).

- 2647 treated with the same remedial measures applied to the rest of the  
2648 neighborhood.
- 2649 7.5.6.3 Airport sponsors must provide adequate justification in the NCP  
2650 documentation for such exceptions to the policy guidelines.
- 2651 **7.6 Approval of Land Use Mitigation Measures in Areas Less Than DNL 65 dB.**
- 2652 7.6.1 Land use mitigation measures are usually recommended in areas where aircraft noise  
2653 exposure exceeds DNL 65 dB. For determining funding, the FAA gives priority to the  
2654 areas with the highest noise levels.<sup>43</sup> However, land use mitigation measures may be  
2655 approved and potentially eligible for federal financial assistance for areas exposed to  
2656 noise levels less than DNL 65 dB.
- 2657 Mitigation for areas below the federal noncompatibility criteria in [Part 150, Table 1](#),  
2658 may be approved if three criteria are met:
- 2659 • The local land use authority and the airport sponsor have adopted a designation of  
2660 noncompatibility different from Table 1 in its NCP.<sup>44</sup>
  - 2661 • NEM contours and the NEM and NCP narrative identify the areas as noncompatible  
2662 and propose to mitigate in that area.
  - 2663 • The airport sponsor’s proposal to mitigate otherwise meets the Part 150 approval  
2664 standards, including the requirement to reduce or prevent noncompatible land uses.
- 2665 7.6.2 For remedial land use mitigation measures (such as residential sound insulation) in  
2666 areas below DNL 65 dB that are proposed in the NCP, airports sponsors must support  
2667 their grant applications with appropriate documentation so the FAA can determine  
2668 whether they are justified for federal financial assistance for the year of the grant  
2669 application. For example, projects within DNL 65 dB contour may be expanded beyond  
2670 the DNL 65 dB contour to include a reasonable additional number of otherwise  
2671 ineligible parcels contiguous to a sound insulation project area. This is called “Block  
2672 Rounding.”<sup>45</sup> Where a high percentage of a neighborhood is within the noise contour,  
2673 neighborhood or street boundary lines rather than the actual noise contour may be used

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<sup>43</sup> The competition for federal dollars is high, and areas with higher noise impacts receive higher priority.

<sup>44</sup> The Airport Sponsor may not unilaterally include a local standard in the Part 150 Study if it is not acting as the land use control authority or acting in cooperation with the land use control authority. Jurisdictions with land use control authority must have formalized “locally determined needs and values” ([Table 1 of Part 150](#)) by adopting local standards before they can be included in the Part 150 Study document. Those local standards must not be limited to aviation-related noise, but applicable to all noise sources.

<sup>45</sup> See the complete discussion of eligibility of Block Rounding in the most current edition of FAA Order 5100.38, *Airport Improvement Program Handbook*.

- 2674 to determine the boundaries to establish a “contiguous block rounding” area if one or  
2675 two homes are impacted<sup>46</sup>.
- 2676 7.6.3 For questions about establishing a “block rounding” boundary, the sponsor must consult  
2677 with their ARP POC.
- 2678 7.7 **Use of Supplemental Noise Analyses.**
- 2679 In some instances, such as when responding to input from the public, special land use  
2680 agreements (leases, for example), or other specific reasons, supplemental metrics may  
2681 be used in a Part 150 study. Appendix A of this AC provides more detail on  
2682 supplemental noise metrics and analyses. Noise mitigation benefits have to be  
2683 demonstrated within the NEM contours DNL 65 or higher dB. Supplemental noise  
2684 metrics may not be used as a measure of significant aircraft noise impacts under NEPA,  
2685 noncompatible land use under Part 150, or to demonstrate a noise benefit.
- 2686 7.7.1 Supplementing DNL Analysis on a Case-by-Case Basis.
- 2687 DNL analysis may be supplemented on a case-by-case basis. Because of the diversity of  
2688 situations, the variety of supplemental metrics, and limitations, airport sponsors should  
2689 coordinate their use with their FAA ADO or regional point of contact. Since a Part 150  
2690 planning grant cannot be amended once it has been executed,<sup>47</sup> it is best to determine  
2691 whether and why to use supplemental metrics when the scope of work is drafted. Refer  
2692 to Appendix A and Table A-1 in this AC to determine the likelihood the study would  
2693 require a supplemental metric analysis.
- 2694 7.7.2 Basis for Supplemental Noise Analysis.
- 2695 7.7.2.1 Supplemental noise analyses are most often used to describe aircraft noise  
2696 impacts for specific noise-sensitive locations or situations and to assist in  
2697 the public’s understanding of the noise impact. Accordingly, the analyses  
2698 should clearly describe the impacts and the pertinent facts supporting use  
2699 of the supplemental analyses proposed in the study document. The  
2700 selection of supplemental analyses, methodologies, and metrics will  
2701 depend upon the circumstances of each particular case. In some cases, a  
2702 more complete narrative description of the noise events contributing to the  
2703 DNL contours with additional tables, charts, maps, or metrics may be  
2704 appropriate. In other cases, supplemental analyses may include metrics  
2705 other than DNL.
- 2706 7.7.2.2 Supplemental metrics selected should fit the circumstances. Some metrics  
2707 are better suited for describing human responses than others (see Table A-  
2708 1 of this AC for the metric and associated noise issue). Unlike DNL,

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<sup>46</sup> In locations where structures are proximal to or will expand beyond the contiguous DNL 65 dB noise contour area, advance coordination with the FAA ADO and/or RO is required to determine next steps for applying the block rounding approach.

<sup>47</sup> Order 5100.38, Paragraph 27.d.



2709 which reflects the magnitude, duration, and frequency of the noise events,  
2710 supplemental metrics often do not cover all three.

2711 7.8 **Preferential Runway Use**

2712 7.8.1 Preferential runway use means voluntarily using certain runways rather than others to  
2713 reduce noise impacts. The concept may apply to certain operations at particular times,  
2714 such as directing evening or nighttime cargo flights away from residential areas.  
2715 Another common concept is to designate a preferred calm wind runway, for use to  
2716 direct traffic in a preferred direction when wind speeds are sufficiently low that there is  
2717 general flexibility in runway choice. More complex runway use measures may seek to  
2718 “share” or “equalize” noise by rotating through runway configurations.

2719 7.8.2 Runway selection is based principally on aircraft safety and efficiency, as well as  
2720 aircraft performance capabilities, which is influenced by several factors:

- 2721 • Wind direction and speed
- 2722 • Aircraft performance, including tolerance for crosswinds
- 2723 • Runway slope, length, and pavement strength
- 2724 • Terrain and obstacles
- 2725 • Airspace traffic flow management in relation to ratio of operational demand to  
2726 runway capacity

2727 7.8.3 Within these parameters, there may be informal runway-use options that can help to  
2728 mitigate an airport’s noise during operative conditions. Preferential runway use for  
2729 noise abatement entails using a preferred runway or runway direction for takeoff or  
2730 landing which enable aircraft to avoid noise-sensitive land uses during the initial  
2731 departure and final approach phases of flight. A preferential runway use program  
2732 transfers the traffic from one direction or runway to another. If operationally feasible,  
2733 preferential use runway reshapes the noise contour, potentially reducing the number of  
2734 people exposed to high noise levels. In particular, preferential runway use can be  
2735 advantageous for nighttime operations when calmer winds and/or reduced traffic  
2736 demand allows for more flexibility in runway choice.

2737 7.8.4 Data Requirements.

2738 A significant amount of data is required in the NCP to support a proposed preferential  
2739 runway use alternative:

- 2740 • An indication of the noise-reduction benefits to noncompatible land uses:
- 2741 • Noise contour comparisons superimposed over land use maps
- 2742 • Comparisons of numbers of people and residences impacted with and without the  
2743 adjusted runway use system
- 2744 • Noise reduction in dB DNL provided to noise-sensitive sites on the ground.

- 2745           ○ Other narrative explanation related to geographic and demographic conditions  
2746           around the airport that qualitatively describe benefits, such as flight patterns  
2747           over vacant or compatible corridors and away from noncompatible land uses.
- 2748           • Describe the characteristics of the preferred runway length and strength to confirm  
2749           that the preferred runway is designed for the aircraft that will use it, given the  
2750           performance capabilities of the aircraft type(s).
- 2751           • An indication that approach and departure horizontal and vertical clearance planes  
2752           are adequate and that required NAVAIDS and IFPs are available.
- 2753           • Indicate that the preferential runway use is in accordance with FAA Order 8400.9,  
2754           National Safety and Operational Criteria for Runway Use Programs and 14 CFR  
2755           Part 91.129(h):
- 2756                 ▪ describe how consideration was given to effects on controller workload  
2757                 and airspace flow management relevant to the times and traffic volumes  
2758                 when the proposed preferential runway use program would be in effect,  
2759                 including:
- 2760                 ▪ the effects on terminal airspace efficiency such as aircraft routing and  
2761                 sequencing;
- 2762                 ▪ the potential encroachment into adjacent terminal airspace serving other  
2763                 airports; and.
- 2764                 ▪ any adverse impacts to flight safety.
- 2765           • Information on which aircraft or if all aircraft using the airport are subject to the  
2766           preferential runway use, including whether aircraft are requested to use preferred  
2767           runway(s) based on their noise characteristics, operational performance, or reasons  
2768           relating to traffic separation for efficiency.
- 2769           • If significant inefficiencies such as reportable delays (per FAA Order 7210.55)  
2770           result from the preferential runway use, information to support:
- 2771           • The noise-reduction benefit is sufficient to demonstrate a cost-beneficial tradeoff.
- 2772           • The necessity of preferential runway use compared to other noise reduction  
2773           alternatives.
- 2774           • Costs of preferential runway use due to capacity reduction, additional aircraft  
2775           operating time, aircraft fuel and emissions, and/or airport and airspace delay.
- 2776           • The potential for undue burden on commerce (including any unjust discrimination).

2777   7.8.5   FAA Informal Agreement.

2778           Part 150 states that “Consultation with FAA regional official shall include, to the extent  
2779           practicable, informal agreement from FAA on proposed new or modified flight  
2780           procedures.” Airport sponsors should consult with the FAA ATO staff, including  
2781           personnel in the ATCT and TRACON, as well the Operations Support Group at the  
2782           Service Center (through the ARP POC), early enough in the Part 150 process to  
2783           determine whether ATO can safely and efficiently conduct the proposed preferential

2784 runway use plan. In particular, the TRACON serving the airport is the key resource for  
 2785 collaboration on airspace flow management. ATO may conduct SMS before  
 2786 implementation of any air traffic operational measure at a towered airport. See Section  
 2787 9.3.2.

2788 7.8.6 Approval Authority.

2789 7.8.6.1 Approval of preferential runway use for noise abatement at both towered  
 2790 and nontowered airports is within the authority of the FAA.  
 2791 Implementation depends on airspace safety and efficiency, traffic, wind,  
 2792 and weather. FAA may approve preferential runway use as an informal  
 2793 program under 14 CFR Part 91.129(h). The final decision on which  
 2794 runway to use rests with the pilot in command of the aircraft, who is  
 2795 ultimately responsible for decisions regarding the safety of the aircraft.  
 2796 For these reasons, operational measures are only approved as “voluntary”  
 2797 in a Part 150 program.

2798 7.8.6.2 Ensure the operative runway use parameters (e.g., runways, times, winds,  
 2799 traffic volume, aircraft types) are clearly described and indicated as  
 2800 voluntary before including them in the NCP for FAA approval.

2801 7.8.7 National Environmental Policy Act Considerations.

2802 The Part 150 study process does not take the place of compliance with NEPA. Before  
 2803 the FAA can implement approved preferential runway use programs prepared under a  
 2804 Part 150 study, the proposed runway use programs must be examined under NEPA and  
 2805 the FAA must issue a decision approving the changes. The airport sponsor plays a  
 2806 critical role in providing information necessary to complete an environmental review.  
 2807 See FAA Order 5050.4 for more information on the environmental review process.

2808 7.9 **Aircraft Flight Operational Noise Abatement Measures.**

2809 7.9.1 Operational flight tracks, profiles, and similar measures for abating noise may be part of  
 2810 a proposed NCP. They include adjusting takeoff and landing profiles, aircraft thrust  
 2811 settings, and approach and departure tracks for VFR or IFR traffic use.

2812 7.9.2 Aircraft flight operational noise abatement measures may be effective in reducing area  
 2813 exposed to the DNL 65 dB level, thereby changing the size or changing the shape of the  
 2814 noise contours around an airport and the number of people affected. Noise-reduction  
 2815 within the DNL 65 dB contour must be analyzed and show a benefit before a proposed  
 2816 measure can be considered further<sup>48</sup>

2817 7.9.3 Where flight measures are recommended, their benefits should be preserved by ensuring  
 2818 the underlying land uses also are compatible, either through land use planning

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<sup>48</sup> In cases where there is a more stringent local standard, benefits must be quantified to that standard.

2819 commitments by the jurisdiction with authority or through an airport sponsor's remedial  
2820 mitigation (such as acquisition).

2821 7.9.4 Noise Abatement Departure Profiles.

2822 7.9.4.1 Takeoff profiles and their power and flap settings can be adjusted to  
2823 reduce noise to either close-in or more-distant noise-sensitive areas. Noise  
2824 abatement departure profiles are aircraft type- and operator-specific, and  
2825 are typically implemented by runway end (i.e., departures from a specific  
2826 runway or parallel runways will use a similar NADP).

2827 7.9.4.2 A noise abatement departure profiles should optimize noise reduction  
2828 either close in or distant from the takeoff runway while maintaining flight  
2829 safety. FAA AC 91-53A, *Noise Abatement Departure Profile*, describes  
2830 acceptable criteria for safe noise abatement departure profiles (NADP) for  
2831 subsonic turbojet-powered airplanes with a maximum certificated gross  
2832 takeoff weight of more than 75,000 pounds. Guidance for general aviation  
2833 is available from the National Business Aircraft Association (NBAA).  
2834 Aircraft operators have preset techniques to fly NADPs based on airline or  
2835 NBAA operating guidance. During NCP development, the airport can  
2836 evaluate whether the close-in or distance NADP is best for any noise  
2837 sensitive areas proximate to a given runway end. However, the airport  
2838 cannot propose unique NADPs that vary from the standard NADPs that  
2839 align with AC 91-53A. Absent instructions otherwise, most aircraft  
2840 operators with fly a takeoff profile that is similar to the Distant NADP.

2841 7.9.4.3 For approval of the NADPs, the noise-reducing benefits within the DNL  
2842 65 dB contour must be quantified in the NCP.

2843 7.9.5 Noise Abatement Approach Measures.

2844 Measures may reduce the noise from arriving aircraft. The NCP must quantify the  
2845 expected noise-reducing benefits within the DNL 65 dB contour.

2846 7.9.5.1 **Reduced Drag Techniques.**

2847 The principle of reduced drag techniques consists of delaying as much as  
2848 possible wing flap extension and landing gear use, consistent with speed  
2849 management, height clearance, and safe operation. Noise-reduction  
2850 benefits within the DNL 65 dB contour must be quantified in the NCP.

2851 7.9.5.2 **Optimum Profile Descent (OPD).**

2852 7.9.5.2.1 The OPD flight technique is an initial approach procedure between en  
2853 route and interception of the final approach. OPD reduces the noise  
2854 experienced on the ground by reducing the overall thrust required during  
2855 initial descent and keeping the aircraft higher for a longer time. Once at  
2856 the interception of the final approach, a standard profile descent to the  
2857 runway is flown. Formerly, OPDs were referred to as Continuous Descent

- 2858 Arrival / Approach (CDA). OPDs are normally implemented with an  
2859 RNAV Standard Terminal Arrival (STAR) procedure.
- 2860 7.9.5.2.2 While FAA modeling for OPD generally shows that the noise contour  
2861 remains the same for the DNL 65 dB noise contour, OPD may show  
2862 benefits, especially where a lower DNL significance threshold has been  
2863 adopted. In addition to noise reduction, OPD can provide emission  
2864 benefits. To date, the primary rationale for the OPDs implemented in the  
2865 NAS is for aircraft fuel and emissions savings.
- 2866 7.9.5.2.3 If the OPD is proposed under a locally adopted noise threshold, the NCP  
2867 should describe the DNL benefit and any impact on air traffic safety,  
2868 management, or efficiency. Noise-reduction benefits within the DNL 65  
2869 dB contour must be quantified in the NCP.
- 2870 7.9.5.2.4 The implementation of descent and approach procedures, OPD in  
2871 particular, requires the NCP to describe how the procedures would relate  
2872 to these factors:
- 2873 • Safety requirements
  - 2874 • Airspace efficiency, including operational and ATC constraints
  - 2875 • Weather conditions
  - 2876 • Pilot workload, awareness, training, and experience
  - 2877 • Aircraft and engine characteristics
  - 2878 • Aircraft fleet mix
  - 2879 • Operating rules.
- 2880 7.9.5.2.5 Successful implementation will depend on close collaboration between all  
2881 parties—aircraft operators and pilots, air traffic control, airframe and  
2882 engine manufacturers, airport sponsors. Enabling OPD use is often  
2883 dependent on large-scale terminal airspace redesign efforts.
- 2884 7.9.5.3 **Reverse Thrust.**
- 2885 Reverse thrust is an effective, complementary way of braking an aircraft,  
2886 especially on contaminated runways (for example those coated with rain  
2887 or snow), and serves to significantly reduce the required runway length on  
2888 landing or to abort a takeoff. In some cases, in order to minimize ground  
2889 noise, the use of reverse thrust for jet or propeller engines can be limited  
2890 to reverse idle. Limiting the use of reverse thrust above reverse idle might  
2891 be considered during a specified period, especially during nighttime hours.  
2892 Such a limitation could only be used when safety allows it. Associated  
2893 noise-reduction benefits within the DNL 65 dB contour must be quantified  
2894 in the NCP.

- 2895 7.9.6 Approach and Departure Routes using Visual and Instrument Methods.
- 2896 7.9.6.1 Designated approach and departure flight tracks may be used to mitigate  
2897 noise by routing aircraft away from noncompatible land uses and instead  
2898 over compatible land uses, when possible.
- 2899 7.9.6.2 The use of flight tracks by aircraft flying under either VFR or IFR should  
2900 be considered depending on the mix of users at the airport. Often, an  
2901 airport sponsor needs to consider developing noise abatement flight tracks  
2902 for both visual and instrument operations. Even if the preferred the  
2903 ground track is similar, the method by which the preferred flight track is  
2904 accomplished varies between an aircraft flying VFR versus the same  
2905 aircraft flying IFR.
- 2906 7.9.6.3 Noise abatement flight tracks can risk increasing noise exposure in other  
2907 areas when noise is shifted or focused. The tradeoff of specific procedures  
2908 should demonstrate overall improvements to the noise environment.  
2909 Noise-reduction benefits within the DNL 65 dB contour must be  
2910 quantified, and airspace efficiency and safety must be evaluated in the  
2911 NCP in collaboration with ATO and aircraft operators.
- 2912 7.9.6.4 **Preferential Visual Tracks.**  
2913 Preferential visual tracks can route aircraft over compatible corridors,  
2914 avoiding noise-sensitive areas on departure and arrival. Approach and  
2915 departure tracks may include designated headings to turn aircraft away  
2916 from noise-sensitive areas under or next to the usual takeoff and approach  
2917 paths. Visual tracks can combine a recommended heading with a  
2918 minimum altitude for before turning over a neighborhood. Proposed  
2919 approach and departure visual tracks must take into account specific  
2920 constraints such as terrain and airspace flow corridors at other nearby  
2921 airports. Preferential visual tracks are not charted in the TPP and are best  
2922 used for aircraft operations being conducted under VFR. Aircraft that  
2923 routinely under IFR, such as business jets and large turboprops, will not  
2924 routinely use visual tracks to connect to IFR airways and flows.
- 2925 7.9.6.5 **Preferential Instrument Procedures.**
- 2926 7.9.6.5.1 Preferential instrument tracks have a similar purpose to visual tracks, but  
2927 are charted as Instrument Flight Procedures (IFPs) in the FAA Terminal  
2928 Procedures Publication (TPP). Charted Visual Flight Procedures (CVFP)  
2929 that are assigned to aircraft in their IFR clearance are also published in the  
2930 TPP. In the interest of clarity, the use of the term “procedures” with  
2931 operational noise abatement measures should refer specifically to charted  
2932 instrument and visual procedures published in the TPP.
- 2933 7.9.6.5.2 Today, nearly all new requests for IFPs are accomplished with  
2934 Performance Based Navigation (PBN), including area navigation using

2935 GPS (RNAV (GPS)) and Required Navigation Performance (RNP). See  
 2936 FAA’s 2016 [PBN NAS Navigation Strategy](#) for further information on  
 2937 RNAV and RNP capabilities and strategies for use in the NAS. PBN,  
 2938 when coupled with Flight Management System (FMS) automation in  
 2939 aircraft, enables the precise, repeatable routing of aircraft on an IFP.  
 2940 Depending on geography and the location of noise sensitive areas, as well  
 2941 as the standards governing IFP design, PBN capabilities can effectively  
 2942 route aircraft away from noise sensitive areas or cause adverse impacts by  
 2943 focusing aircraft tracks over noise sensitive areas. As further PBN  
 2944 concepts are matured, new advanced procedures could bring further  
 2945 options to design improved noise abatement IFPs.

2946 7.9.6.5.3 Developing IFPs for noise abatement is more complex than visual tracks  
 2947 and necessitates detailed collaboration with FAA ATC and ATO Flight  
 2948 Procedures. However, developing IFPs can also result in a more useable  
 2949 and repeatable flight track as it enables aircraft that routinely fly under  
 2950 IFR, such as airline and business jets and large turboprops, to incorporate  
 2951 the IFPs in their flight plans and IFR clearances.

2952 7.9.6.6 **Dispersed Departure Flight Tracks.**  
 2953 Successive departing aircraft may be dispersed, or fanned, on different  
 2954 flight tracks over wide-ranging areas. Fanning can be accomplished with  
 2955 either a range of visual headings or divergent IFR tracks (i.e., ATC vectors  
 2956 or Standard Instrument Departures (SIDs)). Dispersing flight tracks in this  
 2957 way tends to decrease the length of the noise contours and to increase the  
 2958 width. If this measure is proposed as a noise abatement alternative, it  
 2959 should not disperse noise over a wider range of people (sharing the noise)  
 2960 unless it can be demonstrated there is an overall net benefit (reduction in  
 2961 numbers of people impacted without causing disproportionate impacts  
 2962 such as to minority or low income populations or adding people to the  
 2963 DNL 70 dB contour).

2964

2965 7.9.7 Data Requirements.

2966 A significant amount of data is required in the NCP to support proposed aircraft flight  
 2967 operational noise abatement measures.

- 2968 • An indication of the noise-reduction benefits to noncompatible land uses:
- 2969 • Noise contour comparisons superimposed over land use maps
- 2970 • Comparisons of numbers of people and residences impacted with and without the  
 2971 noise abatement measures.
- 2972 • Noise reduction in dB DNL provided to noise-sensitive sites on the ground.

- 2973                   ○ Other narrative explanation related to geographic and demographic conditions  
2974                   around the airport that qualitatively describe benefits, such as flight patterns  
2975                   over vacant or compatible corridors and away from noncompatible land uses.
- 2976                   • An indication that approach and departure horizontal and vertical clearance planes  
2977                   are adequate and that required NAVAIDS and IFPs are available.
- 2978                   • An indication that consideration was given to effects on controller workload and  
2979                   airspace flow management relevant to the times and traffic volumes when the  
2980                   operational noise abatement measures would be in effect, including:
- 2981                   ▪ the effects on terminal airspace efficiency such as aircraft routing and  
2982                   sequencing;
- 2983                   ▪ the potential encroachment into adjacent terminal airspace serving other  
2984                   airports; and
- 2985                   ▪ any adverse impacts to flight safety.
- 2986                   • Information on which aircraft or if all aircraft using the airport are subject to the  
2987                   operational noise abatement measures, including whether aircraft are requested to  
2988                   use the measures based on their noise characteristics, operational performance, or  
2989                   reasons relating to traffic separation for efficiency.
- 2990                   • If significant inefficiencies such as reportable delays (per FAA Order 7210.55)  
2991                   result from the operational noise abatement measures, information to support:
- 2992                   • The noise-reduction benefit is sufficient to demonstrate a cost-beneficial tradeoff.
- 2993                   • The necessity of operational noise abatement measures compared to other noise  
2994                   reduction alternatives.
- 2995                   • Costs of operational noise abatement measures use due to capacity reduction,  
2996                   additional aircraft operating time or flight distance, aircraft fuel and emissions,  
2997                   and/or airport and airspace delay.
- 2998                   • The potential for undue burden on commerce (including any unjust discrimination).
- 2999
- 3000    7.9.8    FAA Informal Agreement.
- 3001                   Part 150 states that “Consultation with FAA regional official shall include, to the extent  
3002                   practicable, informal agreement from FAA on proposed new or modified flight  
3003                   procedures.” Airport sponsors should consult with the FAA ATO staff, including  
3004                   personnel in the ATCT and TRACON, as well the Operations Support Group at the  
3005                   Service Center (through the ARP POC), early enough in the Part 150 process to  
3006                   determine whether ATO can safely and efficiently use proposed new or modified flight  
3007                   procedures. FAA recommends that any deliberations on new or amended charted flight  
3008                   procedures use FAA’s TARGETS software to facilitate the development of flyable  
3009                   procedures. ATO may conduct SMS before implementation of any air traffic  
3010                   operational measure at a towered airport. See Section 9.3.2.



3011 7.9.9 Approval Authority.

3012 Approval of airspace and aircraft operational control measures for noise abatement is  
3013 within the FAA’s authority. Implementation depends on airspace safety and efficiency,  
3014 traffic, wind, and weather. The final decision on pilot use of operational noise  
3015 abatement measures, including those assigned in IFR clearances, is with the pilot in  
3016 command of the aircraft who is ultimately responsible for decisions regarding the safety  
3017 of the aircraft. For these reasons, aircraft flight operational noise abatement measures  
3018 are approved as “voluntary” in a Part 150 program. Voluntary use extends to noise  
3019 abatement IFPs, as the pilot has the option to refuse an IFR clearance that includes an  
3020 IFP that the aircraft cannot safely fly, and instead coordinate with ATC for a different  
3021 IFP that is flyable under the existing conditions.

3022 7.9.10 National Environmental Policy Act Considerations.

3023 The Part 150 study process does not take the place of compliance with NEPA. Before  
3024 operational noise abatement measures approved under a Part 150 study can be  
3025 implemented, the proposed measures must be examined under NEPA and the FAA must  
3026 issue a decision approving the changes. See FAA Orders 5050.4 and 7400.2 for more  
3027 specific information on the environmental review processes for airports and airspace.

3028 7.10 **Surface Operations.**

3029 7.10.1 Two operational measures used on the ground at airports can reduce aircraft noise:

- 3030
- Limiting the timing and location of aircraft engine ground run-ups.
  - Surface management routings to reduce taxiing time or distance.
- 3031

3032 7.10.2 If these measures are proposed, the NCP must quantify the benefits within the DNL 65  
3033 dB contour.

3034 7.10.3 Engine run-up operations, in which the engines are inspected on the ground by running  
3035 at a high or full power, must occur on an airport in order to complete required  
3036 maintenance actions and carry out checks critical to flight safety. Operational measures  
3037 might be recommended that would move high-power engine run-ups to designated areas  
3038 central to the airport, and away from nearby residences. Full-power run-ups might be  
3039 proposed for only specified times during the day, and/or in specially-constructed testing  
3040 pens that are located away from noise-sensitive areas. (See Section 7.11 of this AC.)

3041 7.10.4 Auxiliary power units provide aircraft system power and air conditioning for aircraft  
3042 maintenance, pre-flight preparation, and engine start at departure. Measures might be  
3043 recommended to reduce noise in the vicinity of parked aircraft by minimizing the use of  
3044 this auxiliary power, provided alternative sources of power are available, such as from  
3045 other ground service equipment, terminal bridge services, or gate electrification).

3046 7.10.5 Data Requirements.

3047 Instructions for noise-modeling of surface operations are included in the AEDT manual.  
3048 Additional information might be needed if the modeling results for these modified

- 3049 surface operations do not fully reflect the noise-reducing benefits. If this is the case,  
 3050 contact your ARP POC for assistance. NCPs should indicate the benefits of proposed  
 3051 noise abatement surface operations to noncompatible land uses, such as:
- 3052 • Quantified cumulative noise reduction to noncompatible areas
  - 3053 • Numbers of people for whom noise is reduced
  - 3054 • Effects on the noise contours
  - 3055 • Other narrative that describes quantified benefits
- 3056 7.10.6 The Part 150 study process does not take the place of compliance with NEPA. Before  
 3057 airport sponsors can implement surface operations identified under a Part 150 study, the  
 3058 proposed changes must be examined under NEPA and the FAA must issue a decision  
 3059 approving the changes. The airport sponsor plays a critical role in providing information  
 3060 necessary to complete an environmental review. See FAA Order 5050.4 for more  
 3061 information on the environmental review process.
- 3062 7.10.7 Applicability of Part 161.
- 3063 Proposed ground-based measures should demonstrate that they do not reduce the total  
 3064 number or hours of aircraft operations, or affect aircraft safety. To do so, would require  
 3065 analysis under 14 CFR Part 161.
- 3066 7.11 **Noise Barriers and Ground Run-up Enclosures.**
- 3067 7.11.1 Properly planned and constructed noise barriers may be proposed to shield noise. Noise  
 3068 barriers can be earthen berms, vegetation, or manufactured barriers located between  
 3069 sources of ground-level noise on the airport and close-in, noise-sensitive receptors.  
 3070 Noise barriers reduce ground-based noise from aircraft operations (such as engine  
 3071 run-ups or taxiway queuing), but they do not mitigate noise once aircraft are in flight.  
 3072 Noise barriers must be built to the correct height, depth, and placement to provide  
 3073 meaningful relief without interfering with safe and efficient movement of aircraft on the  
 3074 ground, including line of sight. Proper positioning of newly constructed airport  
 3075 buildings can also function as a ground-based noise screen to adjacent communities.
- 3076 7.11.2 Noise barriers should be constructed in areas that would provide a minimum noise  
 3077 reduction of 5 dB at the nearest noncompatible land use within the noise contour. A  
 3078 minimum change of 5 dB has been scientifically shown to be perceptible to most  
 3079 people. Depending on their location at the airport, noise barriers may not have an  
 3080 impact on the size of the noise contour.
- 3081 7.11.3 Some airports have proposed or constructed GREs, or ground run-up enclosures. These  
 3082 are three-sided structures, similar to an open garage with no roof, in which engine  
 3083 run-up operations are conducted and the walls lined with acoustic panels dampen the

3084 noise. FAA Order 5100.38 provides guidance on grant eligibility requirements for noise  
3085 barriers and ground run-up enclosures.

3086 7.11.4 Data Requirements.

3087 7.11.4.1 The data required in the NCP to support airport development measures  
3088 proposed for noise abatement are similar to what is required for  
3089 preferential runway use and for flight tracks.

3090 7.11.4.2 Depending on the type of measure, the NCP could present the benefits to  
3091 noncompatible land uses in several forms:

- 3092 • Quantified cumulative noise reduction for noncompatible areas.
- 3093 • Pre- and post- decibel levels for typical aircraft using a run-up  
3094 enclosure at noise sensitive receptors. Use a technically acceptable  
3095 methodology to equate these levels to speech and/or sleep disturbance.
- 3096 • Numbers of people for whom noise is reduced.
- 3097 • For layout changes, data on measurable change in existing and/or  
3098 future noise contours over noncompatible land uses that demonstrate  
3099 the benefits equal or exceed the cost for new pavement.
- 3100 • For noise barriers, the analysis should show airport line-of-sight and  
3101 Part 77 surfaces (obstructions) have been evaluated as part of deciding  
3102 where to place the barriers.

3103 7.11.5 Environmental Considerations.

3104 Airport operators often seek federal financial assistance to plan and construct airport  
3105 development measures such as noise barriers or GREs. Additionally, many airport  
3106 development measures require a change to the ALP, and the provision of federal  
3107 financial assistance as well as approval of an ALP by the FAA where required by  
3108 statute, is a federal action requiring environmental review. The Part 150 study process  
3109 does not take the place of compliance with NEPA, so before airport sponsors can  
3110 implement development measures from the Part 150 Study, the FAA may need to  
3111 comply with NEPA (see Section 150.5(c)). The ROA should indicate the measures that  
3112 can be implemented immediately by the sponsor and those that require environmental  
3113 analysis. If required, sponsors must submit information to the FAA sufficient for  
3114 compliance with NEPA. See FAA Order 5050.4 for more information on the  
3115 environmental review process.

3116 7.12 **Access Restrictions.**

3117 7.12.1 Part 150 Section B150.7 requires airport sponsors to analyze restrictions on airport use  
3118 by certain aircraft based on their noise characteristics. If the NCP is not proposing  
3119 airport access restriction, the discussion of this alternative may be brief.

3120 7.12.2 Before a Stage 2 or Stage 3 access restriction may be implemented, sponsors must  
3121 satisfy the requirements of Title 14 CFR Part 161. ANCA directed in part the FAA to  
3122 establish a regulation governing airport noise and access restrictions affecting Stage 2  
3123 and Stage 3 aircraft operations. Part 161 is that regulation. Part 161 allows airports to  
3124 utilize the Part 150 process to apply for a restriction, although the standards of Part 161  
3125 are used for FAA's determination on the proposed restriction.

3126 7.12.3 Part 161 defines noise or access restrictions as:

- 3127 • “[R]estrictions (including but not limited to provisions in ordinances and leases)  
3128 affecting access or noise that affect the operations of Stage 2 or Stage 3 aircraft,  
3129 such as:
- 3130 • Limits on the noise generated on either a single-event or cumulative basis;
- 3131 • A limit, direct or indirect, on the total number of Stage 2 or Stage 3 aircraft  
3132 operations;
- 3133 • A noise budget or noise allocation program that includes Stage 2 or Stage 3 aircraft;
- 3134 • A restriction imposing limits on hours of operations;
- 3135 • A program of airport use charges that has the direct or indirect effect of controlling  
3136 airport noise; and
- 3137 • Any other limit on Stage 2 or Stage 3 aircraft that has the effect of controlling  
3138 airport noise.”

3139 7.12.4 The Part 161 definition of noise or access restrictions does not include peak-period  
3140 pricing programs with the objective of aligning the number of aircraft operations with  
3141 airport capacity.

3142 7.12.5 Data and Approval Requirements.

3143 Aircraft use restrictions proposed by airport sponsors for Stage 3 aircraft must undergo  
3144 a rigorous analysis and comply with the requirements of Part 161.

- 3145 • Restrictions affecting Stage 3 aircraft must be approved by the FAA under 14 CFR  
3146 Part 161.
- 3147 • Restrictions affecting other aircraft types must be able to demonstrate they will not  
3148 violate federal law, including grant assurances.

3149 7.12.6 Part 161 Standards for Approval.

3150 For restrictions affecting Stage 3 aircraft, Part 161 details six conditions that must be  
3151 satisfied in order for the FAA to approve the restriction:

- 3152 • The proposed restriction is reasonable, non-arbitrary, and non-discriminatory.
- 3153 • The proposed restriction does not create an undue burden on interstate or foreign
- 3154 commerce.
- 3155 • The proposed restriction maintains safe and efficient use of the navigable airspace.
- 3156 • The proposed restriction does not conflict with any existing federal statute or
- 3157 regulation.
- 3158 • The applicant has provided adequate opportunity for public comment on the
- 3159 proposed restriction.
- 3160 • The proposed restriction does not create an undue burden on the national aviation
- 3161 system.

3162 7.12.7 Part 150 Standards for Approval.

3163 The Part 150 Standards for Approval are in 14 CFR Part 150 Section 150.35. These  
3164 criteria are described in Section 7.2 of this AC.

3165 7.13 **Land Acquisition and Relocation.**

3166 Land acquisition and relocation of occupants is a remedial (corrective) land use  
3167 mitigation measure. Land acquisition and relocation assure airport sponsor of long-term  
3168 land use compatibility. Acquired land can be cleared and retained as a noise buffer to  
3169 prevent noise-sensitive land uses near the airport if it is in a very high noise zone. It can  
3170 be sold with deed restrictions to control the types of future development permitted near  
3171 the airport, or it can be redeveloped for compatible land uses. Airport sponsors should  
3172 work closely with the ARP POC to develop a long-term plan for land reuse. The FAA  
3173 requires sponsors to release the land once it is no longer needed for noise compatibility.

3174 7.13.1 Data Requirements.

3175 For proposed remedial land acquisition, airport sponsors must document this  
3176 information in the NCP:

- 3177 • The mitigation area shown on the NEM is within the existing or future DNL 65 dB
- 3178 noise contour (or within a lower noise level contour that is considered
- 3179 noncompatible under locally adopted land use guidelines). It may then be included
- 3180 in the NEM and NCP by the sponsor; however, sponsors are not required to include
- 3181 mitigation requirements down to the lower adopted standard.
- 3182 • Evidence the property's land use is noncompatible within the NEM noise contour.
- 3183 • The acquisition meets Part 150 approval criteria.

3184 7.13.2 Other Requirements.

- 3185 1. If vacant land is highly likely to be developed as a noncompatible use, local controls
- 3186 are inadequate to prevent that development, and if the FAA has approved the
- 3187 sponsor's recommendation in an approved NCP, the acquisition is eligible.

- 3188 2. Whenever federal funding is involved in the development of a Part 150 study or in  
 3189 mitigation under approved NCP measures, airport sponsors must satisfy the  
 3190 Uniform Relocation Assistance and Real Property Acquisition Policies Act  
 3191 (Uniform Act). Title 49 CFR Part 24, Uniform Relocation Assistance and Real  
 3192 Property Acquisition, is the regulation that implements the Uniform Act. Land  
 3193 acquired with AIP funding must comply with AC 150/5100-17, *Land Acquisition*  
 3194 *and Relocation Assistance for Airport Improvement Program Assisted Project*, FAA  
 3195 Order 5100.37, *Land Acquisition and Relocation Assistance for Airport Projects*,  
 3196 and FAA Order 5100.38.
- 3197 3. Properties developed after October 1, 1998, are not eligible for remedial noise  
 3198 abatement measures unless they had a noise contour map published before that date  
 3199 that was distributed to the public. This policy should be disclosed during the study  
 3200 process so the public is aware of possible limitations on implementing this measure.
- 3201 4. Land within the DNL 75 dB noise contour may be retained in airport ownership.  
 3202 Land at less than DNL 75 dB should be disposed of per Grant Assurance 31  
 3203 *Disposal of Land* and associated FAA guidance. Land reuse must be consistent with  
 3204 FAA's policy on disposal of noise land when it is no longer needed for noise  
 3205 compatibility purposes. See FAA Order 5100.38.

3206 7.14 **Sound Insulation.**

3207 7.14.1 Data Requirements.

- 3208 7.14.1.1 These data must be provided in the NCP for proposed sound insulation:
- 3209 • Location of the sound insulation area shown on the NEM within the  
 3210 existing or future DNL 65 dB noise contour or within a lower level  
 3211 contour that is considered noncompatible under adopted local land use  
 3212 guidelines.
  - 3213 • Documentation that the structures are noncompatible under Part 150  
 3214 guidelines or under local guidelines.
  - 3215 • Numbers and types of structures proposed for mitigation (dwellings,  
 3216 schools, churches, hospitals). Evidence that people residing inside the  
 3217 DNL 65 dB and above noise contours have been made aware of the  
 3218 requirement that they must also experience interior noise levels 45 dB  
 3219 or greater as an average in habitable rooms.<sup>49</sup>

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<sup>49</sup> Habitable areas of residences are living, sleeping, eating, or cooking areas (single family and multifamily) per the current version of Advisory Circular 150/5000-9, Announcement of Availability Report No. DOT/FAA/PP/92-5, Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations. Bathrooms, closets, halls, vestibules, foyers, stairways, unfinished basements storage or utility spaces are not considered to be habitable.

- 3220 7.14.1.2 To be eligible for federal aid, AIP eligibility requirements must be met  
3221 (see the chapter on noise compatibility projects, FAA Order 5100.38).
- 3222 7.14.2 Insulation Criteria.
- 3223 7.14.2.1 The purpose of sound insulation is to reduce airport noise impacts on  
3224 occupants inside a building. Only a noise-impacted noncompatible  
3225 structure that is in the DNL 65 dB contour *and* the existing interior noise  
3226 levels are 45 dB or greater with the windows closed can be considered for  
3227 insulation with federal aid.<sup>50</sup>
- 3228 7.14.2.2 A noise-impacted noncompatible structure - typically a residence, place of  
3229 worship, school, or hospital – must be both in the DNL 65 dB contour *and*  
3230 be experiencing existing interior noise levels that are greater than 45 dB in  
3231 habitable rooms with the windows closed to be considered eligible for  
3232 federal aid.
- 3233 7.14.2.3 There are three ways that a structure can be considered for noise insulation  
3234 in three sets of conditions.
- 3235 1. The structure is located within a valid existing or forecast DNL<sup>51</sup> 65  
3236 dB or higher noise contour associated with operations at an airport on  
3237 the FAA-accepted NEM<sup>52</sup> and is in an approved program measure.<sup>53</sup>  
3238 The NEM is normally developed by an airport sponsor as part of a Part  
3239 150 study or by a state or local jurisdiction noise program under 49  
3240 U.S.C. Section 47141.<sup>54</sup>
- 3241 2. The structure is included in a noise mitigation program prepared by a  
3242 local jurisdiction surrounding a medium or large hub airport that either  
3243 has not prepared a 14 CFR Part 150 program or does not have an  
3244 updated 14 CFR Part 150 program.<sup>55</sup>
- 3245 3. The structure is an adversely affected school or hospital. Under 49  
3246 U.S.C. Section 47504, an adversely affected school or a hospital may  
3247 also be eligible whether or not it is part of an airport sponsor's NCP.
- 3248 7.14.2.4 Under 14 CFR Part 150, the FAA adopted the standard of DNL 65 dB,  
3249 established by the Federal Interagency Committee on Noise<sup>56</sup> (FICON) as

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<sup>50</sup> See The AIP Handbook, FAA Order 5100.38.

<sup>51</sup> The FAA recognizes CNEL as an alternative noise metric for California. For this guidance, the metric DNL and CNEL can be used interchangeably.

<sup>52</sup> 14 CFR Part 150 Section 150.21.

<sup>53</sup> Per 49 U.S.C. Section 47504(c).

<sup>54</sup> Compatible land use planning and projects by state and local governments.

<sup>55</sup> Codified in 49 U.S.C. Section 47141.

<sup>56</sup> Federal Agency Review of Selected Airport Noise Analysis Issues. Federal Interagency Committee on Noise, August 1992. Available online at: <http://www.fican.org/pages/fican.html>.

3250 the federal land use compatibility guideline at which residential land uses  
3251 are considered noncompatible with airport noise.

3252 7.14.2.5 A lower local standard (such as DNL 60 dB) may be used for Part 150  
3253 purposes if the standard is formally adopted by the local jurisdiction for  
3254 land-use compatibility and the airport sponsor has incorporated it.<sup>57</sup> When  
3255 a lower local noise standard is adopted outside of the Part 150 process, 49  
3256 U.S.C. Section 47141 requires that the land use compatibility plan be  
3257 developed cooperatively by the airport sponsor and local jurisdiction.

3258 7.14.3 NEMs used for Sound Insulation Programs Must Be Current.

3259 7.14.3.1 Noise contours change for many reasons, for instance in response to  
3260 changes in aviation activity and changes to air traffic management or IFPs.  
3261 By law, the FAA must rely on only those noise exposure maps that reflect  
3262 current or reasonably projected conditions.<sup>58</sup> In general, NEM's that are  
3263 less than 5 years old are considered current, unless conditions such as fleet  
3264 mix or the day/night operations have changed.

3265 7.14.3.2 NEM's that are older than 5 years must be verified and updated. The FAA  
3266 must verify that the NEM showing the DNL 65 dB contour reflects the  
3267 current or projected operational conditions at the airport and associated  
3268 noncompatible land uses.<sup>59</sup> The FAA must place a copy of the verification  
3269 in the project files.

3270 7.15 **Easement Acquisition.**

3271 Sponsors are encouraged to obtain an avigation easement from owners of noise-  
3272 impacted properties in return for the sound insulation of their structures, but it is not a  
3273 mandatory Part 150 requirement. An avigation easement conveys a defined property  
3274 interest for a specified area. It limits the owner's use of the easement-encumbered  
3275 property (height restrictions, lighting, etc.), and permits right of overflight over the  
3276 encumbered property.<sup>60</sup> An avigation easement acquisition that conveys to the airport  
3277 the right of overflight and associated noise makes the encumbered property compatible  
3278 with airport operations. Despite significant technological advances in aircraft design  
3279 and navigation aids, and successful NCPs, problems continue to arise due to  
3280 noncompatible land uses being built near airports. Obtaining avigation easements has  
3281 been one way to deal with these circumstances.

<sup>57</sup> Per 49 U.S.C. Section 47504(c)(2)(B).

<sup>58</sup> 49 U.S.C. 47503.

<sup>59</sup> 49 U.S.C. Section 47503(b) requires submission of revised noise maps if a change in the operation of the airport would establish a substantial new noncompatible use or would significantly reduce noise over existing noncompatible uses that is not reflected in the existing conditions map or forecast map on file with the FAA. The requirement for determining currency of an NEM is in 14 CFR Part 150.

<sup>60</sup> An avigation easement is a "nonpossessory" interest in an owner's property that clearly describes the airport use of airspace for overflight (versus specific ownership or possession of the land) and also restricts the property owner's use of or intrusion into the area transferred.



3282 7.15.1 Data Requirements.

3283 The NCP must include these requirements for proposed easement acquisitions:

3284 • The location of the easement acquisition area shown on the NEM within the  
3285 existing or future DNL 65 dB noise contour or within a lower level contour that is  
3286 considered noncompatible under locally adopted land use guidelines.3287 • The number and location of noncompatible structures that are proposed to be  
3288 mitigated under the measure.3289 • Documentation that the property's land use is noncompatible under Part 150  
3290 guidelines or under local guidelines.

3291 • Indication that the aviation easement will establish the property as compatible.

3292 7.15.2 How Noise Easements Work in the Part 150 Program.3293 7.15.2.1 Conveyed easement rights “run with the land,” which means the easement  
3294 is tied to the property and moves from deed to deed regardless of  
3295 subsequent owners of the encumbered property. An easement conveyance  
3296 does not prevent subsequent reasonable mitigation that may be offered by  
3297 the airport under Noise Compatibility Program updates or for other project  
3298 purposes.3299 7.15.2.2 Under an approved NCP, a property owner who conveys an easement is  
3300 compensated for the encumbrance placed on the property. Compensation  
3301 is properly appraised based on the loss in value to the noise-impacted  
3302 property due to the additional encumbrance.3303 7.15.2.3 Although easement compensation is difficult to appraise because of  
3304 limited market information, the value is minimal. Acceptable appraisal  
3305 procedures are described in the most recent version of FAA Order  
3306 5100.37. Specific considerations and methods to appraise easements  
3307 acquired for noise compatibility are provided in AC 150/5100-17.3308 7.15.2.4 Subsequent owners of property with a noise easement should be provided  
3309 actual or physical notice of the noise impact resulting from airport and  
3310 aircraft operations when the property transfers ownership (see Section  
3311 7.23 of this AC for further information).3312 7.15.2.5 Airport sponsors may seek an easement conveyance in exchange for  
3313 providing sound insulation assistance. An easement not only addresses  
3314 existing noncompatible land use concerns, it helps establish the property's  
3315 future compatibility should it be sold. The FAA encourages, but does not  
3316 require, a noise easement accompany sound insulation. The easement

- 3317 provides notice with the property that the airport has provided sound  
3318 insulation improvements.
- 3319 7.15.2.6 An easement acquisition may be proposed where sound insulation is not  
3320 feasible for the particular structure. For example, the structure may need  
3321 significant code upgrades to qualify for federally funded sound insulation,  
3322 and the homeowner may not be able to bring the structure up to code.
- 3323 7.15.2.7 Easement acquisition may be an effective remedial measure when offered  
3324 as a separate Part 150 measure to property owners who do not wish to  
3325 move from a project area where voluntary acquisition is being proposed or  
3326 when the easement is conveyed as part of a purchase assurance, sales  
3327 assurance, or transaction assistance program.
- 3328 7.16 **Purchase Assurance / Sales Assurance / Transaction Assistance.**
- 3329 7.16.1 Purchase assurance, sales assurance, and transaction assistance programs are other  
3330 means to achieve compatible land use along with easement acquisition. Airport  
3331 sponsors either acquire a residence for resale or help a homeowner with a home market  
3332 sale without changing the existing land use. These measures help homeowners who  
3333 want to move from the noise-impacted area. Each of these types of measures facilitates  
3334 a timely market sale of noise-impacted property.
- 3335 7.16.2 The residences are eligible for sound insulation prior to sale or resale. Also, pre-existing  
3336 sound insulation offered under an earlier noise mitigation program will not disqualify a  
3337 property from purchase/sales assurance/transaction assistance programs.
- 3338 7.16.3 As part of the transaction process, airport sponsors must ensure that potential buyers  
3339 have an appropriate disclosure. The disclosure will describe the airport's noise exposure  
3340 on the property and the sponsor's intention to retain an easement or similar interest.
- 3341 7.16.4 Data Requirements.  
3342 The NCP must include this information to support the proposed purchase  
3343 assurance/sales assistance/transaction assistance measures:
- 3344 • Location of the purchase assurance/sales assistance/transaction assistance area  
3345 (identified on the NEMs and described in the NCP narrative). The property should  
3346 be within the existing or future official NEM DNL 65 dB noise contour or a lesser  
3347 noise contour level that is considered noncompatible under locally adopted land use  
3348 guidelines.
  - 3349 • Number of structures within the area proposed for this mitigation measure.
  - 3350 • Discussion of how the measure will render the property compatible.

- 3351 7.16.5 How the Options Work in the Part 150 Program.
- 3352 7.16.5.1 Under purchase assurance, a property that fails to sell within a specified  
3353 time is purchased by the airport sponsor and then resold for continued  
3354 residential use. The airport sponsor purchases the property at the appraised  
3355 market value “as is” subject to airport noise. Typically, sound insulation is  
3356 provided, and the property is then listed and sold subject to the airport’s  
3357 aviation easement. If the airport sponsor purchases the property, the  
3358 sponsor must retain an easement. A purchase assurance program requires  
3359 an extensive property management and sales effort, so sponsors may  
3360 contract with consultants or realtors. Some list price premium may be  
3361 desirable to secure the market price on the airport’s sale of the property.
- 3362 7.16.5.2 Under sales assurance, the appraised market value of the residence is  
3363 guaranteed on a timely market sale; however, the airport does not acquire  
3364 the property. Should the property sell for less than the appraised value, the  
3365 selling owner is compensated for the shortfall by the airport sponsor.  
3366 Property is appraised at its current market value “as is” subject to airport  
3367 noise. The property is listed and sold subject to the airport’s aviation  
3368 easement that is conveyed to the sponsor at the sale of the property.
- 3369 7.16.5.3 Transaction assistance generally involves an agreement by the airport  
3370 sponsor to pay certain costs associated with the sale of residential  
3371 property. Allowable costs are generally limited to the real estate sales  
3372 commission. The property is listed and sold subject to the airport’s  
3373 aviation easement that is conveyed to the airport sponsor at the  
3374 property’s sale.
- 3375 7.16.5.4 The purchase assurance, sales assurance, and transaction assistance  
3376 programs offer several benefits:
- 3377 • The existing occupant is able to sell the property and move away from  
3378 a noise-impacted area.
  - 3379 • The new occupant acquires the property with full disclosure of the  
3380 noise environment.
  - 3381 • Airport sponsors retain an aviation easement over the property to  
3382 permit continued overflights and their attendant noise.
- 3383 7.16.5.5 The property sale listing and purchase contract should explicitly disclose  
3384 and acknowledge that the property is within the airport’s noise impact area  
3385 and that the property is encumbered with the aviation easement and  
3386 conveyed before sale of the property (see Section 7.22 of this AC for  
3387 further information).
- 3388 7.16.5.6 Purchase assurance, sales assurance, and transaction assistance maintains a  
3389 viable residential neighborhood (as opposed to acquisition of residential  
3390 properties for demolition and redevelopment) and are less costly measures

3391 than a buy-out and redevelopment to secure compatible land use. The  
3392 selling owner in each measure is not considered a “displaced person” and  
3393 is not eligible for relocation assistance under the Uniform Act.

3394 7.16.5.7 Purchase assurance, sales assurance, and transaction assistance measures  
3395 may be offered independently or combined with either a sound insulation  
3396 program, an easement acquisition program, or both. When these options  
3397 are offered together, the variety of options may appeal to homeowners that  
3398 want to move out of the neighborhood as well as those who prefer to  
3399 remain.

## 3400 7.17 **Comprehensive Planning.**

3401 7.17.1 A comprehensive plan is a local jurisdiction’s guide for the development of a  
3402 community. It is a critical and, when properly managed, effective way to ensure land  
3403 use compatibility around airports. Since aviation is an element of a region’s  
3404 transportation system, the goals of airport development should be established in the  
3405 framework of the comprehensive plan. In some instances, more than one jurisdiction  
3406 will be affected by the airport’s noise contours and flight paths. This should be  
3407 considered in each respective comprehensive plan. The comprehensive plan can provide  
3408 short-range and long-range policy recommendations regarding how the land areas  
3409 around an airport should be developed, redeveloped, or maintained.

3410 7.17.2 Some states mandate that comprehensive plans be prepared by all local governments.  
3411 Others require that comprehensive plans be prepared only if the local government wants  
3412 to adopt and enforce land regulatory tools. Other state laws contain no specific  
3413 planning-related requirements and each individual local government applies home-rule  
3414 policies. Comprehensive plans normally have a 20-year horizon. ASNA permits  
3415 forecast NEMs to extend beyond five years, so comprehensive plans can be developed  
3416 based on an airport’s longer range of forecasts.

### 3417 7.17.3 Data Requirements.

3418 7.17.3.1 The NCP needs to include all the data that will support the elements that  
3419 can be anticipated for the comprehensive plan. For example, it might  
3420 include the existing or forecast NEM from the Part 150 Study, land use  
3421 standards within each NEM contour zone, and relevant NCP  
3422 recommendations, such as adopting construction standards where new  
3423 noise-sensitive construction is permitted in certain noise contour zones.  
3424 These recommended policies for local comprehensive planning will guide  
3425 compatible development in the vicinity of the airport.

3426 7.17.3.2 While the FAA will render an approval or disapproval of this type of  
3427 preventive land use measure, the federal government has no authority to  
3428 control land use. Successful implementation of comprehensive planning  
3429 measures is purely within the authority of the governing land use

3430 jurisdictions. A land use measure disapproved under Part 150 may be  
3431 implemented outside the Part 150 requirements.

3432 7.17.4 Including Comprehensive Planning in a Part 150 Study.

3433 7.17.4.1 Development of the land use elements of a local jurisdiction's  
3434 comprehensive plan is a very important step in recognizing and analyzing  
3435 some of the issues of concern in and around airports. An existing land use  
3436 map should be created to depict how on-site and off-site properties are  
3437 currently being used. Properties can be inventoried, analyzed, and  
3438 classified on the existing land use map. Existing noise exposure contours  
3439 and other related informational mapping can be superimposed to discern  
3440 the degree of noise exposure to properties within and around an airport.  
3441 GIS can extract base map data and topographic information, property  
3442 information, vegetation cover, noise contours, and other information that  
3443 will be useful as land use compatibility alternatives are studied.

3444 7.17.4.2 Comprehensive planning usually includes a future land use plan map  
3445 representing the recommendations of the plan's land use. Using current  
3446 and projected noise exposure mapping assists in decisions about what  
3447 types of land use should be considered in the various areas. In cases where  
3448 development has not yet substantially occurred around an airport, a  
3449 comprehensive land use plan can provide direction to compatible new  
3450 development. In areas already developed close to airport property or  
3451 where airport expansion conflicts with adjacent and surrounding  
3452 properties, the plan can recommend how to mitigate such conflicts.

3453 7.17.5 Benefits of Comprehensive Planning.

3454 7.17.5.1 Airport sponsors often include measures in their NCP to prevent the  
3455 development of new noncompatible land uses as well as recommendations  
3456 for preventive land use controls by local jurisdictions. Part 150 requires  
3457 the NCP to describe "the agency or agencies responsible for such  
3458 implementation, whether those agencies have agreed to the  
3459 implementation, and the approximate schedule agreed upon."

3460 7.17.5.2 Success in implementing these measures has been mixed, however. A  
3461 major factor is the multiplicity of jurisdictions with land use control  
3462 authority within airport noise impact areas. The greater the number of  
3463 different jurisdictions, the greater the probability that at least some of them  
3464 will not implement controls. The absence of a cooperative relationship  
3465 between an airport sponsor and local jurisdictions impedes appropriate  
3466 land use compatibility planning. The NCP, therefore, should not  
3467 recommend measures not likely to be implemented by the respective  
3468 authorities. When there is some positive response to comprehensive  
3469 planning and other preventive land use measures, however, the airport

3470 sponsor should continue efforts to obtain compatible comprehensive land  
3471 use planning by all parties.

3472 7.18 **Zoning.**

3473 7.18.1 The most common preventive land use control is zoning. Zoning enables state and local  
3474 governments to designate uses that are permitted for each parcel of land. It normally  
3475 consists of a zoning ordinance that specifies land development and use constraints.

3476 7.18.2 The use of zoning to control development in and around airport facilities has realized  
3477 varied degrees of success. If put in place early enough – before development patterns  
3478 are set before properties are substantially subdivided – zoning can be an effective tool to  
3479 help eliminate or reduce noncompatible development and land uses around airports.

3480 7.18.3 Data Requirements.

3481 7.18.3.1 NCPs that propose zoning regulations should include these elements:

- 3482
- A description or map of the area covered by the proposed regulation.<sup>61</sup>
  - A description of the recommended re-zoning criteria and the area they apply to within the noise contour.
  - Explanation (or documentation) indicating how the recommendation meets Part 150 approval criteria; specifically, that future development will be compatible with the noise level if zoning regulations are implemented or specific parcels re-zoned.
  - Feasibility of the recommendation being implemented by the respective zoning authorities.
- 3485
- 3486
- 3487
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- 3489
- 3490

3491 7.18.3.2 The FAA will render an approval or disapproval of this type of preventive  
3492 land use measure; however, the federal government has no authority to  
3493 control land use. Its successful implementation is within the control of the  
3494 governing land use jurisdictions.

3495 7.18.4 Factors to Consider for Zoning Recommendations in a Part 150 Study.

3496 7.18.4.1 Zoning is a preferred method of preventing noncompatible land use in  
3497 noise-impacted areas. For zoning to work effectively, it should be based  
3498 on a comprehensive plan that considers the total needs of the community  
3499 and the specific needs of the airport, recognizing its value to the local  
3500 economy. For zoning to be viable, there should be a reasonable present or

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<sup>61</sup> Although jurisdictions are encouraged to establish “buffer” areas beyond the significant noise contour (DNL 65 dB), ASNA only permits FAA approval of mitigation measures proposed within the officially adopted noncompatibility standard. The FAA will approve that portion of an NCP’s recommendation that meets ASNA criteria, and will encourage the jurisdiction with authority to prevent further noise sensitive encroachment.

3501 future need for each designated use. Zoning can be used constructively to  
 3502 increase the value and productivity of the affected land. One of the  
 3503 primary advantages of zoning is that it may be used to promote land use  
 3504 compatibility while leaving the land in private ownership, on the tax rolls,  
 3505 and economically productive.

3506 7.18.4.2 Zoning has several limitations:

- 3507 • Zoning controls are normally applicable only to those areas within the  
 3508 boundaries of the zoning jurisdiction. However, airport noise often  
 3509 impacts more than one jurisdiction. Effective zoning requires  
 3510 coordination among all the impacted jurisdictions.
- 3511 • Some communities may have cumulative type zoning districts which  
 3512 allow uses permitted in a higher use, less intensive zone to be  
 3513 permissible in a lower use, more intensive zone. For example,  
 3514 residential uses could be permitted in districts zoned for lower uses  
 3515 such as agricultural. Cumulative zoning could also permit  
 3516 noncompatible development in an area not zoned for it; so it would be  
 3517 necessary to revise the existing cumulative-type code or adopt  
 3518 additional overlay zoning use districts which create specific permitted  
 3519 uses and exclude all others.
- 3520 • Zoning in areas already developed incompatibly is normally not  
 3521 possible. In some jurisdictions, rezoning that affects current land uses  
 3522 may not pass state constitutional tests. Discussion with state  
 3523 representatives during Part 150 Study consultation will provide the  
 3524 opportunity to decide whether rezoning should be considered. If such  
 3525 zoning is allowed and is accomplished, the current use will likely be  
 3526 allowed to remain as a nonconforming use until it is changed  
 3527 voluntarily by the property owner to a conforming use, until the  
 3528 property owner has had time to recoup an investment in the property,  
 3529 or until the property is sold.
- 3530 • Zoning is often not permanent. In most jurisdictions, the current  
 3531 legislative body is not bound by prior zoning actions. Zoning which  
 3532 achieves noise compatibility is subject to continual pressure for change  
 3533 from urban expansion and from those who might profit from zoning  
 3534 changes. Periodically, the entire zoning ordinance for a jurisdiction  
 3535 may be updated to accommodate increased growth or new land use  
 3536 concepts.

3537 7.18.4.3 These steps should be taken when considering development of zoning  
 3538 ordinances:

- 3539 1. Review all existing regulations (particularly land use and zoning) in  
 3540 the jurisdictions involved. Construct an existing zoning map if one is  
 3541 not available. Determine whether the existing zoning ordinance has

- 3542 been properly adopted and recorded. Where possible, have the  
3543 consulted jurisdictions provide this information for the Part 150 Study.
- 3544 2. Review existing state legislation and case law affecting planning  
3545 review and approval actions necessary. Consultation with the state  
3546 during the Part 150 Study should expedite this process.
- 3547 3. For additional ideas, research contemporary approaches to land use  
3548 and zoning control being employed in similar jurisdictions around the  
3549 country.
- 3550 4. With the knowledge of what is and is not feasible in the jurisdictions  
3551 around the airport, consider a variety of applicable land use controls,  
3552 such as airport noise overlay zones, variance procedures, special  
3553 exceptions, and performance standards.
- 3554 a. Ensure that airport-related zoning recommendations and the  
3555 regulations that would enforce them (for example, subdivision  
3556 regulations) are consistent with the adopted comprehensive plan or  
3557 that there is a measure for the recommendations to be considered  
3558 in any proposed amendments to comprehensive plans.
- 3559 b. Develop an estimated implementation timeframe for the  
3560 recommendations in the NCP. Allow for adequate review of all  
3561 airport zoning and development ordinances by legal counsel,  
3562 appropriate internal agencies and authorities, affected special  
3563 districts, and all affected local government entities.
- 3564 c. Monitor the implementation process of land use zoning  
3565 recommendations and include a measure that provides for  
3566 continued public involvement. For example, recommend  
3567 developing and implementing a public participation program  
3568 designed to elicit meaningful responses from the general public as  
3569 part of ongoing land use planning. Provide for airport participation  
3570 whenever the jurisdiction considers land use zoning changes.
- 3571 7.18.4.4 An airport noise overlay zone (ANOV) and airport noise overlay district  
3572 (ANOD) are sometimes used to regulate land use around U.S. airports.  
3573 The ANOV is an overlay district that becomes part of the local zoning  
3574 ordinance. Overlay zones normally use the airport's NEM noise contours  
3575 within which there are restrictions on permitted land uses. These limits  
3576 vary with distance from the airport, noise level impacts, and an area's  
3577 location or orientation with respect to the airport. The ANOV  
3578 acknowledges the unique land use impacts of airports, regulates the siting  
3579 of noise sensitive uses or establishes construction requirements, and  
3580 complies with FAA regulations regarding noise.
- 3581 7.18.4.5 Overlay zoning creates special zoning to meet specific needs not generally  
3582 covered under the zoning ordinance. For example, airport noise overlay  
3583 zones can prohibit noise-sensitive land uses near the airport or require



3584 dedication of avigation easements and/or non-suit covenants (in this case,  
 3585 restrictions on future claims for noise-related damages as a result of  
 3586 granting the easement). Such regulations are supplemental to the  
 3587 requirements of the general zoning district. All development and building  
 3588 permits for properties within an overlay district would have to meet all of  
 3589 the requirements of the specific zoning district in which they are located.

3590 7.18.4.6 An Airport Noise Overlay Zone, or ANOZ is an effective way to promote  
 3591 land use compatibility. The boundaries of an ANOZ are generally based  
 3592 on noise exposure contours. It is advisable to use future NEMs that are  
 3593 periodically updated.

3594 7.18.4.7 Title 14 CFR Part 77 addressed notification and review processes for  
 3595 structure and building heights. Responsible airport planning dictates  
 3596 addressing these structure heights proximate to airports, which will need  
 3597 to be included in an overlay ordinance. Requests for FAA approval of  
 3598 height and hazard zoning do not belong in an NCP because it is not a noise  
 3599 abatement measure. Height provisions need to be addressed through the  
 3600 Title 14 CFR Part 77 process. Jurisdictions that adopt zoning ordinances  
 3601 will usually also adopt subdivision regulations (discussed in the next  
 3602 section). It is important to ensure that ordinances include cross references  
 3603 to related regulations of the zoning ordinance so all requirements of the  
 3604 subdivision regulations are simultaneously considered.

3605 7.19 **Subdivision Regulations.**

3606 7.19.1 Subdivision consists of dividing a lot, tract, or parcel of land into two or more lots,  
 3607 tracts, parcels, or other divisions of land for sale or development. A subdivision plat is a  
 3608 plan for subdividing and developing the land.

3609 7.19.2 Since urban and rural areas grow primarily through the development of new  
 3610 subdivisions, the subdividing of vacant land or the re-subdividing of existing tracts has  
 3611 a major influence on the future composition of the area. It establishes street patterns and  
 3612 influences the type and character of development that will occupy the land.

3613 7.19.3 Regulations controlling new subdivisions are an integral part of comprehensive  
 3614 planning. Depending on differing state legislations, subdivision regulations may be  
 3615 prepared, adopted, and enforced through actions of the local legislative body or the  
 3616 local planning commission.

3617 7.19.4 When applied around airports, subdivision regulation works in a similar regulatory  
 3618 environment as that of a zoning ordinance. Plat review procedures provide an  
 3619 opportunity for jurisdictions and airport sponsors to determine how a proposed

- 3620 subdivision design could contribute to the incompatibility of noise exposure to  
3621 residential areas around airports.
- 3622 7.19.5 By making certain to provide and record on the subdivision plat or deed the appropriate  
3623 performance standards (such as controlling the siting of homes relative to noise contour  
3624 overlays or by including compatible land use buffer zones and open spaces), proper  
3625 distances from higher decibel noise exposure levels can be achieved and maintained.  
3626 This is especially important when these performance standards are also made conditions  
3627 of zoning.
- 3628 7.19.6 Data Requirements.
- 3629 7.19.6.1 An NCP for proposed subdivision regulations should include this  
3630 information:
- 3631 • A description or map of the area covered by the proposed regulation,  
3632 consistent with Part 150 and ASNA requirements.
  - 3633 • A description of how future development of the property will be  
3634 compatible with the noise level if subdivision regulations are  
3635 implemented.
  - 3636 • An account of whether responsible jurisdictions have agreed to  
3637 implement regulations within their authority.
- 3638 7.19.6.2 The FAA will render an approval or disapproval of this type of preventive  
3639 land use measure; however, the federal government has no authority to  
3640 control land use. Regulations for subdivisions are within the authority of  
3641 the governing land use jurisdictions.
- 3642 7.19.7 Considering Subdivision Regulations in a Part 150 Study.
- 3643 For developing subdivision regulations, these steps should be considered in consultation  
3644 with the responsible governing bodies:
- 3645 1. Review all adopted subdivision regulations already in place in all affected  
3646 communities and identify major variations in requirements, particularly as they  
3647 apply to residential development.
  - 3648 2. Review state legislation and case law affecting subdivision regulations with  
3649 emphasis on application to all affected communities and any review / approval  
3650 actions necessary by state agencies such as water supply and wastewater disposal.
  - 3651 3. Research the contemporary approaches to subdivision regulation used in similar  
3652 jurisdictions around the country to determine whether they are appropriate and can  
3653 be applied at the airport.
- 3654 7.20 **Acquisition of Easements or Development Rights.**
- 3655 Acquisition of easements as a remedial measure for achieving compatible land use was  
3656 discussed in Section 7.15 of this AC. Easements can also serve as a preventive measure

3657 if they are acquired before noncompatible uses are developed. Refer to Section 7.15 of  
3658 this AC for information on how to implement this type of measure.

3659 7.20.1 Data Requirements.

3660 An NCP the proposed changes in development rights should include this information:

- 3661 • Location of the development rights or easement acquisition area within the NEM  
3662 existing or future DNL 65 dB noise contour or within a lower level contour that is  
3663 considered noncompatible under locally adopted land use guidelines.
- 3664 • Location of the area to which any development rights are to be transferred.
- 3665 • Description of how future development of the property will be compatible and the  
3666 area to which rights are transferred will also be compatible with the noise level if  
3667 easements or development rights are acquired.

3668 7.20.2 Development Rights Purchase Options.

3669 7.20.2.1 Purchase of Development Rights (PDR) is another way to prevent  
3670 noncompatible land uses around the airport. In this option, airport  
3671 sponsors purchase the property owner's right to noise-sensitive land  
3672 development, leaving the owner all other rights of ownership, yet  
3673 preventing any noncompatible development. The price of the development  
3674 rights is generally equal to the reduction in the market value of the land,  
3675 that is, the difference between the value of the land limited to development  
3676 for compatible uses and its current market value.

3677 7.20.2.2 PDR, or variations of it, could also be used by local governments and  
3678 airport sponsors (depending on ownership) to allow compatible uses to  
3679 continue, eliminating noncompatible uses on specific properties for which  
3680 their development rights have been purchased.

3681 7.20.2.3 Transfer of Development Rights (TDR) is another land use and  
3682 development control technique. The basic concept of TDR is to preserve  
3683 or retain land in its existing or rural setting in one location. Under a TDR,  
3684 landowners sell (transfer) development rights on their land to another  
3685 interested party who can use the rights to increase density of development  
3686 at another location. In this case, development rights from an area within a  
3687 65 DNL or higher contour could be transferred for development in an area  
3688 not exposed to aircraft noise. Legally, state statutes would have to contain  
3689 provisions to use TDR. A development rights transfer system would have  
3690 to be adopted by the local government, and the comprehensive plan would  
3691 need to recognize this means of development rights land designation. If  
3692 TDR is considered, getting it enacted would be recommended in the NCP.  
3693 If adopted by law, it would be included in an NCP update.

3694 7.20.2.4 TDR could allow airport-area jurisdictions to avoid unwanted  
3695 development in high noise exposure areas or redevelop these areas to less

3696 intense use, allowing such limitations to be maintained in perpetuity. The  
 3697 sending property would ideally be rezoned to whatever rights remained on  
 3698 the property. The receiving property might also have to be rezoned to  
 3699 allow the type and intensity of use anticipated.

3700 7.20.2.5 Whatever changes in zoning might be necessary, the changes should  
 3701 conform to the adopted comprehensive plan. When comprehensive  
 3702 planning is evaluated along with specific zoning and preventive planning  
 3703 measures, individual changes can be implemented over the period of the  
 3704 plan. If the proposed changes had not been anticipated in the plan and  
 3705 therefore were not in conformance, amendments can be proposed to any  
 3706 comprehensive plan in the NCP so other preventive planning measures can  
 3707 be included. When included in a comprehensive plan, losses and gains of  
 3708 development rights would adequately reflect the long-term policy  
 3709 implications (such as land use changes) of the plan.

3710 7.20.2.6 A very high degree of coordination and cooperation between airport  
 3711 sponsors and state and local governments is required for these techniques  
 3712 to be useful.

3713 7.21 **Building Codes.**

3714 Building codes are primarily concerned with the functional and structural aspects of  
 3715 buildings and structures, and usually require adequate sound insulation in new  
 3716 construction or major renovations. Some states have adopted a statewide uniform  
 3717 building code; others permit each local governing body to adopt its own building code.

3718 7.21.1 Data Requirements.

3719 7.21.1.1 An NCP that proposes building code regulations should include this  
 3720 information:

- 3721 • A description or map of the area covered by the proposed regulation  
 3722 and where the properties lie within the official NEMs.
- 3723 • A description of how the measure will promote future compatible  
 3724 development of the property.

3725 7.21.1.2 The FAA will render an approval or disapproval of this type of preventive  
 3726 land use measure; however, the federal government has no authority to  
 3727 control land use. Successful implementation of building codes is within  
 3728 the authority of the governing land use jurisdictions.

3729 7.21.2 Considerations for Building Codes.

3730 7.21.2.1 Minimum structural construction techniques and material standards often  
 3731 determine whether changes in current standards or adopting new ones can  
 3732 increase the interior noise reduction levels of typical residential or other

- 3733 noise-sensitive structures in noise-impacted areas. Building codes are  
 3734 essentially a legal means of requiring adequate sound insulation in new  
 3735 construction.
- 3736 7.21.2.2 Some building codes have special requirements for properties located in  
 3737 high noise exposure areas. Property owners are made aware of these  
 3738 requirements through occasional notifications and when they apply for  
 3739 building permits. During application for a permit, the authorizing  
 3740 jurisdiction requires an action ranging from securing an avigation  
 3741 easement to installing sound insulation, or prohibits construction based on  
 3742 the location of the property to the applicable building code.
- 3743 7.21.2.3 Measures to achieve appropriate outdoor-to-indoor NLR is a primary goal  
 3744 of any sound attenuation program. Appropriate NLR measures should be  
 3745 required in proposed building code regulations. They can be required in  
 3746 the design and construction of certain types of buildings, such as homes,  
 3747 schools, hospitals, and churches.
- 3748 7.22 **Real Estate Disclosure.**
- 3749 7.22.1 The basic disclosure of airport noise situations is handled in some jurisdictions through  
 3750 ordinances that require sellers of parcels of land to reveal to purchasers that they are in a  
 3751 “noise impact zone.” Real estate agents are also instructed about these zones and the  
 3752 ordinance requirements.
- 3753 7.22.2 Residents who move into an area may not be aware of an airport’s presence or the  
 3754 implications of airport noise. Besides publishing NEMs on airport websites, another  
 3755 method of informing the public is to record an “airport disclosure agreement” or other  
 3756 applicable covenant on subdivision plats and site development plans.
- 3757 7.22.3 These preventive measures could be included in comprehensive planning, making the  
 3758 airport disclosure agreement and covenants part of a property’s deed record. A  
 3759 disclosure agreement could require that the property owner or selling agent inform the  
 3760 prospective buyer of the airport’s location and noise potential, including any remedial  
 3761 measures that have improved the property, such as sound attenuation. When disclosure  
 3762 is enacted as a deed covenant on a subdivision plat, the covenant provisions would be  
 3763 enforced by private parties just as a contract would be enforced.
- 3764 7.22.4 The location of the airport and whether there are other similar land use covenants in the  
 3765 vicinity would be described in the real estate disclosure agreement and covenants. The  
 3766 covenant also should describe the airport sponsor’s responsibilities that are part of the  
 3767 covenant agreement. The airport disclosure agreement would also identify Title 14 CFR  
 3768 Part 77, Objects Affecting Navigable Airspace, the imaginary surfaces used to avoid

- 3769 obstructions to flight paths and assess the need for noise controls such as avigation  
3770 easements or noise overlay zones.
- 3771 7.22.5 Property owners and realtors often oppose real estate disclosures because they may  
3772 make it more difficult to sell noise-impacted property. Disclosures may deter buyers  
3773 sensitive to noise. Those not deterred from purchasing a noise-impacted property may  
3774 also be less likely to become noise complainants or noise litigants.
- 3775 7.22.6 An NCP that proposes real estate disclosures should include a description or map of the  
3776 proposed disclosure area and describe the type of disclosure proposed. The FAA will  
3777 render an approval or disapproval of this type of preventive land use measure; however,  
3778 the federal government has no authority to control land use. This authority is with the  
3779 governing land use jurisdictions.
- 3780 7.23 **Acquisition of Vacant Land.**  
3781 As with acquisition of developed land as a remedial measure for obtaining compatible  
3782 land use (discussed in Section 7.13 of this AC), so too can acquiring land that does not  
3783 presently have noncompatible uses, but such uses are unlikely to occur.
- 3784 7.23.1 Data Requirements.  
3785 For NCPs that propose preventive land acquisition, this information should be included:  
3786  
3787 • Location of the acquisition area shown on the NEM within the existing or future  
3788 DNL 65 dB noise contour or within a lower level contour that is considered  
3789 noncompatible under locally adopted land use guidelines.  
3790 • A discussion of how the property's current zoning would permit the now  
3791 compatible vacant land to become noncompatible.<sup>62</sup>  
3792 • An account of how the property would remain compatible after acquisition through  
adequate land use controls.
- 3793 7.23.2 Considering Vacant Land Acquisition in a Part 150 Study.  
3794 7.23.2.1 If vacant land is highly likely to be developed incompatibly, local controls  
3795 are inadequate to prevent that development, and if the FAA has approved  
3796 the sponsor's recommendation in an approved NCP, the acquisition is  
3797 eligible. If however, airport sponsors already have land use control  
3798 jurisdiction over the vacant land, then they should prevent noncompatible  
3799 development by a means other than acquisition of the land.<sup>63</sup>
- 3800 7.23.2.2 To be eligible for federal financial assistance, acquisition of vacant land  
3801 must comply with the Uniform Act. Land acquired with AIP funding must

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<sup>62</sup> For example, the airport sponsor has no authority to make the land use compatible except through purchase; there is no prior compatible land use agreement with the jurisdiction(s).

<sup>63</sup> Grant Assurance 21.

3802 comply with AC 150/5100-17 and the FAA Order 5100.38 chapter on land  
3803 acquisition projects (see Section 7.13 of this AC for further information).

3804 7.24 **Program Management.**

3805 7.24.1 Monitoring Program Effectiveness.

3806 7.24.1.1 After an NCP has been approved, sponsors should continually evaluate its  
3807 effectiveness and consider improvements and determine whether proposed  
3808 measures are being implemented on schedule. For example:

- 3809 • Land acquisition and sound insulation projects should be reviewed to  
3810 determine whether modifications are needed due to changes in the  
3811 noise environment.
- 3812 • Operational measures for noise abatement should be monitored for  
3813 adherence and to determine whether the anticipated noise benefits are  
3814 being realized. Also, if land uses are changing, operational measures  
3815 may need to be reexamined for continued effectiveness.
- 3816 • Use Program Management measures to continue working with the  
3817 state and local governing bodies to implement preventive land use  
3818 planning measures such as comprehensive plans and changes in zoning  
3819 laws.
- 3820 • Use Program Management as a tool to monitor jurisdictions' actions  
3821 regarding requests for changes in zoning, variances, or subdivision  
3822 actions within the study area.

3823 7.24.1.2 Examples and discussions of how to carry out these Program Management  
3824 measures for monitoring and evaluating the NCP follow. Program  
3825 Management measures are also discussed in Sections 7.5.5 and 9.4 of this  
3826 AC.

3827 7.24.1.3 **NCP Periodic Review.**

3828 7.24.1.3.1 Periodic reviews of approved measures should be scheduled and budgeted  
3829 by airport sponsors as an integral part of the NCP. Each review should  
3830 include how to address problems or deficiencies identified, especially  
3831 those pertaining to the NCP's performance. The review should establish  
3832 whether the NCP remains viable. New or corrective measures can be  
3833 examined in an NCP update.

3834 7.24.1.3.2 These activities should be accomplished during the NCP implementation  
3835 review:

- 3836 • Compare the then-current overall noise compatibility to that projected  
3837 in the NCP's goals and objectives for the forecast timeframe.

- 3838 • Appraise the rate of growth of the community and of the airport's  
3839 operations to determine if the approved NCP measures are still  
3840 adequate.
- 3841 • Review the airport NEM to determine whether a change in the fleet  
3842 mix or airport operations has caused, or is projected to cause, an  
3843 increase or decrease to the noise exposure of DNL 1.5 dB or greater  
3844 over noncompatible land uses (See Section 6.2 of this AC). A change  
3845 of this magnitude will require an update to the NEMs.
- 3846 • Review the current operational measures to determine if they maintain  
3847 aircraft noise within the designated noise impact areas. For example,  
3848 has there been an unexpected significant increase in operations at the  
3849 airport? Have there been changes in the use of local airspace such as  
3850 increased air traffic or changes in flight patterns from other nearby  
3851 airports that affect how often these measures can be implemented?
- 3852 • Review the land use base map to determine if there are changes in land  
3853 uses that render approved operational noise abatement measures no  
3854 longer beneficial.
- 3855 • Review the recommended land use preventive measures to determine  
3856 if they have been implemented.
- 3857 • Review the implemented land use preventive measures to determine if  
3858 they are adequate to protect the designated noise impact areas from  
3859 encroachment by noise sensitive uses. Review the effectiveness of  
3860 remedial measures in resolving existing noncompatible uses within the  
3861 noise impact areas, and document progress and any problems  
3862 encountered in their implementation.
- 3863 7.24.1.3.3 Sponsors may want to continue an advisory committee. The committee  
3864 formed during the NCP process is already familiar with the contents of the  
3865 NCP. Advisory Committee or Community Roundtable Committee  
3866 members can maintain community participation while the NCP is  
3867 implemented, monitor the NCP during its progress to determine if its  
3868 measures are working, and recommend changes to the NCP as needed.
- 3869 7.24.1.4 **Addressing Noise Complaints.**  
3870 A noise abatement contact or noise abatement hotline can be established to  
3871 respond to noise complaints in a number of ways:
- 3872 • Establishing and maintaining a noise complaint file.
- 3873 • Providing an initial response to noise complaints.
- 3874 • Investigating complaints and providing appropriate follow-up actions.
- 3875 • Preparing publicly available noise complaint reports.



- 3876 7.24.1.5 **Need for Regular Updates.**
- 3877 The NCP must provide for revision if made necessary by a significant
- 3878 revision of the NEMs. This commitment can be described in the
- 3879 implementation section of the NCP, or the NCP may include a separate
- 3880 measure for FAA approval.
- 3881 7.24.1.6 **Portable and Permanent Fixed Noise Monitoring.**
- 3882 7.24.1.6.1 The NCP might include an ongoing requirement to monitor actual noise
- 3883 conditions. Monitoring aircraft noise around airports may be as modest as
- 3884 a few portable noise monitors (to respond to individual noise complaints,
- 3885 for example), or an extensive system of fixed monitors linked to a central
- 3886 processing unit to monitor overall NEM conditions at the airport and
- 3887 determine when an NEM and NCP update are required. Eligibility for a
- 3888 permanent monitoring system will be limited to circumstances where it is
- 3889 clear that portable monitors would be inadequate. The greater the
- 3890 operations and larger the noise contour, the more likely a permanent
- 3891 system is justified.
- 3892 7.24.1.6.2 For reasons of aviation safety, FAA approval does not extend to the use of
- 3893 monitoring equipment for enforcement of a noise rule or preferred flight
- 3894 track. A primary justification for monitoring equipment, therefore, should
- 3895 be to provide information necessary to carry out other noise compatibility
- 3896 projects in the approved NCP and to monitor progress in achieving noise
- 3897 compatibility objectives. Here are some sample uses of noise monitoring:
- 3898
- Selection of dwelling units or other structures for sound insulation.
  - Pre- and post-insulation interior/exterior noise measurement.
  - Compliance with a monitoring requirement of state noise law.
  - Aiding implementation of other noise compatibility projects.
  - Providing noise data for future revision of the NCP; however,
- 3903 monitoring data should never be used as the basis for a future contour.
- 3904 7.24.1.6.3 FAA Order 5100.38 provides guidance on allowable costs for monitoring
- 3905 equipment.
- 3906 7.24.2 Data Requirements.
- 3907 For proposed program management measures, the NCP should explain how program
- 3908 management measures would fit into overall NCP success.
- 3909 7.24.3 Program Management Measures in a Part 150 Study.
- 3910 Program management measures normally do not reduce or prevent noncompatible land
- 3911 uses. They may be approved, however, as contributing to the overall successful
- 3912 implementation of the NCP and preventing the introduction of additional noncompatible
- 3913 land uses.

- 3914 7.25 **NEM with Program Implementation.**
- 3915 7.25.1 If NEMs and the NCP are submitted to the FAA separately, and the forecast NEM was  
3916 not based on NCP implementation, airport sponsors should submit a revised forecast  
3917 NEM with the NCP in accordance with Part 150 Section B150.3(b), unless there are no  
3918 aircraft operational recommendations that would change the NEM contours. NEMs may  
3919 need to be updated after the FAA takes action on the NCP if the NEMs included  
3920 program measures that would alter the NEM contours, but were disapproved. This  
3921 requirement is described in Part 150 Section 150.21(d).
- 3922 7.25.2 Revisions to NEMs and new NEMs must meet the same Part 150 requirements as initial  
3923 submissions.
- 3924 7.25.3 The program documentation must indicate which measures are recommended for  
3925 implementation, and which measures are depicted in the NEMs.
- 3926 7.25.4 If overall numbers of people exposed to significant noise levels will be reduced through  
3927 implementation of the NCP, the NCP is determined to meet ASNA and Part 150  
3928 standards, even though it is possible that some noise-sensitive land uses around an  
3929 airport may experience an increase in noise. The determination is based on a “net  
3930 reduction” in overall noise impacts. When there is an increase in noise over  
3931 noncompatible land uses of DNL 1.5 dB or greater, an EA will be required before  
3932 implementing the measure (Part 150 Section 150.5).
- 3933 7.26 **NCP Submittal.**
- 3934 Sponsors should identify their Part 150 program submission as either an NCP submittal  
3935 that follows an NEM submittal or as NEMs and NCP submitted together.
- 3936 7.26.1 Revision to a Previous NCP.
- 3937 If the NCP is a revision to a previously approved NCP, sponsors should identify this in  
3938 their submittal.
- 3939 7.26.2 Separate NEM and NCP Submissions.
- 3940 If the NEMs and the NCP are submitted to the FAA separately, airport sponsors should  
3941 include the NEMs with the later submittal of the NCP, assuming the NEMs are still  
3942 valid and do not require revision under Part 150 Section 150.21(d). The NCP  
3943 documentation should indicate the FAA has previously found the NEMs in compliance  
3944 with Part 150. Sponsors must certify that the NEMs as well as the description of  
3945 consultation and opportunity for public comment are true and complete (Part 150  
3946 Section 150.21(e)) and that the NEMs still representing the current and forecast  
3947 conditions at the airport as of the date the NCP is submitted. If one or both of the NEMs  
3948 are no longer “true and complete,” sponsors must submit appropriately revised NEMs  
3949 with the NCP.

3950 7.26.3 Identify the Submitting Party.

3951 Clearly identify the airport name and the airport sponsor's name on the NCP  
3952 submission. It is desirable to have this information on a cover page of the submission.  
3953 However, there is no format specified in Part 150, so it is acceptable to otherwise  
3954 present this information as long as it is included and is clearly understandable.

3955 7.26.4 Submitting the NCP for Preliminary Review.

3956 The NCP may be submitted to the FAA for preliminary review, prior to the submission  
3957 for formal review and approval.

3958 7.26.4.1 **Informal Submittals.**

3959 Sponsors may request from the FAA informal advice, a policy review, or  
3960 technical guidance. The FAA also will provide technical advice during the  
3961 Part 150 study process including whether recommendations are technically  
3962 acceptable, feasible to implement, or approvable under federal criteria.  
3963 Depending on the FAA's feedback, sponsors may need to revise the NCP  
3964 before submitting it for formal approval.

3965 7.26.5 Formal Submission Requirements.

3966 Formal submission requirements are outlined below. An example cover letter and  
3967 airport sponsor certifications are provided in Appendix C of this AC. It is helpful to  
3968 ensure the checklist is included to show the requirements of Part 150 for NCPs have  
3969 been met. See Appendix B for a copy of the checklist.

3970 7.26.5.1 **Cover Letter.**

3971 The formal submission of the NCP should be accompanied by a signed  
3972 and dated cover letter from the airport sponsor. The letter should indicate  
3973 that the NCP is being submitted by the sponsor and not by its consultant or  
3974 any other party. The cover letter should state that the NCP is being  
3975 submitted under the provisions of Title I of ASNA and Part 150 for  
3976 appropriate FAA determinations. Certifications required by Part 150  
3977 Section 150.21 should be included with the cover letter when the NEMs  
3978 and NCP are submitted together. See Appendix C for examples of cover  
3979 letters and certifications.

3980 7.26.5.2 **Required Number of Copies to Submit.**

3981 The Part 150 regulation states that sponsors must submit five hard copies  
3982 of the NCP to the FAA through their ARP POC. Local FAA offices may  
3983 request additional copies to expedite their review and response. Also,  
3984 electronic submittals may be an option, so the ARP POC should be  
3985 contacted for guidance.

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**CHAPTER 8. FAA REVIEW PROCESS**3988 8.1 **Introduction.**

3989 This chapter describes the review process the FAA follows when it receives an NEM,  
3990 NCP, or combined NEM/NCP submittal from an airport sponsor. As noted in previous  
3991 chapters, timelines and procedures associated with the FAA review process should be  
3992 considered for preparing NEMs and NCPs. In general, the expectation is that the NEM  
3993 and NCP will be submitted together to FAA. The only circumstances in which the FAA  
3994 would expect to receive just an NEM are when noise contours have shrunk and there are  
3995 no plans to revise the NCP.

3996 8.2 **Preliminary NEM Submittals.**

3997 8.2.1 As a best practice, airport sponsors should submit preliminary NEMs and  
3998 accompanying information to the FAA for informal review and advice before sharing  
3999 the NEMs with the public. Part 150 does not specify a timeline for informal reviews.  
4000 For changes to AEDT modeling input (see Section 5.8) formal requests may be needed  
4001 before submitting the NEMs for review. The ARP POC will coordinate requests with  
4002 the AEE through the headquarters APP-400. An informal NEM review may require  
4003 coordination across several FAA offices; for example, FAA ARP personnel may need  
4004 to verify operational assumptions with local ATO facilities to ensure they reflect  
4005 accurate operation.

4006 8.2.2 Sponsors should carefully consider comments received from the FAA following an  
4007 informal review and incorporate them into the final submittal to the greatest extent  
4008 possible. This will greatly increase the likelihood that the final NEM submittal complies  
4009 with the requirements of Part 150.

4010 8.3 **Official NEM Submittals.**

4011 8.3.1 When airport sponsors submit an official NEM document package (see paragraph  
4012 5.14.8) for official FAA acceptance, the Regional FAA Airports Division or ADO takes  
4013 these steps:

- 4014 1. Review the NEMs and accompanying information to determine whether the  
4015 documentation demonstrates compliance with Part 150.
- 4016 2. Send a letter to the airport sponsor acknowledging receipt of the NEMs and stating  
4017 whether the NEMs comply with Part 150.
- 4018 3. If the NEMs comply with Part 150, prepare a notice of compliance for the NEMs  
4019 that the FAA will publish in the Federal Register. The Federal Register notice  
4020 advises the public of where they can review the accepted airport sponsor NEMs.

4021 8.3.2 If the NEMs do not comply with the requirements of Part 150, the letter to the airport  
 4022 sponsor will indicate the elements of the submittal not in compliance. The sponsor will  
 4023 therefore need to revise and resubmit the NEMs.

4024 For NEMs that comply, once the Federal Register notice is published the airport  
 4025 sponsor may publish the NEMs, which can include posting on the airport's website.

4026 8.4 **Preliminary NCP Submittals.**

4027 The process for an FAA review of preliminary NCP submittals is more extensive than  
 4028 preliminary NEM reviews. The FAA's Regional Airports Division or ADO will  
 4029 coordinate the NCP documentation with other FAA lines of business with the  
 4030 responsibility for and expertise in measures proposed in the NCP. For example, as with  
 4031 the NEMs, FAA Airports personnel will need to verify operational assumptions with  
 4032 local ATO facilities to ensure they reflect accurate operation. Preliminary reviews are  
 4033 valuable when an NCP contains operational noise abatement measures, including IFPs,  
 4034 or proposed restrictions. Informal reviews provide airport sponsors with feedback from  
 4035 the FAA and an opportunity to make necessary revisions before beginning an official  
 4036 FAA review.

4037 8.5 **Official NCP Submittals.**

4038 8.5.1 When airport sponsors submit their official NCP (see Section 7.26), the FAA Regional  
 4039 Airports Division or ADO will take these steps:

- 4040 • Conduct an independent review of the NCP using the NCP checklist in Appendix B  
 4041 to assess whether the program conforms to the requirements of Part 150. Evidence  
 4042 of consultation, certifications, and correct NEM years are important components.  
 4043 FAA will send a letter to the airport sponsor that acknowledges receipt of the NCP  
 4044 and provides comments on the NCP's conformance with Part 150 requirements.
- 4045 • If the NCP does not meet Part 150 procedural requirements, the FAA will provide  
 4046 comments on the deficiencies that should be addressed to receive FAA approval of  
 4047 the of the NCP measure.
- 4048 • Once the NCP meets Part 150 requirements, the FAA will prepare a Federal  
 4049 Register notice. The notice announces the airport covered by the NCP, the date the  
 4050 FAA received the final NCP, and where the public can review it. Typically, a copy  
 4051 of the final NCP will be available at the airport sponsor's offices and at the FAA's  
 4052 Regional Airports Division and ADO. The notice announces the start of a 60-day  
 4053 public comment period in which the public may send comments to the FAA. This  
 4054 announcement also begins the FAA's formal, final 180-day review period for the  
 4055 NCP.
- 4056 • When the FAA begins the 180-day review, it conducts an evaluation of each NCP  
 4057 measure to determine whether each one meets FAA approval criteria. In some  
 4058 instances, measures may be interrelated (such as a preferred runway use in  
 4059 combination with a charted IFP), so these will be evaluated together.

- 4060           • FAA approval criteria include whether a recommendation may create an undue  
4061           burden on interstate or foreign commerce (including unjust discrimination), is  
4062           reasonably consistent with the goal of reducing existing noncompatible land use or  
4063           preventing additional noncompatible land use, and includes new or modified  
4064           aircraft flight operational noise abatement measures. FAA also reviews measures to  
4065           determine whether they may interfere with the authority and responsibility of the  
4066           FAA Administrator and whether IFPs can be implemented within the period  
4067           covered by the program without reducing safety or the efficient use of the navigable  
4068           airspace. FAA review and approval criteria is in Part 150 Sections 150.33 and  
4069           150.35.
- 4070           • As part of the FAA review, the agency will prepare a formal ROA that approves or  
4071           disapproves each measure of the NCP, prepare a Federal Register notice  
4072           announcing the decision(s), notify the airport sponsor of the final NCP  
4073           determination, and provide the ROA to the airport sponsor.
- 4074   8.5.2   Airport sponsors need to consider numerous factors relating to the FAA’s NCP review  
4075   process. First, the FAA will approve or disapprove each proposed measure contained in  
4076   the NCP. The law states that any measure not acted on by the FAA within the 180-day  
4077   review period is considered approved, except for measures relating to flight procedures  
4078   (i.e., IFPs and CVFPs charted in the FAA’s TPP, or included in the ATCT SOP).<sup>64</sup> If  
4079   the agency defers a decision on flight procedures, it will issue its determination on these  
4080   measures within a reasonable period (typically, after completing related analyses of the  
4081   measure’s feasibility or after reviewing additional information submitted to assist in a  
4082   final decision on the measure).
- 4083   8.5.3   Conditional approvals are not issued, but some measures may not be able to be carried  
4084   out until after completing pre-requisite actions (e.g., environmental analyses and safety  
4085   management reviews before implementing IFPs that affect airport or aircraft  
4086   operations). These actions will be contained within the language granting approval to  
4087   these measures.
- 4088   8.5.4   During the 180-day review period, the FAA may reach out in other ways to help in the  
4089   evaluation:
- 4090           • Consult with the airport sponsor and its consultant.
- 4091           • Explore the objectives of the program and propose alternatives for achieving them.
- 4092           • Convene meetings as necessary for gathering facts needed to make a determination.

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<sup>64</sup> See Part 150 Section 150.35(a).

4093 8.5.5 Airport sponsors must provide all the information needed for the FAA to complete its  
4094 review. Refer to Part 150 Section 150.33 for a complete list of these requirements.

4095 8.6 **NCP Determination / Record of Approval.**

4096 8.6.1 When the FAA determines that an NCP from an airport sponsor is complete, and after  
4097 the FAA public comment period has closed, the agency will issue a ROA. The ROA  
4098 will contain introductory background on why the airport conducted the Part 150 Study,  
4099 a brief summary of each program measure evaluated in the NCP, and the FAA's  
4100 determination regarding the measure. The ROA will make these points clear:

- 4101 • FAA approvals are approvals of actions that the airport recommends be taken.
- 4102 • Approvals indicate only that the actions would, if implemented, be consistent with  
4103 the purposes of Part 150.
- 4104 • Approvals do not constitute decisions to implement the actions.<sup>65</sup>
- 4105 • Later decisions concerning possible implementation of the actions may be subject to  
4106 environmental or other procedures or requirements.

4107 For each program measure described in an NCP, the FAA will make a determination:

- 4108 • Approved
- 4109 • Disapproved
- 4110 • Approved or disapproved in part
- 4111 • No action.

4112 8.6.2 An FAA determination of disapproval will provide the reason for the decision. The  
4113 determination of no action may only be applied to measures related to flight procedures  
4114 (i.e., IFPs and CVFPs charted in the FAA's TPP, or included in the ATCT SOP). These  
4115 measures are not subject to the 180-day deadline and may be acted on after that date.  
4116 The ROA should describe the unresolved action and commit to a decision within a  
4117 specified time.

4118 8.6.3 NCP determinations are effective as of the date of approval subject to any additional  
4119 requirements as noted above.

4120 8.7 **NCP Withdrawal.**

4121 8.7.1 If an airport sponsor withdraws the NCP during the 180-day review period, the FAA  
4122 will halt the formal review. Resubmittals that meet Part 150 NCP requirements require a  
4123 restart of the 180-day review period unless the Regional Airports Division Manager  
4124 determines that the modification of the program can be integrated into the rest of the

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<sup>65</sup> Some measures require additional analysis before implementing.



- 4125 program without exceeding the original 180-day review period (Part 150 Section  
4126 150.33(e)).
- 4127 8.7.2 The FAA may withdraw approvals under these conditions:
- 4128 • The FAA requires the airport sponsor to revise the program or a portion of the  
4129 program, and it is not revised.
  - 4130 • A revision is submitted for approval and the determination on the revised NCP is  
4131 inconsistent with the earlier approval.
  - 4132 • A term or condition of the program, or portion thereof, is violated by the  
4133 responsible government body.
  - 4134 • A flight procedure or other FAA action upon which the approved program or  
4135 portion of it is dependent on is later disapproved, significantly altered, or rescinded  
4136 by the FAA.
  - 4137 • The airport sponsor asks the FAA to withdraw approval.
  - 4138 • Impacts on flight procedures, air traffic management, or air commerce occur that  
4139 could not be foreseen at the time of approval.
  - 4140 • For cause—provided that the FAA sends a 30-day written notice to the airport  
4141 sponsor of the FAA’s intention to withdraw or modify the determination and the  
4142 reasons for the action.
- 4143 8.8 **Local Notice about Limitations on Recovering Damages for Noise.**
- 4144 8.8.1 Following official FAA acceptance of an airport’s NEMs, airport sponsor should  
4145 publish a legal notice pursuant to 49 U.S.C. Section 47506 (see Part 150 Section  
4146 150.21(f)). Sponsors should check with their legal staff or local jurisdiction to see if  
4147 there is special language or publication requirements to follow when publishing this  
4148 notice.
- 4149 8.8.2 An example of what the legal notice could state:
- 4150 This serves to provide public notice that, on [insert date], the Federal  
4151 Aviation Administration (FAA) announced its determination that the  
4152 “XXXX Existing Condition Noise Exposure Map” and “YYYY Future  
4153 Condition Noise Exposure Map” submitted by the [insert airport sponsor’s  
4154 name] for [insert airport name] under the provisions of 49 U.S.C. Section  
4155 47503 and 14 CFR Part 150 were found to be in compliance with  
4156 applicable requirements. The Noise Exposure Maps and supporting  
4157 documentation are available for public inspection during normal business  
4158 hours ([insert times and days of the week]) at [insert airport sponsor’s  
4159 office location].
- 4160 8.8.3 The notice must be published at least three times in newspapers of general circulation in  
4161 the counties (or parishes) where the airport and surrounding properties are located. The

4162 notices serve two purposes, which Part 150 statutes refer to as “constructive” and  
4163 “actual” knowledge of the NEMs by local property owners. Publication of the legal  
4164 notice serves as “constructive knowledge” of the existence of the new or updated NEMs  
4165 for property owners or potential buyers. Actual knowledge of the NEM is achieved if a  
4166 person is given a copy of the map when acquiring a property interest.

4167 8.8.4 As indicated in 49 U.S.C. Section 47506, as of the date of the notice, no person who  
4168 acquires property or an interest in property in an area surrounding the airport, having  
4169 actual or constructive knowledge of the existence of the Noise Exposure Maps, will be  
4170 entitled to recover damages with respect to the noise attributable to the airport unless  
4171 such person can show that (1) after acquiring the interest in such property, there was a  
4172 significant (a) change in the type or frequency of aircraft operations at the airport, (b)  
4173 change in the airport layout, (c) change in flight patterns, or (d) increase in nighttime  
4174 operations; and (2) that damages have resulted from any such change or increase.

4175 8.8.5 Airport sponsors should keep on hand indefinitely proof of the notice’s publication from  
4176 the newspapers in which the notice is published along with the NEMs most recently  
4177 determined in compliance with Part 150 and proof of all other publication of program-  
4178 related notices.

4179 8.8.6 Similarly, if airport sponsors publish a complete version of their Part 150 study  
4180 following FAA acceptance of NEMs and approval of the NCP, copies of the FAA  
4181 acceptance/approval correspondence, the ROA, Federal Register notices, the initial  
4182 legal notice, and proof of publication should be included in the final Part 150 study  
4183 documents that are retained in the airport’s publicly available files.

4184

**CHAPTER 9. IMPLEMENTATION**4185 9.1 **Introduction.**

4186 9.1.1 This chapter describes the process for implementing FAA-approved NCP measures.  
4187 Part 150 Section 150.23(e)(8) requires the NCP to include a schedule for how the  
4188 implementation should proceed.

4189 9.1.2 Airport sponsors should consider whether they need to enlist the assistance of one or  
4190 more experts when deciding on the best strategy for implementing the approved  
4191 program. While measures may be implemented by the responsible governing body  
4192 without consultant assistance, specialized consultants may be needed to provide staff  
4193 and technical resources for implementing various aspects of an airport's NCP.

4194 9.1.3 After Part 150 measures have been approved, additional review may still be required for  
4195 implementation, similar to the environmental review discussed in Chapter 3. For  
4196 example, if the environmental review did not include a formal Section 106 review of  
4197 historic resources, and it is found that approved measures could impact historic homes,  
4198 then completion of a Section 106 review would be required to comply with the National  
4199 Historic Preservation Act.

4200 9.2 **Funding Implementation of Approved Noise Compatibility Program Measures.**

4201 Normally, federally assisted funding for carrying out approved and eligible NCP  
4202 measures comes from one of three sources: the AIP grant funding (see FAA Order  
4203 5100.38), proceeds from the airport's disposal of noise land that is no longer needed for  
4204 noise compatibility purposes, or PFCs (see FAA Order 5500.1) collected by airlines  
4205 operating at an airport controlled by the airport sponsor. Implementation can be funded  
4206 through other sources, including airport or local government revenues. Chapter 2 of this  
4207 AC briefly describes the AIP and PFC programs. The following paragraphs provide  
4208 guidance on eligibility and how to apply for these funds.

4209 9.2.1 Airport Capital Improvement Plan (ACIP) and Airport Improvement Program.

4210 9.2.1.1 The ACIP is the primary planning tool for systematically identifying,  
4211 prioritizing, and assigning funds to critical airport projects. The ACIP is  
4212 also the basis for distributing AIP grant funds.

4213 9.2.1.2 The ACIP identifies the airport improvement projects and their associated  
4214 costs that will be needed over the next five years, including noise  
4215 compatibility projects. In awarding AIP funds to sponsors of airports, the  
4216 FAA emphasizes funding the highest priority projects first. One of the  
4217 FAA's primary goals for projects in the ACIP is to improve the  
4218 compatibility of airports with the surrounding communities. In funding  
4219 noise abatement measures, the FAA gives priority to higher noise-

- 4220 impacted areas. Eligible noise compatibility projects generally fall into the  
4221 following categories:
- 4222 • Land acquisition (including relocation assistance).
  - 4223 • Acquisition of aviation easements.
  - 4224 • Purchase assurance / sales assurance / transaction Assistance.
  - 4225 • Sound insulation (see Paragraph. 7.14 for detailed requirements).
  - 4226 • Runway and taxiway construction that the FAA has approved for noise  
4227 abatement in an NCP (including associated land acquisition, lighting,  
4228 and navigational aids).
  - 4229 • Noise monitoring equipment.
  - 4230 • Noise barriers.
- 4231 9.2.1.3 For noise compatibility projects in an NCP to be considered for AIP  
4232 funding, the FAA must determine eligibility. If airport sponsors do not  
4233 conduct a Part 150 study, PFCs may still be used for noise measures;  
4234 however, PFC-funded measures must be *approvable* under Part 150.
- 4235 9.2.1.4 The FAA normally disapproves remedial noise mitigation measures<sup>66</sup> for  
4236 noncompatible development constructed after October 1, 1998, under Part  
4237 150 (see Federal Register, April 3, 1998 (Volume 63, Number 64)) unless  
4238 the airport sponsor did not have a noise contour map distributed to the  
4239 public before that date or the property was not within the DNL 65dB  
4240 contour. Other noise compatibility proposals may be approved in the NCP,  
4241 but may not be eligible for consideration of federal funding. Examples of  
4242 these instances are development of new or modified IFPs or CVFPs,  
4243 operation or administrative costs of an airport sponsor's ongoing noise  
4244 program, or demonstration programs to test the effectiveness of new noise  
4245 abatement and mitigation technology.
- 4246 9.2.1.5 For FAA-approved NCP measures, airport sponsors should coordinate  
4247 with their FAA points of contact to help determine the scope of AIP and  
4248 PFC funding to implement those measures.
- 4249 9.2.1.6 The AIP's grants management system generates virtually all forms and  
4250 reports necessary to apply for AIP funding. Most are available in digital  
4251 format and can be completed in a word processing program.
- 4252 9.2.1.7 The FAA website has the current versions of FAA Order 5100.38, the AIP  
4253 Handbook, which provides a description of the process for including and

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<sup>66</sup> The most commonly used remedial noise mitigation measures are land acquisition and relocation, sound insulation, easement acquisition, purchase assurance, and transaction assistance.

4254 prioritizing projects, and which provides a complete discussion of project  
4255 eligibility and funding application requirements.

4256 9.2.2 Passenger Facility Charge Program.

4257 9.2.2.1 The PFC program provides airport-generated funds by imposing a charge  
4258 per enplaned (boarding) passenger. It provides airport sponsors a local  
4259 source of funding for airport projects. PFC funds can be used to fund  
4260 approved NCP measures and the airport sponsor's local share of  
4261 implementation costs for AIP-funded projects.

4262 9.2.2.2 PFC eligibility differs from AIP eligibility. To be eligible for PFC  
4263 funding, a noise abatement project must be located in an area adversely  
4264 impacted by noise and eligible for approval as a noise compatibility  
4265 measure were it submitted for approval under Part 150. However, PFC-  
4266 funded projects do not have to be submitted to the FAA in an NCP and do  
4267 not have to receive Part 150 approval. For projects not part of an approved  
4268 NCP, the FAA requires sponsors to provide documentation that the project  
4269 would nonetheless have accomplished a noise mitigation purpose that  
4270 would be eligible for approval under Part 150. The eligibility of the  
4271 proposed noise project must be supported by current noise information  
4272 such as DNL grid points or current noise contours prepared for a Part 150  
4273 Study, environmental (NEPA) document, or other suitable planning  
4274 document.

4275 9.2.2.3 Airport sponsors interested in funding implementation of NCP measures  
4276 through PFCs should refer to the FAA website for the current version of  
4277 FAA Order 5500.1, for specific instructions  
4278 (<http://www.faa.gov/airports/pfc/>).

4279 9.2.3 Disposal of Airport Noise Land.

4280 The disposal of noise land does not require an FAA release of obligations. Noise land is  
4281 not acquired for airport development or aeronautical use. The sponsor must inventory  
4282 acquired noise land and submit a re-use plan for FAA acceptance detailing land to be  
4283 sold for compatible redevelopment and land that will be retained for airport use or noise  
4284 buffer. Acquired noise land that may be sold is unneeded for public airport use and  
4285 upon FAA acceptance of the reuse plan there is no need for an FAA release of  
4286 obligations on the unneeded land. The sponsor must ensure fair market value proceeds  
4287 on sale or long term lease and retain adequate property rights such as easement and  
4288 lease restrictions that prevent any noncompatible land use or development of any land  
4289 parcel disposed. The FAA guidance document entitled [Noise Land Management and](#)  
4290 [Requirements for Disposal of Noise Land or Development Land Funded with AIP](#)  
4291 describes the sponsor requirements to manage acquired noise land and the FAA review  
4292 procedures for acceptance of the sponsor's noise reuse plan.

4293 9.3 **Implementing Aircraft Flight Operational Noise Abatement Measures.**  
 4294 As described in Sections 7.8 and 7.9, operational noise abatement measures seek to use  
 4295 preferred runway use, profiles, or tracks to reduce noise over a community. Different  
 4296 implementation steps exist depending on the type of operational noise abatement  
 4297 measure that is approved in the NCP, as outlined in this section.

4298 9.3.1 Use Methods.

4299 9.3.1.1 Aircraft flight operational noise abatement measures are voluntary for the  
 4300 pilot and ATC depending on safety, wind, weather, and traffic flow  
 4301 management. Conditions may dictate that the pilot deviate from voluntary  
 4302 compliance from the intended flight measure. The final decision pilot  
 4303 acceptance and use of operational noise abatement measures, including  
 4304 those assigned in IFR clearances, is with the pilot in command of the  
 4305 aircraft who is ultimately responsible for decisions regarding the safety of  
 4306 the aircraft. For these reasons, aircraft flight operational noise abatement  
 4307 measures are approved as “voluntary” in a Part 150 program.

4308 9.3.1.2 Within the voluntary construct, it is essential for the airport to consider the  
 4309 operational method for how noise abatement measures are utilized by  
 4310 pilots, such as VFR or IFR methods. The operational method is a key  
 4311 consideration to develop measures that are flyable with recurring,  
 4312 repeatable use by pilots. Otherwise, the measures may not attain the noise  
 4313 benefits sought by the airport and nearby communities. Voluntary use  
 4314 extends to noise abatement measures assigned in ATC clearances, as the  
 4315 pilot has the option to refuse an ATC clearance that includes a runway or  
 4316 IFP that the aircraft cannot safely use. Instead, the pilot will coordinate  
 4317 with ATC for a different clearance that is flyable under the operative  
 4318 conditions.

4319 9.3.1.3 Relevant operational measures with different implementation and use  
 4320 mechanisms are shown in Table 9-1:

4321 **Table 9-1. Matrix of Implementation and Use Mechanisms by Operational Noise**  
 4322 **Abatement Measures.**

<b>Operational Noise Abatement Measure</b>	<b>Towered Airport</b>	<b>Non-Towered Airport (or when Tower closed)</b>	<b>Publish in Chart Supplement</b>
IFR IFPs on departure or arrival (including CVFPs)	Request published IFP; assigned to pilots by ATC on an IFR clearance.	Request published IFP; assigned to pilots by ATC on an IFR clearance.	Yes

Operational Noise Abatement Measure	Towered Airport	Non-Towered Airport (or when Tower closed)	Publish in Chart Supplement
VFR Flight Tracks on departure or arrival	Detail VFR flight track and use in LOA with ATCT. ATCT assigns use when directing visual traffic.	Pilot notification via Chart Supplement	Yes
Preferential Runway Use	Detail preferred runway use in LOA with ATCT. ATCT assigns use when directing traffic and operative conditions allow.	Identify the preferred noise abatement runway and operative conditions (e.g., nighttime, calm winds) in the Chart Supplement.	Yes
NADPs	Seek ATC input; implementation is via Chart Supplement	Pilot notification via Chart Supplement	Yes

4323

4324 9.3.2 Collaboration with ATC and Aircraft Operators.

4325 9.3.3 The airport is advised to include the ADO in all coordination with the ATO and aircraft  
 4326 operators during NCP development and later implementation steps.

4327 9.3.4 Towered Airport.

4328 9.3.4.1 If new or amended visual flight tracks or IFPs are being evaluated in an  
 4329 NCP, the airport should begin consultation early in the NCP process with  
 4330 the Air Traffic Manager in the ATCT and TRACON, as applicable. The  
 4331 Air Traffic Manager may identify that further collaboration is needed with  
 4332 the Operations Support Group, ATO Flight Procedures, or other units  
 4333 within the ATO Service Center. The use of TARGETS software to  
 4334 facilitate the development of flyable IFPs can also be a point of  
 4335 collaboration between the airport and ATO. Consultation with ATO can  
 4336 determine whether special analyses, simulator evaluation with support  
 4337 from airlines, or even preliminary flight testing is practical to help  
 4338 demonstrate a proposed operational measure’s feasibility.<sup>67</sup> The Air  
 4339 Traffic Manager can indicate whether a measure is feasible, while units in  
 4340 the ATO Service Center can review it for consistency with national policy.

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<sup>67</sup> This can help expedite national level review when a feasible measure is submitted later for implementation.

- 4341 FAA requires a SRM analysis for aircraft flight operational noise  
4342 abatement measures that may affect aviation safety per Order 5200.11,  
4343 *FAA Airports (ARP) Safety Management System (SMS)*.
- 4344 9.3.4.2 In addition to ATC, airline and aircraft operator technical pilots can  
4345 provide specific expertise on flyability, operational use in consideration of  
4346 airline rules, aircraft performance, safety, and related operational factors  
4347 that are essential to developing operational noise abatement measures.  
4348 Active engagement and collaboration with aircraft operators can go a long  
4349 way towards implementing successful operational noise abatement  
4350 measures.
- 4351 9.3.5 Non-towered Airport.
- 4352 9.3.5.1 Consult with the servicing ATC facility (e.g., TRACON or ARTCC) if  
4353 noise abatement IFPs are being evaluated in the NCP. The IFP will need  
4354 to integrate with the IFR route structure serving the airport. In addition,  
4355 collaboration with aircraft operators, using both VFR and IFR methods,  
4356 are essential to developing and implementing viable operational noise  
4357 abatement measures. Aircraft operators can provide specific expertise on  
4358 flyability, operational use, and safety.
- 4359 9.3.5.2 A specific implementation path exists for NADPs. NADPs are not charted  
4360 IFPs and so are not included in the TPP. NADPs are operating techniques  
4361 used by the pilot for thrust, flap, and rate of climb management during  
4362 takeoff. Use of NADPs is published in the FAA's Chart Supplement in the  
4363 noise abatement information section for each airport (when applicable).  
4364 NADP use is also included in airport specific reference sheets used by  
4365 airlines. Aircraft operators will select the preset operating steps for the  
4366 two available NADPs per standard airline or NBAA operating techniques.  
4367 Although not a published IFP, ATC input into NADP use is still essential  
4368 since the two NADPs can result in variable airspeeds that need to be  
4369 considered with airspace flow and separation management.
- 4370 9.3.6 National Environmental Policy Act Review.
- 4371 9.3.6.1 Before FAA-approved NCP operational noise abatement measures can be  
4372 implemented, even if they have been deemed operationally feasible and  
4373 would realize noise-reduction benefits, airport sponsors must submit data  
4374 sufficient for the FAA to environmentally evaluate the proposed measures  
4375 under NEPA.
- 4376 9.3.6.2 FAA Order 1050.1, states that new instrument approach procedures,  
4377 departure procedures, en route procedures, modifications to currently  
4378 approved instrument procedures, or new or revised air traffic management  
4379 (ATC) practices, which routinely route air traffic over noise-sensitive  
4380 areas at less than 3,000 feet above ground level, normally require an EA.



- 4381 This includes procedures that alter flight tracks or specific altitudes.  
4382 Accordingly, Preferential Runway Use and Aircraft Flight Operational  
4383 Noise Abatement Measures, as described in Sections 7.8 and 7.9, normally  
4384 require an environmental analysis before they can take effect when  
4385 proposed at a towered airport or when using a charted IFP.
- 4386 9.3.6.3 Order 1050.1 also states that new procedures that route aircraft over non-  
4387 noise sensitive areas can be categorically excluded from environmental  
4388 assessment. Also excluded are procedural actions users request on a test  
4389 basis for less than six months to determine effectiveness of new  
4390 technology and measure possible impacts on the environment. Visual  
4391 flight tracks at non-towered airports do not normally require NEPA  
4392 review.
- 4393 9.3.6.4 An operational noise abatement measure may reduce noise in one noise-  
4394 sensitive area around the airport but increase noise (possibly to a lesser  
4395 degree) to another. When an EA is required, the FAA reviews the airport  
4396 sponsor-prepared EA. During the EA process, the airport sponsor conducts  
4397 an initial noise analysis, typically using the data from the NCP. The EA  
4398 determines the changes in noise around the airport due to the sponsor's  
4399 proposed aircraft flight operational noise abatement measure. Based on the  
4400 EA's results, the sponsor may need to add noise mitigation to areas that  
4401 are newly impacted if the NCP does not already address this. Examples of  
4402 new noise impacts are creating a significant increase in noise over  
4403 environmental justice populations (low-income or minority populations)  
4404 or adding people to the DNL 70 dB contour.
- 4405 9.3.6.5 The FAA's noise threshold above which impacts are considered  
4406 significant is a DNL 1.5 dB increase in noise over any noise-sensitive area  
4407 within the DNL 65 dB contour. If the significance threshold is not  
4408 exceeded, and no extraordinary circumstances exist (as defined by Order  
4409 1050.1, Paragraph 5-2), the FAA may conclude that the proposed  
4410 operational noise abatement measure will not significantly affect the  
4411 human environment and issue a FONSI. Implementation of the proposed  
4412 operational flight measure may be implemented following the FONSI.
- 4413 9.3.6.6 If the significance threshold is exceeded, FAA is required to report in their  
4414 NEPA review of the airport EA the noise increases from the operational  
4415 measure, which would include a DNL 1.5 dB increase in noise over any  
4416 noise-sensitive area within the DNL 65 dB contour as well as any increase  
4417 of 3 dB between DNL 60 and 65 dB contour, and any increase of 5 dB  
4418 between DNL 45 and 60 dB contour.<sup>68</sup> When the impact is considered

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<sup>68</sup> See FAA Order 7400.2, Procedures for Handling Airspace Matters, Chapter 32.

4419 significant, the FAA may issue a mitigated FONSI or require an EIS for  
4420 the proposed operational noise abatement measure.

4421 9.3.7 Publication in FAA’s Chart Supplement and Terminal Procedures Publication.

4422 9.3.7.1 The primary reference for pilots use of airport noise abatement  
4423 information is the FAA’s Chart Supplement. All airports with noise  
4424 abatement programs use the noise section in the airport’s individual listing  
4425 to convey relevant operational noise abatement instructions for pilot use.  
4426 When there are complex noise abatement instructions, the “front matter”  
4427 can be supplemented with a graphic in the Special Notices section of the  
4428 Chart Supplement. Consultant available APP-400 documentation on best  
4429 practices for describing noise abatement information in the Chart  
4430 Supplement. If Charted IFPs are used for noise abatement purposes, the  
4431 specific IFPs are referenced in the Chart Supplement, instead of describing  
4432 specific steps about how the procedure is flown.

4433 9.3.7.2 If the NCP measure is approved, the language for the Chart Supplement is  
4434 submitted to the ADO to ensure it meet FAA requirements, in  
4435 collaboration with ATO.

4436 9.3.7.3 When charted Instrument Flight Procedures (IFPs) are proposed for use by  
4437 aircraft on IFR clearances, whether a CVFP or an instrument arrival or  
4438 departure procedures, the airport will need to submit the requested  
4439 procedure into the FAA’s [IFP Gateway](#). This initiates the FAA Order  
4440 8260.43, *Flight Procedures Management Program*, process for publishing  
4441 new procedures in the Terminal Procedures Publication (TPP). IFPs  
4442 authorized by an approved NCP are assigned a specific priority for  
4443 publication. The typical timeframe for development of a new or amended  
4444 IFP can be up to 3 years. IFPs will be developed using standard RNAV  
4445 (GPS) or RNAV (RNP) criteria as described in FAA Order 8260.3,  
4446 *TERPS*. Charted Visual Flight Procedures are developed using the criteria  
4447 and guidance in FAA Order 8260.61, *Charted Visual Flight Procedures*.  
4448 Noise abatement IFPs that seek development of SIDs, STARs, or RNP  
4449 (AR) procedures use the process identified and FAA Order 7100.41, *PBN*  
4450 *Implementation Process*.

4451 9.3.8 Airport Agreements with Aircraft Operators and ATC.

4452 9.3.8.1 At both towered and nontowered airports, an airport sponsor may need to  
4453 include new or changed noise abatement information in the airport’s rules  
4454 and regulations or minimum standards documents. The rules and  
4455 regulations and minimum standards are often referenced in lease  
4456 agreements, which notify and obligate airport tenants to comply. Sponsors  
4457 should also notify local pilots of new or changed noise abatement  
4458 information that may be relevant to them. Notification options include  
4459 handouts, bulletins, newsletters, signs in the FBO, etc. FAA will not

- 4460 support/approve permanent Notices to Airmen about noise abatement, as  
4461 the Chart Supplement is the primary source for pilots to obtain such  
4462 information.
- 4463 9.3.8.2 At airports with an FAA ATCT, the airport should coordinate a detailed  
4464 Letter of Agreement (LOA) that identifies and describes the relevant  
4465 parameters for use of approved aircraft flight operational noise abatement  
4466 measures. This preferential runway use measures, NADPs, and visual  
4467 flight tracks, and IFPs. The LOA process services to facilitate adoption of  
4468 aircraft flight operational noise abatement measures into the ATCT and  
4469 TRACONs Standard Operating Procedures (SOP). This is a key step to  
4470 enabling regular and safe use of the intended noise abatement measures.  
4471 At nontowered airports, the airport should consider an LOA with the  
4472 servicing ATC facility (e.g., TRACON or ARTCC) if there are IFPs with  
4473 noise abatement purposes that are to be used by IFR aircraft.
- 4474 9.4 **Implementing Preventive Land Use Measures.**
- 4475 9.4.1 Preventive land use management measures seek to reduce the possibility of adding new  
4476 noise-sensitive land uses within existing and future airport noise contours. These  
4477 measures must be implemented by the entities that have jurisdiction with land use  
4478 control authority. Airport sponsors may not have legal authority to implement land use  
4479 controls. When there is such legal authority, the grant assurances require airport  
4480 sponsors to manage land within its jurisdiction consistent with Grant Assurance 21,  
4481 *Compatible Land Use* for noise projects.
- 4482 9.4.2 Airports are frequently surrounded by multiple local government entities, each with the  
4483 authority to adopt and enforce its own local land regulatory measures. Identifying all  
4484 impacted jurisdictions and diligently working toward their full participation and buy-in  
4485 during the study process is critical to successfully implementing land use compatibility  
4486 measures.
- 4487 9.5 **Implementing Remedial Land Use Measures.**
- 4488 When implementing remedial land use measures such as land acquisition or sound  
4489 insulation, airport sponsors should anticipate potential environmental impacts. For  
4490 example, a structure proposed for sound insulation may be a historic structure needing  
4491 special treatment. Airport layout changes or installation of navigational aids that are  
4492 approved for noise abatement may disturb areas with archeological significance. Refer  
4493 to FAA Orders 1050.1 and 5050.4 for additional guidance on complying with NEPA  
4494 and special purpose laws when implementing remedial land use measures.
- 4495 9.5.1 Developing a Policies and Procedures Manual.
- 4496 9.5.1.1 Airport sponsors should consider developing step-by-step procedures for  
4497 implementing the approved remedial land use mitigation measures. A

- 4498 *Policies and Procedures Manual* or other implementation tracking  
4499 program can document these procedures.
- 4500 9.5.1.2 The manual should include the following items:
- 4501 • A policy statement for prioritizing program participation and for  
4502 addressing hardship cases.
  - 4503 • Parcels identified for purchase, sound insulation, or easement.
- 4504 9.5.1.3 FAA Order 5100.38 allows an airport to ensure equity among homes in  
4505 the neighborhood affected by the acquisition program. To this end, the  
4506 property acquisition limits may be expanded beyond the DNL 65 dB  
4507 contour line to a logical neighborhood boundary such as the end of a block  
4508 of homes that may be divided by the contour line, a highway fronting the  
4509 neighborhood, or other natural feature defining the immediate pre-project  
4510 neighborhood limits. Where necessary and feasible, therefore, the  
4511 acquisition program may include a reasonable number of such homes  
4512 located outside the eligible contour line, but identified as part of the  
4513 neighborhood being acquired. The FAA Airports Regional Division or  
4514 ADO (through the airport's ARP POC) must agree with the proposed  
4515 boundaries.
- 4516 9.5.1.4 Each alternative mitigation measure should be described so it is easy to  
4517 follow and provides a path for timely implementation. Property owners  
4518 may be offered a single program option, such as land acquisition and  
4519 relocation assistance where land use is being changed to compatible use.  
4520 Property owners may be offered their choice of several program options  
4521 that do not change land use—purchase assurance, aviation easement,  
4522 sound insulation, or a combination of options.
- 4523 9.5.1.5 Land acquisition to change land use (such as from residential to  
4524 compatible commercial/industrial) may not be combined with options that  
4525 would not bring about the desired land use change. For example, sound  
4526 insulation would not be offered with land acquisition and relocation  
4527 assistance. The success changing the land use as part of an acquisition  
4528 depends on owners being willing to sell their property and the airport  
4529 sponsor's ability to assemble the acquired land for compatible  
4530 redevelopment or compatible reuse.
- 4531 9.5.1.6 The Policies and Procedures Manual for program implementation should  
4532 identify the options that are available for each alternative. For example,  
4533 can displaced persons remain in the dwelling rent free for a short time  
4534 after the airport takes title of the property but before relocation to a  
4535 comparable replacement dwelling? Will smaller bid packages within the

- 4536 sound insulation program allow local construction companies a chance to  
4537 work as general contractors instead of sub-contractors?
- 4538 9.5.1.7 The manual could also include forms and documents that will be needed in  
4539 the actual implementation phase of the program, such as purchase  
4540 agreements and avigation easements.
- 4541 9.5.1.8 FAA approval of the manual is not required, but it is recommended to  
4542 have the ARP POC review it before it is finalized.
- 4543 9.5.2 Acquiring Avigation Easements.
- 4544 9.5.2.1 If the NCP includes an FAA-approved measure for acquiring avigation  
4545 easements, the proposed easement acquisition procedures must conform to  
4546 49 CFR Part 24. To help in this, FAA AC 150/5100-17 provides specific  
4547 guidance on appraising, negotiating, and purchasing easements for NCPs.  
4548 Where allowable and cost effective, the FAA AC describes a minimum  
4549 offer and valuation study method to apply upon showing that the fair  
4550 market value of easements to be acquired is a nominal amount.
- 4551 9.5.2.2 The easement valuation must comply with all FAA guidelines as described  
4552 in AC 150/5100-17. It must estimate fair market value compensation for  
4553 buying permanent avigation easements for the airport NCP. The valuation  
4554 will appraise the effect of the easement on the market value of the  
4555 participating properties. The appraisal also considers existing and  
4556 proposed overlay zoning and subdivision or building code restrictions on  
4557 the property.
- 4558 9.5.2.3 AC 150/5100-17 provides specific guidance for appraising and negotiating  
4559 the purchase of avigation easements in conformance to FAA requirements.  
4560 (See paragraph 2-17, Appraisal of Avigation Easements Acquired for  
4561 Noise Compatibility, and paragraph 3-9, Minimum Payment  
4562 Negotiations.) Airport sponsors may submit the easement appraisal reports  
4563 and proposed negotiation procedure to the ARP POC for review and  
4564 acceptance. Upon FAA acceptance, sponsors can include these documents  
4565 in the program implementation manual.
- 4566 9.5.3 Preparing a Sound Insulation Program Agreement.  
4567 If the NCP includes an FAA-approved measure for sound insulation of privately owned  
4568 property, Grant Assurance 5, *Preserving Rights and Powers*, requires the airport  
4569 sponsor to enter into an agreement with private property owners. The grant agreement  
4570 contains provisions that protect the federal investment and the interests of the FAA and  
4571 airport sponsors and so must be included in the agreement with the private property  
4572 owner. FAA Order 5100.38 includes wording for this agreement. These grant conditions  
4573 are on the FAA website [on the grant assurances page](#).

- 4574 9.5.4 Preparing a Relocation Plan.  
4575 If the NCP includes an FAA-approved measure for providing relocation assistance,  
4576 sponsors must prepare a Relocation Plan. AC 150/5100-17, Chapter 4, describes the  
4577 requirements for relocation planning. Relocation planning must address issues  
4578 associated with displacing individuals, families, businesses, farms, and nonprofit  
4579 organizations.
- 4580 9.5.5 Airport Sponsor Compliance Review and Quality Control.
- 4581 9.5.5.1 To help assure maximum federal reimbursement of eligible costs, airport  
4582 sponsors are encouraged to put in place a compliance review and quality  
4583 control function. Guidance for this is in AC 150/5100-17 and the forms in  
4584 Appendix 3 of that AC.
- 4585 9.5.5.2 The Airport Sponsor must also maintain adequate records, including those  
4586 pertaining to real estate, appraisals, acquisition, relocation, and property  
4587 management, and other documentation necessary to show compliance with  
4588 49 CFR Part 24. This documentation needs to be readily available during  
4589 regular business hours for inspection by representatives of the FAA,  
4590 Office of the Secretary of Transportation, and Government Accountability  
4591 Office. Airport sponsors must keep records for at least three years after  
4592 FAA grant closeout.
- 4593 9.5.5.3 Chapter 9 of AC 150/5100-17 provides guidance to airport sponsors on  
4594 required documentation to support grant assurances and certifications to  
4595 the FAA. Appendix 1 of FAA Order 5100.37, *Land Acquisition and*  
4596 *Relocation Assistance for Airport Projects*, provides a documentation  
4597 checklist for sponsors' parcel or project files. For larger and more complex  
4598 land projects, cost-effective computer or web-based document  
4599 management and quality control systems are recommended.
- 4600 9.5.6 Maintaining a Noise Land Inventory.
- 4601 9.5.6.1 Land acquired under airport NCPs is often referred to as "noise land."  
4602 Noise land acquired with AIP grant funds is subject to Grant Assurance  
4603 31, *Written Assurances on Acquiring Land*, which is based on the statute  
4604 found at 49 U.S.C. Section 47107 (c)(2)(A).
- 4605 9.5.6.2 Airport sponsors must keep an up-to-date Noise Land Inventory that  
4606 records all of the noise land parcels that were acquired with AIP grant  
4607 funds. The inventory must fully account for all grant-acquired noise land.  
4608 The inventory can also help the airport sponsor dispose of land when it is

4609 no longer needed for noise compatibility (unneeded noise land). This AIP  
4610 guidance is on the [Airport Improvement Program page](#).

4611 9.5.7 Disposal of Unneeded Land.

4612 When noise land is no longer needed for noise compatibility, the airport sponsor may  
4613 “dispose of” the land. “Disposal” of noise land does not mean that airport sponsors must  
4614 sell the property to another party. The airport can decide whether to sell unneeded noise  
4615 land at fair market value, keep and lease it, or exchange it. Whatever the decision,  
4616 sponsors must return the federal share of the disposal proceeds to the Airport and  
4617 Airway Trust Fund or use it for another approved noise compatibility project or eligible  
4618 AIP project at the airport.

4619 9.6 **Implementing Program Management Measures.**

4620 Program management measures may include keeping active your public involvement  
4621 programs that were established during the Part 150 Study, such as meeting with  
4622 advisory committees, publishing newsletters, or updating websites. Program  
4623 management measures might include tracking the NCP’s overall progress and changes  
4624 in aircraft operations to determine when a Part 150 map or program update might be  
4625 needed.

4626 9.6.1 Maintaining Public Involvement Programs.

4627 Many airport sponsors keep public involvement programs active after submitting the  
4628 NCP to the FAA. Keeping communication active between the airport and concerned  
4629 citizens’ groups is a means to provide the status and progress of the approved NCP.  
4630 These programs may distribute monthly or quarterly status reports or newsletters and  
4631 maintain a website for the public to access noise contour information and status and  
4632 progress reports. Public information programs can be a conduit for meaningful  
4633 communication with the public and a forum for discussing complaints. While most of  
4634 these programs are not eligible for federal funding, first-time development of a website  
4635 for this purpose may be eligible. The ARP POC can provide guidance on the program  
4636 management measures eligible for federal funding.

4637 9.6.2 Acquisition of Noise and Operations Monitoring and Flight Tracking Systems.

4638 For sponsors that decide to purchase a noise and operations monitoring or a flight  
4639 tracking system, the federal procurement regulations for this purchase are described in  
4640 49 CFR Part 18.36. Airport sponsors should develop a bid specification that describes in  
4641 detail the required system capabilities, equipment, and installation and maintenance  
4642 requirements.

4643 9.7 **Implementing Other Noise Abatement/Mitigation Measures Approved in an NCP.**

4644 9.7.1 Lights or other visual devices to help pilots fly specific noise abatement visual flight  
4645 rules (VFR) flight tracks or traffic patterns are eligible for consideration of federal  
4646 funding when they are an approved measure in an NCP. Construction of runways and  
4647 taxiways, including land acquisition, lighting, and marking, is eligible for funding as a

- 4648 noise compatibility project if the measure is approved in the NCP. The NCP must  
4649 clearly demonstrate that the primary purpose of the construction project is noise relief  
4650 and not a planned capacity enhancement project.
- 4651 9.7.2 When implementing these types of noise abatement measures, airport sponsors should  
4652 anticipate potential impacts on environmental resources. Refer to FAA Orders 1050.1  
4653 and 5050.4 for additional guidance on complying with NEPA when implementing NCP  
4654 measures.
- 4655 9.7.3 Sponsors can consider undertaking follow-on studies for determining other noise  
4656 abatement measures which might be approved in an NCP:
- 4657 • Analysis to determine the most effective design for a ground run-up enclosure or  
4658 noise barrier.
  - 4659 • Study to evaluate airport noise and access restrictions, as long as the study is  
4660 included in a Part 150 Study update with accompanying recommendations.
  - 4661 • Analysis of the feasibility and eligibility of providing acoustical treatment to a  
4662 particular facility or type of structure.
- 4663 9.7.4 The costs of a follow-on study approved in the NCP normally could be eligible for  
4664 federal funding. Airport sponsors should select a vendor (whether a consultant,  
4665 contractor, or equipment manufacturer) through a competitive sealed bid process.  
4666 Allowable costs for follow-on studies include system design, noise monitoring  
4667 equipment, dedicated data processing equipment and software, equipment installation,  
4668 site preparation, and one-time costs for installation of electrical power and data  
4669 transmission lines. If the installation involves ground disturbance, the study needs to  
4670 determine if NEPA applies.
- 4671



## 1 APPENDIX A. AIRCRAFT NOISE

### 2 A.1 Aircraft Noise Background.

3 A.1.1 Noise is unwanted sound. Sound becomes noise when it interferes with normal  
4 activities. Sound is a physical phenomenon consisting of tiny pressure oscillations  
5 forming waves traveling through a medium, such as air, and is sensed by the human ear.  
6 Aircraft noise results from the operation of aircraft, such as engine run-ups, taxiing,  
7 departures, arrivals, and aircraft overflights.

8 A.1.2 Aircraft noise originates from the engines as well as the airframe or structure of aircraft.  
9 The engines are generally the most significant source of noise.<sup>69</sup> Although noise  
10 generated by propeller-driven aircraft can be annoying, jet aircraft are commonly the  
11 source of disturbing noise at airports.

12 A.1.3 The two basic types of jet aircraft (operating as of the publication date of this AC) are  
13 equipped with turbofan or turbojet engines. Aircraft flying faster than the speed of  
14 sound generate an intense pressure wave called a sonic boom, in addition to the  
15 propulsion and airframe noise. Currently, non-military aircraft are prohibited from  
16 producing sonic booms over land in the United States.

17 A.1.4 Today's commercial airplanes powered by high bypass jet engines have noise sources  
18 located inside the engine and external to the airplane:

- 19 • The jet exhaust mixing with the atmosphere produces noise behind the engine  
20 exhaust.
- 21 • The fan and forward stages of the low-pressure compressor generate noise which  
22 radiates forward through the engine air intake.
- 23 • Fan noise also radiates downstream through the bypass duct.
- 24 • Turbine and combustor noise radiate from the engine's core nozzle.
- 25 • As air passes over the fuselage, wings, control surfaces, and landing gear, it creates  
26 turbulence which in turn generates what is called airframe noise.

27 A.1.5 During flyover, this highly directional noise produced by jet airplanes is characterized  
28 by an increase in sound energy as the airplane approaches up to a maximum level. This  
29 sound level begins to decrease as the airplane passes overhead, decreasing further in a  
30 series of lesser peaks as the airplane departs the area.

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<sup>69</sup> FAA regulation has required engine retrofit to meet Stage 3 airplane engine standards since September 1991. All airplanes weighing greater than 75,000 pounds were required to be retrofitted or phased out by January 1, 2000 (Federal Register 56, September 25, 1991). The FAA Modernization and Reform Act of 2012 extended this requirement to require all jet aircraft above and below 75,000 pounds to meet Stage 3 or Stage 4 noise levels, effective December 31, 2015.

31 A.1.6 Noise made by a helicopter is very complex and consists of multiple forms of noise  
32 associated with the main and tail rotors. The repetitive rotary motion of the air displaced  
33 by the blade surfaces (thickness noise) and the variation in loading on the blade surfaces  
34 (loading noise) generate what's called periodic tonal noise. Noise also results from the  
35 interactions of rotor blades with the forces generated by the tips of the rotor blades. This  
36 noise generates very directional noise pulses below the rotor plane.

37 A.1.7 The main noise source in a propeller-driven airplane is the propeller with possible  
38 contribution from the engine exhaust. Propeller blades generate thickness and loading  
39 noise as the previous paragraph described.

## 40 A.2 **Noise Metrics.**

41 Multiple noise metrics are used to assess potential airport noise impacts. Different noise  
42 metrics can be used to describe individual noise *events*, such as a single operation of an  
43 aircraft taking off, or groups of events, such as the cumulative effect of numerous  
44 aircraft operations, which creates a general noise environment or overall exposure level.  
45 Both types of descriptors are helpful in explaining how people tend to respond to a  
46 given noise condition. Descriptions of these metrics follow.

### 47 A.2.1 Decibel, dB.

48 A.2.1.1 Because of the vast range of sound pressure or intensity detectable by the  
49 human ear, sound pressure level (SPL) is represented by the metric known  
50 as a decibel (dB). A dB is a ratio of one sound value to another on a  
51 logarithmic scale. It is ten times the logarithm of the ratio of the sound  
52 pressure from a source relative to a reference pressure that equal to the  
53 threshold of human hearing. Therefore, a SPL of 0 dB is approximately  
54 the threshold of human hearing and is barely audible under extremely  
55 quiet (laboratory-type) listening conditions. At 120 dB, the ear begins to  
56 feel a discomfort, and pain begins at approximately 140 dB. Most  
57 environmental sounds have SPLs ranging from 30 to 100 dB.

58 A.2.1.2 Because decibels are logarithmic (non-linear), they cannot be added or  
59 subtracted directly like other (linear) numbers. For example, if two sound  
60 sources each produce 100 dB, when they are operated together they will  
61 produce 103 dB, not 200 dB. Four 100 dB sources operating together  
62 again double the sound energy, resulting in a total SPL of 106 dB, and so  
63 on. In addition, if one source is much louder than another, the two sources  
64 operating together will produce practically the same SPL as if the louder  
65 source were operating alone. For example, a 100 dB source plus an 80 dB  
66 source produce 100 dB when operating together. The louder source masks  
67 the quieter one.

68 A.2.1.3 Two useful rules to remember when comparing SPLs are: (1) most people  
69 perceive a 10 dB increase in SPL between two noise events to be a

70 doubling of loudness, and (2) changes in SPL of less than 3 dB between  
71 two events are not easily detected in everyday environments.

72 A.2.2 A-Weighted Decibel, dBA.

73 A.2.2.1 A-weighting is a “filtering” of sound that approximates the auditory  
74 sensitivity of the human ear. Frequency, or pitch, is a basic physical  
75 characteristic of sound and is expressed in units of cycles per second, or  
76 hertz (Hz). The normal frequency range of hearing for most people is from  
77 about 20 to 15,000 Hz. Because the human ear is more sensitive to middle  
78 and high frequencies (1000 to 4000 Hz), a frequency weighting called “A”  
79 weighting is applied to the measurement of sound. Frequencies below and  
80 above the range of frequencies to which the human ear is most sensitive  
81 contribute less to the overall perception of sound, which is reflected in the  
82 sound pressure range quantified in an A-weighted decibel. The  
83 international “A” standard approximates the sensitivity of the human ear  
84 and helps in assessing the perceived loudness of various sounds.

85 A.2.2.2 Figure A-1 charts common indoor and outdoor sound levels. A quiet rural  
86 area at night may be 30 dBA or lower, a quiet urban area at night may be  
87 40 dBA, whereas the operator of a typical gas lawn mower may  
88 experience a level of 90 dBA or higher. Similarly, the level in a library  
89 may be 30 dBA or lower; rock concerts may reach levels near 110 dBA.

90 A.2.3 Maximum A-Weighted Noise Level, L<sub>max</sub>.

91 Sound levels vary with time. For example, sound increases as an aircraft approaches,  
92 then decreases and blends into the ambient, or background, as the aircraft recedes into  
93 the distance. Because of this variation, it is often convenient to describe a particular  
94 noise event (e.g., a single aircraft flyover) by its highest or maximum sound level  
95 (L<sub>max</sub>). Figure A-1 shows common sound levels for comparison. The L<sub>max</sub> metric  
96 describes only one dimension of an event; it provides no information on the cumulative  
97 noise exposure generated by a sound source. In fact, two events with identical L<sub>max</sub>  
98 levels may produce very different total noise exposures. One may be of very short  
99 duration, while the other may last much longer. L<sub>max</sub> is useful for identifying detectable  
100 noise changes. A 3 dB increase in L<sub>max</sub> is “barely perceptible,” while a 5 dB increase in  
101 L<sub>max</sub> is “clearly perceptible.”

102 A.2.4 Sound Exposure Level, SEL.

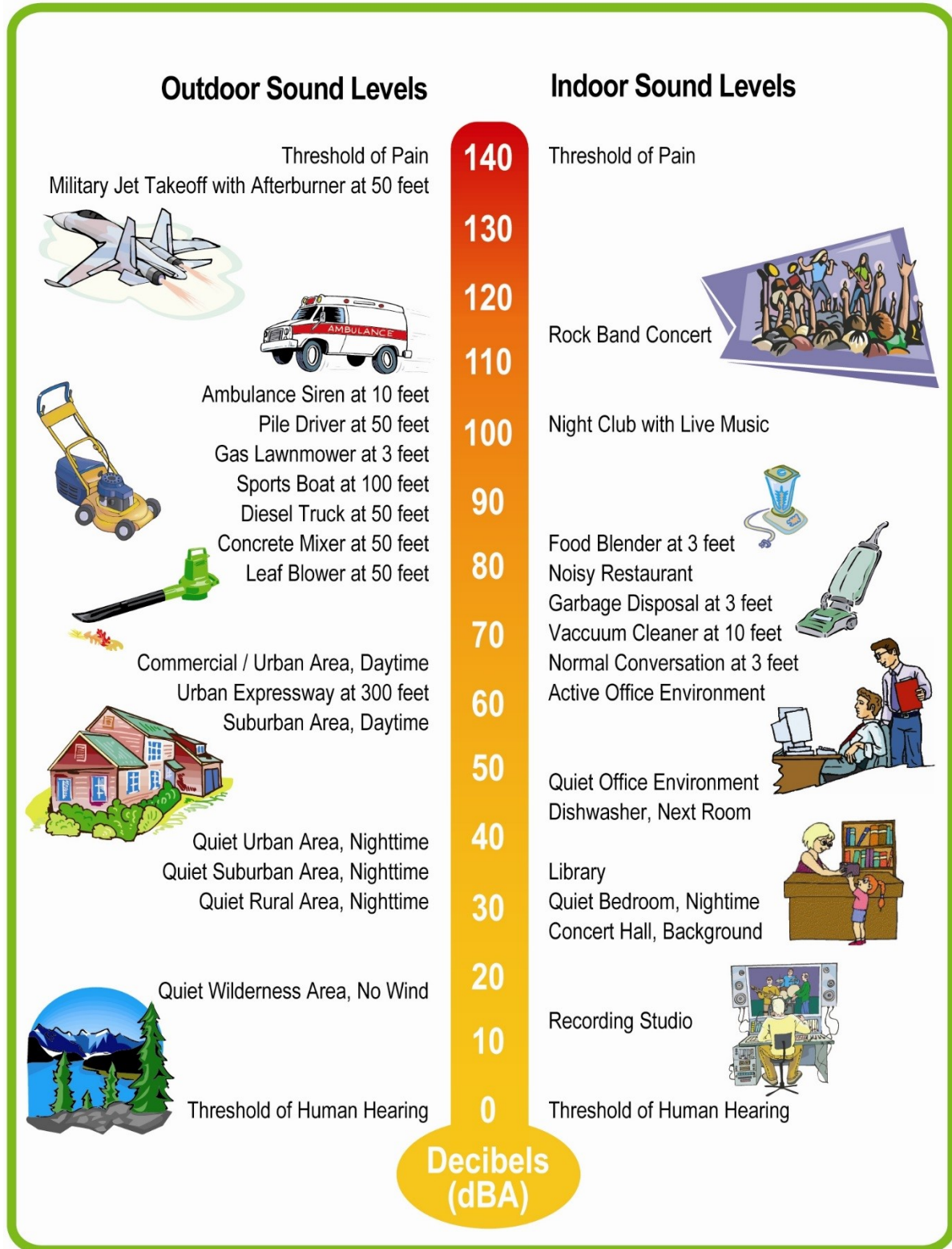
103 A.2.4.1 The most common measure of noise exposure for a single aircraft flyover  
104 event is the sound exposure level (SEL). SEL is a summation of the A-  
105 weighted sound energy at a particular location over the true duration of a  
106 noise event, normalized (or compressed) to a fictional duration of one  
107 second. The true noise event duration is defined as the amount of time the  
108 noise event exceeds a specified level (that is at least 10 dBA below the  
109 maximum value measured during the noise event). For noise events lasting  
110 more than one second, SEL does not directly represent the sound level

111 heard at any given time, but rather provides a measure of the gross impact  
112 of the entire acoustic event.

113 A.2.4.2 Using the one-second measure enables the comparison of noise events of  
114 different duration and maximum levels. Because the SEL is normalized to  
115 one second, it will almost always be larger in magnitude than the  $L_{max}$  for  
116 the same event. For most aircraft events, the SEL is about 7 to 12 dBA  
117 higher than the  $L_{max}$ . Additionally, since it is a cumulative measure, a  
118 higher SEL can result from louder or longer events.

119 A.2.4.3 SEL is used for comparing the noise energy emitted by different sources.  
120 In noise analysis documentation, SEL can be used to compare the noise  
121 energy emitted by different aircraft types. Figure A-2 is a graphic  
122 comparison of the SEL 80, 85, and 90 dBA noise contour areas for one  
123 takeoff and landing for a few select airplane types.  
124

**Figure A-1. Common Outdoor and Indoor Sound Levels**



- 128           A.2.4.4       Computer noise models, such as the AEDT, base their computations on  
129                               SEL.
- 130           A.2.4.5       Figure A-3 shows an event’s “time history,” or the variation of sound level  
131                               with time. For typical sound events experienced by a stationary listener,  
132                               such as an aircraft flyover, the sound level increases as the source (or  
133                               aircraft) approaches the listener, peaks, and then diminishes as the aircraft  
134                               flies away from the listener. In Figure A-3, the area under the time history  
135                               curve represents the overall sound energy of the noise event. The  $L_{max}$  for  
136                               the event shown in Figure A-3 was 93.5 dBA. Compressing the event’s  
137                               total sound energy into one second computes its SEL which is 102.7 dBA.
- 138    A.2.5    Equivalent Sound Level,  $L_{eq}$ .
- 139           A.2.5.1       Equivalent sound level (abbreviated  $L_{eq}$ ) is a measure of the noise  
140                               exposure resulting from the accumulation of A-weighted sound levels over  
141                               a specified period (an hour, an 8-hour school day, nighttime, or a full 24-  
142                               hour day).
- 143           A.2.5.2       Because the length of the  $L_{eq}$  period can differ depending on the time  
144                               frame measured, the applicable period should always be identified or  
145                               clearly understood when discussing this metric. Such durations are often  
146                               identified through a subscript. For example, for an 8-hour day  $L_{eq(8)}$  is  
147                               used; for 24-hours,  $L_{eq(24)}$ .
- 148           A.2.5.3       According to the equal energy principle, the effect of a combination of  
149                               noise events is related to their combined sound energy. Thus,  $L_{eq}$  sums up  
150                               the total energy over the time period of interest and gives a level  
151                               equivalent to the average sound energy over that period. Such average  
152                               levels are usually based on integrating A-weighted levels. Thus  $L_{eq}$  is the  
153                               average energy equivalent level of the A-weighted sound over a specified  
154                               time period.
- 155           A.2.5.4       For typical aircraft flight events, and as noted earlier for SEL,  $L_{eq}$  does not  
156                               represent the sound level heard by the listener when the event occurs, but  
157                               rather represents the total sound exposure for the  $L_{eq}$  timeframe of interest.  
158                               Also, the “average” sound level suggested by  $L_{eq}$  is not an arithmetic or  
159                               linear value, but a logarithmic, or “energy-averaged,” sound level. Loud  
160                               events that tend to dominate the noise environment, therefore, are best  
161                               described by the  $L_{eq}$  metric.

162 A.2.6 Day-Night Average Sound Level, DNL70 and Community Noise Equivalent Level,  
163 CNEL.

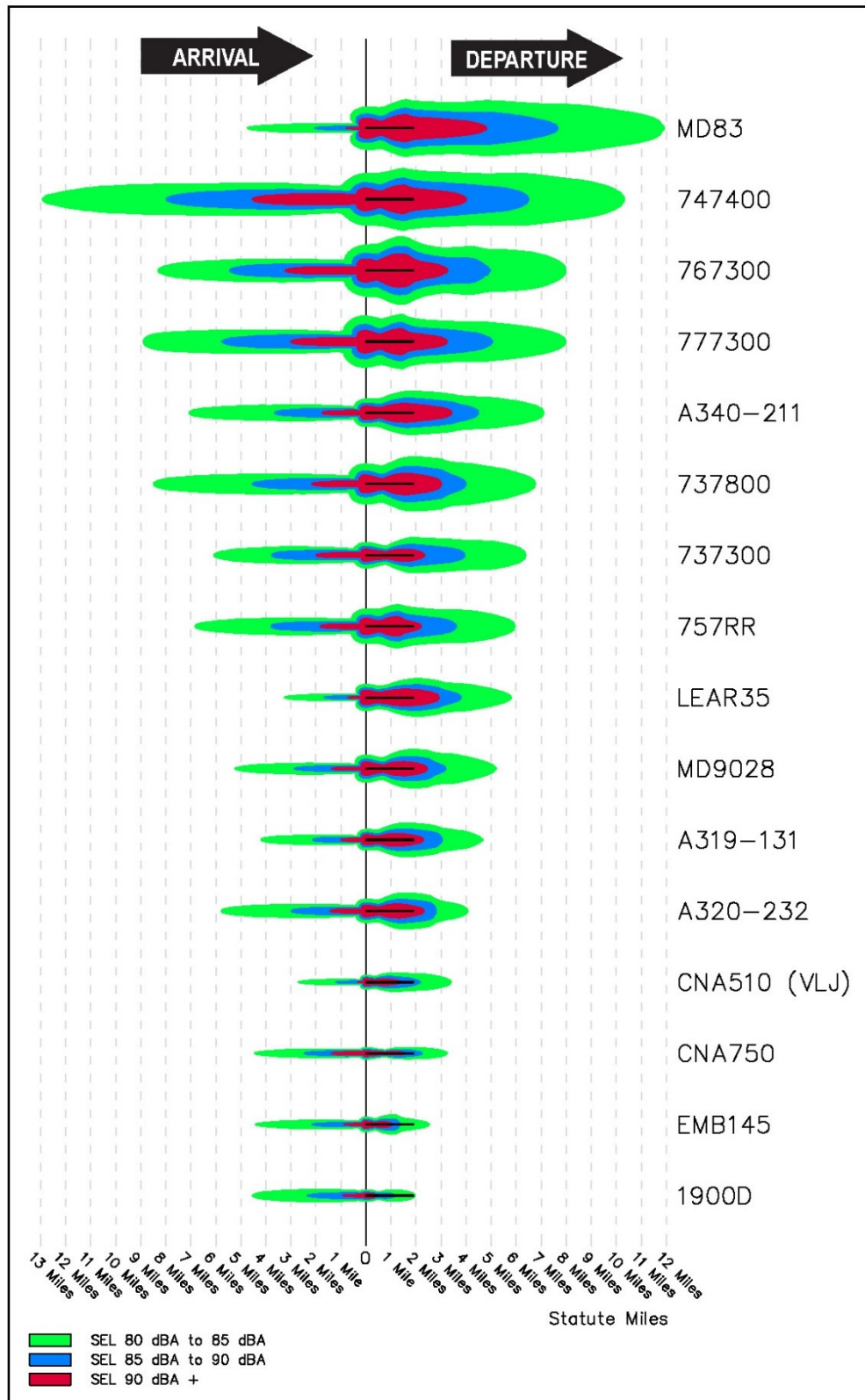
164 A.2.6.1 The FAA has adopted, in title 14 CFR Part 150, a single system for  
165 measuring noise at airports and surrounding areas that generally provides a  
166 highly reliable relationship between projected noise exposure and  
167 surveyed reaction of people to noise. It also covers determining exposure  
168 of individuals to noise resulting from the operations of an airport at night.

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<sup>70</sup> Ldn is the mathematical symbol for DNL as noted in Section A150.203 of the Part 150 regulation.

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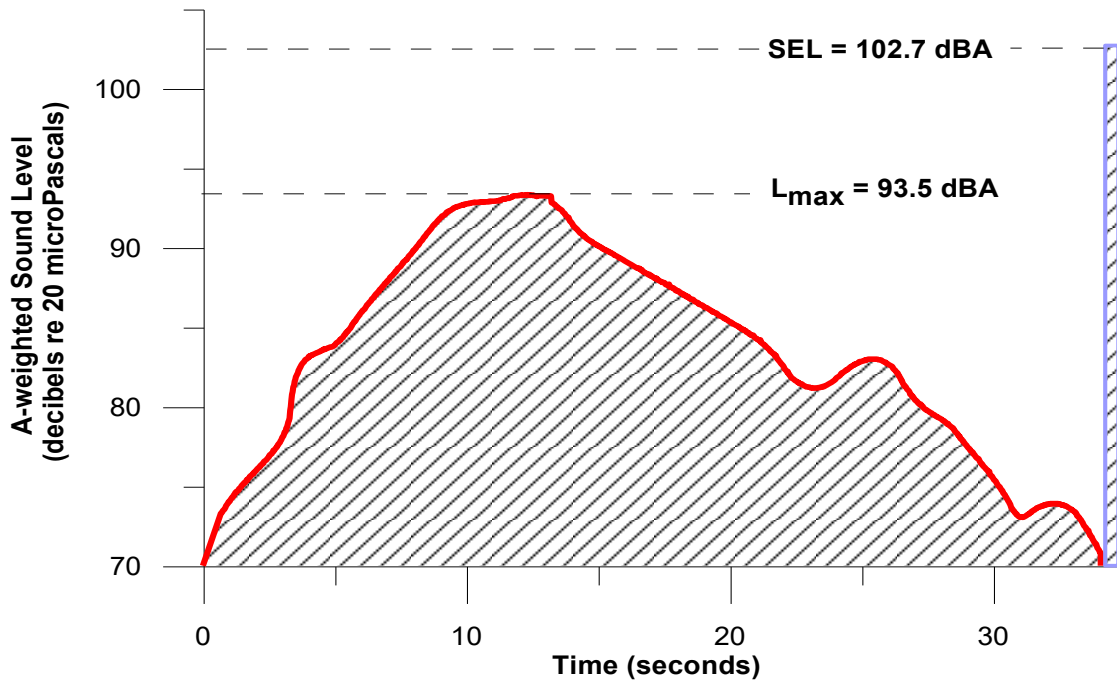
Figure A-2. SEL Noise Footprints





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**Figure A-3. Comparison of Maximum Sound Level (Lmax) and Sound Exposure Level (SEL)**



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A.2.6.2 This metric is the DNL or the CNEL for California airports. Both noise metrics logarithmically average aircraft sound levels generated at the airport over an annualized average 24-hour period. Each aircraft operation between 10:00 p.m. and 6:59 a.m. is treated as if it were ten operations. Similarly, CNEL (but not DNL) includes an additional penalty weighting for operations taking place between 7:00 p.m. and 9:59 p.m. in the evening. Each aircraft operation during these hours is counted as if it were three operations. Logarithmically, these multipliers are the equivalent of adding 10 dB to the noise level of each nighttime operation and 4.77 dB to the noise level of each evening operation.

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A.2.6.3 These weightings are added to account for the increased sensitivity to noise during evening and night time hours. Ambient (without aircraft) sound levels during evening and nighttime are typically lower than during the day. The decibel "penalty" represents the added intrusiveness of sounds occurring during the evening and at night.

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A.2.6.4 Like  $L_{eq}$ , DNL and CNEL are time-averaged sound levels, and therefore are measurements of sound averaged over a specified length of time. DNL and CNEL quantify the average sound energy during a 24-hour period. The DNL and CNEL metrics account for the noise levels of all individual aircraft events, the number of times they occur, and when they occur (day/evening/night). Values of DNL and CNEL can be measured with standard monitoring equipment, but for developing Part 150 Noise Exposure Maps (NEMs), they are predicted with an FAA-approved

- 196 computer model. The current FAA-approved model is the AEDT. The  
197 AEDT model, as well as guidance and other information, is available for a  
198 nominal fee at: [https://aedt.faa.gov/2c\\_information.aspx](https://aedt.faa.gov/2c_information.aspx).
- 199 A.2.6.5 Due to the DNL descriptor’s close correlation with the degree of  
200 community annoyance from aircraft noise, DNL has been formally  
201 adopted by most federal agencies for measuring and evaluating  
202 transportation noise for land use planning and noise impact assessment.  
203 CNEL has been adopted by the State of California.
- 204 A.2.6.6 In 1979, the Federal Interagency Committee on Urban Noise (FICUN)  
205 was formed to develop federal policy and guidance on noise. The  
206 committee’s membership included the Environmental Protection Agency  
207 (EPA), FAA, the Federal Highway Administration, and the Departments  
208 of Defense (DOD), Housing and Urban Development (HUD), and  
209 Veterans Affairs (VA). It also developed consolidated federal land use  
210 compatibility guidelines using DNL as the common descriptor of noise  
211 levels.
- 212 A.2.6.7 To develop the guidelines, it was also necessary to establish a correlation  
213 between land use and noise exposure classifications. The FICUN issued its  
214 report entitled *Guidelines for Considering Noise in Land Use Planning  
215 and Control* in June 1980. This report established the Federal  
216 government’s DNL 65 dB standard and related guidelines. The FICUN  
217 generally agreed that standard residential construction was compatible for  
218 noise exposure from all sources up to DNL 65 dB.
- 219 A.2.6.8 In 1991, the FAA and EPA initiated the Federal Interagency Committee  
220 on Noise (FICON) to review technical and policy issues related to  
221 assessment of noise impacts around airports. Membership included  
222 representatives from DOD, DOT, HUD, the Department of Justice, VA,  
223 and the Council on Environmental Quality. The FICON review focused,  
224 among other things, on how noise impacts are determined and described,  
225 and to what extent impacts outside of DNL 65 dB should be reviewed in  
226 NEPA documents. The FICON’s findings and recommendations were  
227 published in the August 1992 *Federal Agency Review of Selected Airport  
228 Noise Analysis Issues*. With respect to DNL, the FICON found that there  
229 were no new descriptors or metrics of sufficient scientific standing to  
230 substitute for the DNL metric. It recommended continuing using the DNL  
231 metric as the principal means for describing long-term noise exposure  
232 from civil and military aircraft operations. The FICON reaffirmed the  
233 methodology for using DNL as the noise exposure metric to determine  
234 community noise impacts.
- 235 A.2.6.9 DNL provides a simple method to compare the effectiveness of alternative  
236 airport scenarios. Land use planners have acquired over 20 years of  
237 working experience applying this metric to make zoning and planning

- 238 decisions. DNL is a sound and workable tool for land use planning and in  
239 relating aircraft noise to community reaction. Experience indicates that  
240 DNL provides a very good measure of impacts on the quality of the  
241 human environment, forming an adequate basis for decisions that  
242 influence major transportation infrastructure projects.
- 243 A.2.6.10 As of the publication date of this AC, FAA believes DNL continues to be  
244 the best metric available in the scientific community for measuring aircraft  
245 noise and land use compatibility. Scientific studies on this subject,  
246 however, are ongoing.
- 247 A.2.6.11 FAA Order 1050.1 requires DNL be used to describe cumulative noise  
248 exposure and to identify aircraft noise and land use compatibility. Already  
249 mentioned is the FAA's acceptance of CNEL as an alternative metric for  
250 California. Besides DNL and CNEL, other cumulative and single event  
251 metrics can be used to supplement noise compatibility studies.
- 252 A.2.6.12 Some airport sponsors may wish to examine seasonal impacts of aircraft  
253 operations using a DNL analysis, for example, to provide additional  
254 information on the short-term (usually summer/winter tourism or  
255 vacationing season) peak activity at an airport. In locations experiencing  
256 these fluctuations, there can be an immense difference in noise contours  
257 based on aircraft operations averaged over 365 days versus contours based  
258 on the shorter timeframes of peak seasons. Seasonal DNL may also be  
259 applied to runway use. One season may be a predominantly northern flow  
260 and another predominantly southern. In either case, modeling results of  
261 DNL (or CNEL for California) for a shorter timeframe than annual  
262 averages may not be substituted for the official NEMs submitted in Part  
263 150 studies.
- 264 A.2.7 Time Above (TA).  
265 Time Above (TA) is the amount of time (usually expressed in minutes) for which  
266 aircraft-related noise exceeds a specified A-weighted sound level, expressed in decibels,  
267 during a given period. In other words, it provides the number of minutes an aircraft's  
268 noise level is louder than another noise level during the given period. Examples include  
269 the duration an aircraft is louder than the ambient noise level or louder than the level  
270 that interferes with speech.
- 271 A.2.8 Number of Events Above (NA).  
272 Number of Events Above (NA) is the count of the number of aircraft noise events above  
273 a specified sound level, expressed in decibels. The threshold is usually expressed as  
274 either an SEL or  $L_{max}$ . The NA at a given location are counted and summed over a  
275 specified period. Examples include the number of aircraft events louder than the  
276 ambient noise level or louder than the level that interferes with speech. The NA is  
277 sometimes included as a supplement to DNL to provide more detail on the frequency of  
278 events in the vicinity of an airport.

279 A.3 **Supplemental Noise Analysis.**

280 A.3.1 Part 150 Section 150.9(b) requires that exposure of individuals to noise resulting from  
 281 the operation of an airport be established in terms of DNL as the FAA’s primary noise  
 282 metric. The FAA also recognizes CNEL for use as the cumulative metric for California.  
 283 In Part 150 studies, supplemental noise metrics may be used to describe the aircraft  
 284 noise exposure for specific noise-sensitive locations or situations and to assist in the  
 285 public’s understanding of the noise exposure.

286 A.3.2 Supplemental analyses use other noise metrics to describe annoyance and other noise  
 287 effects such as speech interference, sleep disturbance, and effects on children’s learning.  
 288 Examples of these *supplemental* metrics include  $L_{eq}$ ,  $L_{max}$ , SEL, TA, and NA. Table A-1  
 289 provides suggested supplemental metrics to describe particular noise effects.  
 290 Supplemental metrics may be used to help create *dose responses* (changes resulting  
 291 from exposure to a stressor) for evaluating noise’s effect on sleep disturbance, speech  
 292 interference, and children’s learning. These areas of study are still in the research stage;  
 293 so there is no scientific consensus on a methodology for these studies. Table A-1  
 294 presents a list of possible effects of noise and supplemental metrics that may be useful  
 295 on a case-by-case basis in describing them.

296 **Table A-1. Sample Supplemental Descriptors<sup>71</sup>**

Possible effects	Cumulative energy average	Loudness of single events	Time aircraft are heard	Numbers of events
<b>Community annoyance</b> Psychological response to a given noise exposure	<b>DNL</b> – Average Day Night sound level <b>Leq</b> – Equivalent Sound Level	<b>Lmax</b> – Maximum Sound Level <b>SEL</b> – Sound Exposure Level	<b>Time Above</b> – Typically 60 or 65 dB, the speech interference level.	<b>N70</b> – Number of events above 70 dBA / Australian metric cited in '02 FICAN report.
<b>Sleep disturbance</b> Threshold noise level causing sleep arousal	<b>Leq</b> (night)	<b>SEL</b> (Used in 1997 FICAN sleep disturbance curve) <b>Lmax</b>		
<b>Speech interference</b> Intruding noise that masks speech and reduces intelligibility	<b>Leq</b> (daytime)	<b>SEL</b> <b>Lmax</b>		Number of events above 60/65 dB

<sup>71</sup> No required supplemental metrics. A-Weighted except for N70 and PSIL (the arithmetic average of sound pressure levels for 500, 1000 and 2000 Hz octave bands).

Possible effects	Cumulative energy average	Loudness of single events	Time aircraft are heard	Numbers of events
<b>School learning</b> As related to school sound insulation programs	<b>Leq</b> (school hours) 45 dB interior goal	<b>SEL</b> – for interior noise reduction (NLR) minimum 5 dB  SEL preferred to older PSIL (Preferred Speech Interference Level) <sup>72</sup>		Number of events above 45 dB (interior)
<b>Park visitor annoyance</b> Covers “interference with visitor enjoyment” & “appreciation of natural quiet” (daytime and seasonal variations)	<b>Leq</b> (park hours)	<b>Lmax</b>	<b>TAA</b> – Time above Ambient (Existing or Natural) <sup>73</sup>	Number of events above ambient and 10 dB increments

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298 A.3.3 Publications that synthesize the research of these select areas of interest (sleep  
 299 disturbance, children’s learning, and speech interference) are nonetheless available to  
 300 help determine how to complete these analyses.<sup>74</sup> Using these sources should be  
 301 coordinated with the FAA point when these supplemental analyses are discussed in the  
 302 NCP.

303 A.3.4 Sleep Disturbance.

304 A.3.4.1 To study sleep disturbance, FICON developed several dose-response  
 305 relationships in 1992, as did the Federal Interagency Committee on  
 306 Aircraft Noise (FICAN) in 1997 and others (see the annotated  
 307 bibliography in Appendix E). These relationships link SEL to a percent-  
 308 awakened number (percent of a population likely to be awakened as a  
 309 result of single event noise levels). No provision was made in the FICAN  
 310 study for combining the effects of multiple events, although more recent  
 311 work has begun to address this area.<sup>75</sup> In July 2008, the American National  
 312 Standards Institute (ANSI) published a standard for estimating the

<sup>72</sup> PSIL is arithmetic avg of sound pressure levels for 500, 1000 and 2000 Hz octave bands.

<sup>73</sup> Background (ambient) measurements often desirable.

<sup>74</sup> Mestre, Vincent. “Effects of Aircraft Noise: Research Update on Selected Topics A Synthesis of Airport Practice,” ACRP Synthesis 9, Transportation Research Board of the National Academies, 2008.

<sup>75</sup> Miller, Nicholas. “Computing Number of People Awakened by Aircraft Operations Noise.” Acoustics ’08, June 2008. See also Miller, Nicholas, “Alternative Analysis of Sleep-Awakening data,” Noise Control Eng. J.55(2), p.224, 2007 March - April.

313 likelihood of behavioral awakenings in ANSI S12.9-2008, *Quantities and*  
314 *Procedures for Description and Measurement of Environmental Sound –*  
315 *Part 6: Methods for Estimation of Awakenings Associated with Outdoor*  
316 *Noise Events Heard in Homes.*

317 A.3.4.2 Rather than calculate the number of awakenings, ANSI S12.9-2008  
318 provides a method to estimate the probability of being awakened at least  
319 once during a full night of aircraft operations. In 2009, the FICAN  
320 recommended this new estimation procedure for analyzing behavioral  
321 awakenings from aircraft noise. However, FICAN recognizes that  
322 additional sleep disturbance research is underway by various organizations  
323 and that work may result in additional changes to FICAN’s position. Until  
324 then, FICAN recommends the use of ANSI S12.9-2008. Based on the  
325 FICAN recommendation, the FAA endorses the use of ANSI S12.8-2008  
326 for developing supplemental analyses for sleep disturbance. However,  
327 FAA cautions that a supplemental analysis must not attach undue  
328 significance of supplemental metric levels to specific noise impacts, and  
329 must include effective language about existing scientific uncertainties and  
330 the lack of FAA assessment methodology, impact criteria, and policy  
331 guidance.

332 A.3.5 Speech Interference.

333 To examine speech interference, FICAN recommends using a cumulative A-weighted  
334 metric that is limited to the affected time period hours ( $L_{eq(x)}$ , where x equals the hours  
335 evaluated) or a TA analysis (outdoor educational exhibits, for example). The EPA  
336 established a relationship between percent sentence intelligibility and steady indoor  
337 A-weighted sound level in the EPA “Levels Document.”

338 A.3.6 Effects on Children’s Learning.

339 To assess the effects on children’s learning, it is important to evaluate three variables:  
340 the steady ambient level, the level of voice communication, and the single event level  
341 that might interfere with speech. FAA Order 5100.38 indicates that schools should have  
342 an A-weighted  $L_{eq}$  of less than 45 dBA, during school hours and in the classroom  
343 environment. For determining eligibility for consideration for federal funding, the  
344 school must be located within the significant<sup>76</sup> noise contour of the FAA-accepted  
345 NEM. If the school is located within the contour, supplemental  $L_{eq(x)}$  measurements  
346 should be taken during the school day (where x equals school day hours). Several days  
347 of measurements should be taken to establish the average school day  $L_{eq}$  interior noise  
348 level. Sound insulation would be eligible for federal funding if the noise level exceeds  
349  $L_{eq(x)}$  45 dBA.

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<sup>76</sup> Using either the federal tables or local standards of significance adopted by the Land Use Jurisdiction and Airport Sponsor.

1

**APPENDIX B. NEM AND NCP CHECKLISTS**

2

Use the checklists as a guide in reviewing your NEM or NCP package for completeness and compliance with FAA guidance before submitting them to your FAA Airports Regional Office or ADO point of contact. Including the NEM and NCP checklists completed in detail for NEM and NCP submission (as appropriate) packages facilitate FAA’s review.

3

The first table in the Appendix is an NEM checklist and the second is an NCP checklist.

4

**Table B-1. NEM Checklist**

14 CFR PART 150 NOISE EXPOSURE MAP CHECKLIST		
AIRPORT NAME: _____ REVIEWER: _____		
Item	Yes/No/NA	Page Number/ Other Reference
<b>I. Identification and Submission of Map Document:</b>		
A. Is this submittal appropriately identified as one of the following, submitted under 14 C.F.R. Part 150:		
1. An NEM only?		
2. An NEM and NCP?		
3. A revision to NEMs which have previously been determined by FAA to be in compliance with Part 150?		
B. Is the airport name and the qualified airport sponsor identified?		
C. Is there a dated cover letter from the airport operator which indicates the documents and geospatial map data are submitted under Part 150 for appropriate FAA determinations?		

<b>14 CFR PART 150</b> <b>NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
<b>II. Consultation: [150.21(b), A150.105(a)]:</b>		
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?		
B. Identification:		
1. Are the consulted parties identified?		
2. Do they include all those required by 150.21(b) and A150.105(a)?		
C. Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b), and certification as true and complete under 150.21(e)? Note: Certifications are covered under VI so recommend deleting reference here.		
D. Does the document indicate whether written comments were received during consultation and, if there were comments, they are on file with the FAA region, or were all comments included in the documentation?		
<b>III. General Requirements: [150.21]</b>		



<b>14 CFR PART 150 NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
A. Are there two maps, each clearly labeled on the face with year (existing condition year and future forecast)?		
B. Map currency:		
1. Does the existing condition map year match the year on the airport operator's NEM submittal?		
2. Is the future map based on reasonable forecasts and other planning assumptions?		
3. Forecast aircraft operations?		
4. Forecast fleet mix?		
5. Forecast number of night operations?		
6. Forecast flight tracks or any planned IFPs under development?		
7. If the answer to 1 and 2 above is no, has the airport operator verified in writing that data in the documentation are representative of existing condition and future forecast conditions as of the date of submission?		
C. If the NEM and NCP are submitted together:		

<b>14 CFR PART 150 NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
1. Has the airport operator indicated whether the future map is based on future contours without the program vs. contours if the program is implemented?		
2. If the future map is based on program implementation:		
3. Are the specific program measures which are reflected on the map identified?		
4. Does the documentation specifically describe how these measures affect land use compatibilities depicted on the map?		
5. Only one future condition NEM can be designated for a finding under Part 150 Section 21(a)(1). The NEM forecast map must be based on reasonable forecast aircraft operations and other reasonable planning assumptions for the fifth calendar year or later beginning after the year the NEM's are submitted to the FAA. This does not preclude the inclusion of additional maps for supporting information, analytical purposes, or longer range planning.		
<b>IV. Map Scale Graphics, and Data Requirements: [A150.101, A150.103, A150.105, 150.21(a)]</b>		
A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 2,000'), and is the scale indicated on the maps?		

<b>14 CFR PART 150</b> <b>NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
B. Is the quality of the graphics such that required information is clear and readable?		
C. Depiction of the airport and its environs:		
1. Is the following graphically depicted to scale on both the existing conditions and future maps?: [A150.101e2,4]		
a. Airport boundaries?		
b. Runway configurations with runway end numbers?		
2. Does the depiction of the off-airport data include:		
a. A land use base map depicting streets and other identifiable geographic features?		
b. The area within the DNL 65 dB contour (or beyond, at local discretion)?		
c. Clear delineation of geographic boundaries and the names of all jurisdictions with planning and land use control authority within the DNL 65 dB contour (or beyond, at local discretion)? [A150.105(a),(b)]		
D. Noise Contours		

<b>14 CFR PART 150</b> <b>NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
1. Continuous contours for at least the DNL 65, 70, 75 dB?		
2. Based on current airport and operational data for the existing condition year NEM, and forecast data for the future NEM? [A150.101(a),(e) (3)]		
E. Flight tracks for the existing condition and future forecast timeframes (which must use the same scale as the NEM, and the same land use base map as the existing condition and future NEM), which are numbered to correspond to accompanying narrative? [A150.101(e) (2)]		
F. Locations of any noise monitoring sites (these may be on supplemental graphics that must use the same land use base map as the official NEMs). [A150.101(e) (7)]		
G. Noncompatible land use identification:		
1. Are noncompatible land uses within at least the 65 Ldn depicted on the maps? [150.21(a), A150.101 (a),(b),(c),(d),(e) (5)]		
2. Are noise sensitive public buildings identified? [150.21 (a)] National Register Properties? [150.101(e) (6), (9)]		

<b>14 CFR PART 150 NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend?		
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative?		
<b>V. Narrative Support of Map Data: [(50.21(a), A150.1, A150.101, A150.103]</b>		
<b>A. Technical Data:</b>		
1. Are the technical data, including data sources, on which the NEMs are based adequately described in the narrative?		
2. Are the underlying technical data and planning assumptions reasonable? [150.21(a) (1), A150.103(b)]		
<b>B. Calculation of noise contours:</b>		
1. Is the methodology indicated?		
a. Is it FAA approved? [A150.103(a)]		
b. Was the same model used for both maps? (If this is unclear, the sponsor needs to verify.)		

<b>14 CFR PART 150 NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
c. Has AEE approval been obtained for use of a model other than those that have previous blanket FAA approval?		
2. Correct use of noise models:		
a. Does the documentation indicate the airport operator has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another?		
b. If so, does this have written approval from AEE?		
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed?		
4. For noise contours below DNL 65 dB contour, does the supporting documentation include explanation of local reasons (i.e., local planning purposes? Narrative explanation is highly desirable but not required by the Rule.		
5. Is there evidence that local jurisdiction adopted a lower standard?		
C. Noncompatible Land Use Information: [150.21(a), A150.101(a),(b),(c),(d),(e) (5)]		

<b>14 CFR PART 150</b> <b>NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
1. Does the narrative give estimates of the number of people residing in each of the contours (LDN 65, 70, and 75, at a minimum) for both the existing condition and future maps?		
2. Does the documentation indicate whether Table 1 of Part 150 was used by the airport operator?		
a. If a variation to Table 1 was used:		
(1) Does the narrative clearly indicate which adjustments were made and the local reasons for doing so?		
(2) Does the narrative include the airport operator's complete substitution for Table 1?		
3. Does the narrative include information on self-generated or ambient noise where noncompatible land use identifications consider non-airport/aircraft sound sources?		
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?		
5. Does the narrative describe how forecasts will affect land use compatibility?		
<b>VI. Map Certification: [150.21(b), 150.21.(e)]</b>		

<b>14 CFR PART 150 NOISE EXPOSURE MAP CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/ Other Reference
A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts?		
B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete?		
C. If NEM dates are older than the date of submittal (DOS), has the airport operator certified in writing that aircraft operations, fleet mix, number of operations, and airport operating procedures are representative of existing conditions, and that forecasts for future NEM remain valid as of the DOS? Often a sensitivity analysis is necessary.		



1

**Table B-2. NCP Checklist**

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
<b>I. Identification and Submission Program:</b>		
A. Submission is properly identified:		
1. 14 C.F.R. Part 150 NCP?		
2. NEM and NCP together?		
3. Program revision?		
B. Airport and Airport Sponsor's name identified?		
C. NCP transmitted by airport operator cover letter?		
<b>II. Consultation: [150.23]</b>		
A. Documentation includes narrative of public participation and consultation process?		
B. Identification of consulted parties:		
1. Are parties in 150.23(c) consulted?		
2. Public and planning agencies identified?		
3. Agencies in 2, above, correspond to those indicated on the NEM?		

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
C. Satisfied 150.23(d) requirements:		
1. Documentation shows active and direct participation of parties in B. above?		
2. Active and direct participation of general public:		
3. Participation was prior to and during development of NCP and prior to submittal to FAA?		
4. Indicates adequate opportunity afforded public to submit views, data, etc.?		
D. Evidence included of notice and opportunity for public hearing on NCP?		
E. Documentation of comments:		
1. Includes summary of public hearing comments if hearing was held?		
2. Includes copy of all written material submitted to operator?		
3. Includes operator's responses/disposition of written and verbal comments?		
F. Informal agreement received from FAA on flight procedures?		

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____		<b>REVIEWER:</b> _____
Item	Yes/No/NA	Page Number/Other Reference
<b>III. Noise Exposure Maps: [150.23, B150.3, B150.35(f)]</b> This section of the checklist is not a substitute for the Noise Exposure Map checklist. It deals with maps in the context of the Noise Compatibility Program submission.		
<b>A. Inclusion of NEMs and supporting documentation:</b>		
1. Map documentation either included or incorporated by reference?		
2. Maps previously found in compliance by FAA?		
3. Compliance determination still valid?		
4. Does 180-day period have to wait for map compliance finding?		
<b>B. Revised NEMs submitted with program: (Review using NEM checklist if map revisions included in NCP submittal)</b>		
1. Revised NEMs included with program?		
2. Has airport operator requested FAA to make a determination on the NEM(s) when NCP approval is made?		
<b>C. If program analysis uses noise modeling:</b>		
1. AEDT, Heliport Noise Model (HNM), or FAA-approved equivalent?		
2. Modeling in accordance with A150.5?		

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
D. Existing condition and future maps clearly identified as the official NEMs?		
<b>IV. Consideration of Alternatives: [B150.7, 150.23(e)]</b>		
A. At a minimum, are the alternatives below considered? If not, appropriate rationale provided?		
1. Land acquisition and interest therein, including air rights, easements, and development rights		
2. Barriers, acoustical shielding, public building soundproofing		
3. Preferential runway use system		
4. Visual Flight Tracks and/or Instrument Flight Procedures		
5. Noise Abatement Flight Profiles (e.g., AC 91-53A)		
6. Restrictions on type/class of aircraft (as least one restriction below must be checked) Any proposed restriction must be coordinated with APP-400.		
a. Deny use based on Federal standards		
b. Capacity limits based on noisiness		
c. Noise abatement takeoff/approach procedures		

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
d. Landing fees based on noise or time of day		
e. Nighttime restrictions		
7. Other actions with beneficial impact		
8. Other FAA recommendations		
B. Responsible implementing authority identified for each considered alternative?		
C. Analysis of alternative measures:		
1. Measures clearly described?		
2. Measures adequately analyzed?		
3. Adequate reasoning for rejecting alternatives?		
D. Other actions recommended by the FAA:		
1. Should other actions be added? List separately or on back of this form, actions and discussion with airport operator to have them included prior to the start of the 180-day cycle.		
<b>V. Alternatives Recommended for Implementation: [150.23(e), B150.7(c), B150.35(b), B150.5]</b>		
A. Document clearly indicates:		

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
1. Alternatives recommended for implementation?		
2. Final recommendations are airport operator's, not those of consultant or third party?		
<b>B. Do all program recommendations:</b>		
1. Relate directly or indirectly to reduction of noise and noncompatible land uses?		
2. Contain description of contribution to overall effectiveness of program?		
3. Noise/land use benefits quantified to extent possible?		
4. Include actual/anticipated effect on reducing noise exposure within noncompatible area shown on NEM?		
5. Effects based on relevant and reasonably expressed assumptions?		
6. Have adequate supporting data to support its contribution to noise/land use compatibility?		
<b>C. Analysis appears to support standards set forth in 150.35(b) and B150.5?</b>		

<b>14 CFR PART 150 NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
<b>D. When use restrictions are recommended:</b>		
1. Are alternatives with potentially significant noise/compatible land use benefits thoroughly analyzed so that appropriate comparisons and conclusions can be made?		
2. Use restrictions coordinated with APP-400 prior to making determination on start of 180 days?		
<b>E. Do the following also meet Part 150 analytical standards:</b>		
1. Formal recommendations which continue existing practices?		
2. New recommendations or changes proposed at end of Part 150 process?		
F. Documentation indicates how recommendations may change previously adopted plans?		
<b>G. Documentation also:</b>		
1. Identifies agencies which are responsible for implementing each recommendation?		
2. Indicates whether those agencies have agreed to implement?		

<b>14 CFR PART 150</b> <b>NOISE COMPATIBILITY PROGRAM CHECKLIST</b>		
<b>AIRPORT NAME:</b> _____ <b>REVIEWER:</b> _____		
Item	Yes/No/NA	Page Number/Other Reference
3. Indicates essential government actions necessary to implement recommendations?		
H. Timeframe:		
1. Includes agreed upon schedule to implement alternatives?		
2. Indicates period covered by the program?		
I. Funding/Costs:		
1. Includes costs to implement alternatives?		
2. Includes anticipated funding sources?		
VI. Program Revision: [150.23(e)(9)]		
A. Supporting documentation includes provision for revision?		



1                   **APPENDIX C. NEM AND NCP SUBMISSION COVER LETTERS AND**  
2                   **CERTIFICATIONS**

3                   This Appendix provides cover letters and certifications for your NEM and NCP  
4                   submissions. You can use these examples as a guide in writing your Airport Sponsor  
5                   Certification and cover letter to your ARP POC.

6                   Cover letters and certifications are provided for the following submittal situations:

- 7                   1. NEMs submitted by themselves
- 8                   2. NCP submitted by itself, following submission of NEMs
- 9                   3. NEMs and NCP submitted together

10 [Airport Sponsor Letterhead]

11

12

13

14 [Date]

15

16 [FAA Point of Contact]

17 [Address]

18

19

20 **RE: TITLE 14 CFR PART 150 NOISE EXPOSURE MAPS**  
21 **SUBMITTAL FOR FEDERAL AVIATION ADMINISTRATION**  
22 **COMPLIANCE DETERMINATION**

23

24 Dear [FAA Point of Contact]:

25

26 Enclosed are \_\_\_\_\_ copies of [Airport’s Name] Title 14 CFR Part 150 Noise Exposure Maps  
27 (NEMs) and supporting documentation, along with an electronic version. These NEMs and supporting  
28 documentation are submitted under the provisions of Title 49 United States Code, chapter 475 and Title  
29 14 CFR Part 150. The [Airport Sponsor], as owner and operator of [Airport], is submitting these NEMs  
30 and supporting documentation for appropriate Federal Aviation Administration (FAA) determination.

31

32 Should you have any questions regarding the enclosed document, please do not hesitate to  
33 contact [Contact Information]. We appreciate your assistance in this matter.

34

35 Sincerely,

36

37

38

39

40 [Name]

41 [Title]

42

43 Enclosures

44 [Airport Sponsor’s Logo]

45

46 **SPONSOR’S CERTIFICATION**

47 The Noise Exposure Maps (NEMs) for [Airport Name], hereby submitted in accordance with  
48 Title 14 CFR Part 150, were prepared with the best available information and are certified as true  
49 and complete to the best of my knowledge and belief.

50 The Existing Condition NEM is based on data generated for a timeframe representing the year of  
51 submission. [or, The Existing Condition NEM is not based on data generated for a timeframe  
52 representing the year of submission. However, there has been no change in operation at the  
53 airport that would create any substantial new noncompatible uses or significantly reduce noise  
54 over noncompatible uses]. The assumptions and activity levels used to develop the Existing  
55 Condition NEM are based on data from [Existing Condition Time Period Used for Modeling].  
56 The noise contours representing the existing condition are identified as the [Year] Noise  
57 Exposure Map.

58 The assumptions and activity levels used to develop the Future Condition NEM are based on  
59 reasonable forecasts and other planning assumptions. The Future Condition NEM is based on  
60 data generated for a timeframe [Number of Years (must be at least five years from the date of  
61 submission represented by your Existing Condition NEMs)] years in the future from the year of  
62 submission. The noise contours representing the future condition are identified as the [Future  
63 Year] Noise Exposure Map.

64 The NEMs were prepared in consultation with officials of the state and public and planning  
65 agencies whose area, or any portion of whose area, of jurisdiction is within the DNL contour  
66 depicted on the NEMs. The consultation also included Federal officials having local  
67 responsibility and regular aeronautical users of the airport. It is further certified that adequate  
68 opportunity has been afforded interested persons to submit their views, data, and comments  
69 concerning the correctness and adequacy of the NEMs and the supporting documentation and  
70 forecasts. As required in 14 CFR Part 150 Section 21(b), a copy of all written comments received  
71 during consultation has been filed with the FAA Regional airports division manager.

72

73

74

\_\_\_\_\_  
Date of Signature

\_\_\_\_\_  
[Name]

[Title]

75

[Airport Sponsor]

76 [Airport Sponsor Letterhead]

77 [Date]

78

79 [FAA Point of Contact]

80 [Address]

81 **RE: TITLE 14 CFR PART 150 NOISE COMPATIBILITY PROGRAM**

82 **SUBMITTAL FOR FORMAL REVIEW AND APPROVAL**

83 Dear [FAA Point of Contact]:

84 Enclosed are \_\_\_\_\_ copies<sup>77</sup> of the Noise Compatibility Program (NCP) for [Airport], for  
85 your formal review and approval. The [Airport Sponsor], as owner and operator of the [Airport],  
86 is submitting this NCP under the provisions of Title 49 USC chapter 471 and Title 14 CFR Part  
87 150.

88 The NCP for [Airport] includes the Future Condition Noise Exposure Map, With Program  
89 Implementation. The [Airport Sponsor] is requesting the Federal Aviation Administration (FAA)  
90 to make a new map compliance finding upon approval of the NCP as outlined in 150.21.<sup>78</sup>

91 The NCP for [Airport] was made available for public review prior to the public hearing, which  
92 was held on [Date] [if no hearing was held, state that a notice of opportunity for a public hearing  
93 was published prior to submittal of this NCP and the Airport Sponsor did not receive any  
94 requests for a hearing]. Comments received during the public review period and any public  
95 hearing have been included as an appendix to the NCP.<sup>79</sup>

96 The [Airport Sponsor] formally adopted the recommendations contained in the NCP for [Airport]  
97 [describe the forum and provide date].

98 Should you have any questions regarding the enclosed document, please do not hesitate to  
99 contact [Contact Information]. We appreciate your assistance in this matter.

100 Sincerely,

101 [Name]

102 [Title]

103 Enclosures

104

---

<sup>77</sup> Your FAA point of contact may have different requirements for the number and type of submittal.

<sup>78</sup> Include this request only if you are submitting a revised future condition NEM that incorporates measures (i.e., with Program Implementation) that were not included in your original NEM submission that would change the NEM.

<sup>79</sup> Inclusion of comments is an optional way to meet the Part 150 requirement, which is to summarize the comments received. Disposition of comments applicable to the content and process for preparing the NCP is mandated by Part 150 section 150.23(e)(7). 150.23 only deals with NCP. Part 150 Section 21 only deals with NEM and does not have the same requirement to dispose of comments.

105 [Airport Sponsor’s Logo]

106

107

**SPONSOR’S CERTIFICATION**

108 The Noise Compatibility Program (NCP) and the Future Condition Noise Exposure Map (NEM),  
109 With Program Implementation<sup>80</sup> for [Airport], hereby submitted in accordance with Title 14 CFR  
110 Part 150, were prepared with the best available information and are certified as true and complete  
111 to the best of my knowledge and belief.

112 The NEM and NCP were developed and prepared in consultation with Federal Aviation  
113 Administration (FAA) regional officials, the officials of the state, and of any public agencies and  
114 planning agencies whose area of jurisdiction, or any portion thereof, is within the DNL contour  
115 depicted on the NEM, and other Federal officials having local responsibility for land uses  
116 depicted on the map. This consultation included regular aeronautical users of the airport,  
117 including air carriers, military and other aircraft operators, as appropriate. The Future Condition  
118 NEM, With Program Implementation, is intended to replace the Future Condition NEM, Without  
119 Program Implementation, which was found by FAA to be in compliance with applicable  
120 requirements effective [Date]. The [Airport Sponsor] is requesting FAA to make a new map  
121 compliance finding for the Future Condition NEM, With Program Implementation. The new  
122 Future Condition NEM development went through process outlined in 150.21 to ensure updated  
123 consultation with regular aeronautical users of the airport.

124 It is further certified that prior to and during the development of the NCP, and prior to  
125 submission of the resulting program to the FAA, the [Airport Sponsor] afforded adequate  
126 opportunity for the active and direct participation of the state, public agencies and planning  
127 agencies in the areas surrounding the airport, aeronautical users of the airport, and the general  
128 public to submit their views, data, and comments on the formulation and adequacy of the NCP.  
129 Prior to submitting this NCP to the FAA, the [Airport Sponsor] held a public hearing [or state  
130 that an opportunity was provided and no requests were received].

131 This document constitutes the official NCP for [Airport], as recommended by the [Airport  
132 Sponsor]. The recommendations in this NCP are those of the [Airport Sponsor], not the  
133 consultant or another party.

\_\_\_\_\_  
Date of Signature

\_\_\_\_\_  
[Name]

[Title]

[Airport Sponsor]

134

135

<sup>80</sup> Include only if submitting a revised future condition NEM that incorporates operational measures (i.e., with Program Implementation).

136 [Airport Sponsor Letterhead]

137

138

139

140 [Date]

141

142 [FAA Point of Contact]

143 [Address]

144

145 **RE: TITLE 14 CFR PART 150 NOISE EXPOSURE MAPS**  
146 **SUBMITTAL FOR FAA COMPLIANCE DETERMINATION AND**  
147 **TITLE 14 CFR PART 150 NOISE COMPATIBILITY PROGRAM**  
148 **SUBMITTAL FOR FAA FORMAL REVIEW AND APPROVAL**

149

150 Dear [FAA Point of Contact]:

151 Enclosed are \_\_\_\_\_ copies<sup>81</sup> of the Noise Exposure Maps (NEMs) and Noise  
152 Compatibility Program (NCP) for [Airport]. This document is being submitted by the [Airport  
153 Sponsor], as owner and operator of the [Airport]. The NEMs and supporting documentation are  
154 submitted under the provisions of Title 49 USC, chapter 475 and Title 14 CFR Part 150 for  
155 appropriate FAA determination. The NCP is submitted under the provisions of Title 49 USC,  
156 chapter 471 and Title 14 CFR Part 150 for your formal review and approval.

157 The NCP for [Airport] was made available for public review prior to the public hearing, which  
158 was held on [Date] [if no hearing was held, state that a notice of opportunity for a public hearing  
159 was published prior to submittal of this NCP and the Airport Sponsor did not receive any  
160 requests for a hearing]. Comments received during the public review period and any public  
161 hearing have been included as an appendix to the NCP.<sup>82</sup>

162 The [Airport Sponsor] formally adopted the recommendations contained in the NCP for [Airport]  
163 [describe the forum and provide date].

164

165 Should you have any questions regarding the enclosed document, please do not hesitate to  
166 contact [Contact Information]. We appreciate your assistance in this matter.

167

168 Sincerely,

---

<sup>81</sup> Your FAA point of contact may have different requirements for the number and type of submittal.

<sup>82</sup> Inclusion of comments is an optional way to meet the Part 150 requirement which is to summarize the comments received. Disposition of comments applicable to the content and process for preparing the NCP is mandated by Part 150 Section 150.23(e)(7). 150.23 only deals with the NCP and Part 150 Section 21 only deals with the NEM and does not have the same requirement to dispose of comments.

169

170

171 [Name]

172 [Title]

173

174 Enclosures

175

176 [Airport Sponsor's Logo]

177

### SPONSOR'S CERTIFICATION

178 The Noise Exposure Maps (NEMs) and the Noise Compatibility Program (NCP) for [Airport],  
 179 hereby submitted in accordance with Title 14 CFR Part 150, were prepared with the best  
 180 available information and are certified as true and complete to the best of my knowledge and  
 181 belief.

182 The Existing Condition NEM is based on data generated for a timeframe representing the year of  
 183 submission. [Or, The Existing Condition NEM is not based on data generated for a timeframe  
 184 representing the year of submission. However, there has been no change in operation at the  
 185 airport that would create any substantial new noncompatible uses or significantly reduce noise  
 186 over noncompatible uses]. The assumptions and activity levels used to develop the Existing  
 187 Condition NEM are based on data from [Existing Condition Time Period Used for Modeling].  
 188 The noise contours representing the existing condition are identified as the [Year] Noise  
 189 Exposure Map.

190 The assumptions and activity levels used to develop the Future Condition NEM are based on  
 191 reasonable forecasts and other planning assumptions. The Future Condition NEM is based on  
 192 data generated for a timeframe [Number of Years (must be at least five years from the date of  
 193 submission represented by your Existing Condition NEMs)] years in the future from the year of  
 194 submission. The noise contours representing the future condition are identified as the [Future  
 195 Year] Noise Exposure Map.

196 The NEMs and NCP were developed and prepared in consultation with Federal Aviation  
 197 Administration (FAA) regional officials, the officials of the state, and of any public and planning  
 198 agencies whose area of jurisdiction, or any portion thereof, is within the DNL contour depicted  
 199 on the NEM, and other Federal officials having local responsibility for land uses depicted on the  
 200 map. This consultation included regular aeronautical users of the airport, including air carriers,  
 201 military and other aircraft operators, as appropriate.

202 It is further certified that prior to and during the development of the NCP, and prior to  
 203 submission of the resulting program to the FAA, the [Airport Sponsor] afforded adequate  
 204 opportunity for the active and direct participation of the state, public agencies and planning  
 205 agencies in the areas surrounding the airport, aeronautical users of the airport, and the general  
 206 public to submit their views, data, and comments on the formulation and adequacy of the NCP.  
 207 Prior to submitting this NCP to the FAA, the [Airport Sponsor] held a public hearing [or state  
 208 that an opportunity was provided and no request for a hearing was received].

209 This document constitutes the official NEMs and NCP for [Airport], as recommended by the  
 210 [Airport Sponsor]. The recommendations in this NCP are those of the [Airport Sponsor], not the  
 211 consultant or another party.

---

Date of Signature

---

[Name]

[Title]

[Airport Sponsor]



## APPENDIX D. REFERENCES

- 1
- 2
- 3 American Planning Association. (2008). *Land-Based Classification Standards*. Retrieved June  
4 2008 from <http://www.planning.org/LBCS>. Chicago, Illinois: American Planning  
5 Association.
- 6 Environmental Protection Agency. (1974). *Information on Levels of Environmental Noise  
7 Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety*.  
8 Report 550/9-74-004.
- 9 Federal Aviation Administration (FAA), Airports Division, Southern Region. (1999). *Land Use  
10 Compatibility and Airports, A Guide for Effective Land Use Planning*.
- 11 FAA. (1990). *Community Involvement Manual*, FAA-EE-90-03.
- 12 FAA. (1993). *Noise Abatement Departure Profile*, FAA Advisory Circular 91-53A.
- 13 FAA. Office of Environment and Energy. (1996). *Community Involvement Activities at Airports*.
- 14 FAA. (2004). *Airport Noise Compatibility Planning*; Final Rule, title 14 CFR Part 150,  
15 Amendment 150-4.
- 16 FAA. (2005). *Airport Improvement Program Handbook*, FAA Order 5100.38C.
- 17 FAA. (2005). *Land Acquisition and Relocation Assistance for Airport Projects*. FAA Order  
18 5100.37B.
- 19 FAA. (2005). *Land Acquisition and Relocation Assistance for Airport Improvement Program  
20 Projects*, FAA Advisory Circular 150/5100-17.
- 21 FAA. (2006). *Policies and Procedures for Considering Environmental Impacts*, FAA Order  
22 1050.1E, Change 1, Chapter 2, Paragraphs 208-209.
- 23 FAA. (2006). *National Environmental Policy Act (NEPA) Implementing Instructions for Airport  
24 Actions*, FAA Order 5050.4B, Chapter 4.
- 25 Federal Highway Administration. (1996). *Public Involvement Techniques for Transportation  
26 Decision-making*, FHWA-PD-96-031.
- 27 Federal Interagency Committee on Aviation Noise. (1997). *Effects of Aviation Noise on  
28 Awakenings from Sleep*. Retrieved June 2008 from [http://www.fican.org/pages/sleepf  
29 01.html](http://www.fican.org/pages/sleepf01.html).
- 30 Federal Interagency Committee on Noise. (1992). *Federal Agency Review of Selected Airport  
31 Noise Analysis Issues*. Retrieved June 2008 from <http://www.fican.org/pdf/nai-8-92.pdf>.
- 32 Federal Interagency Committee on Urban Noise. (1980). *Guidelines for Considering Noise in  
33 Land Use Planning and Control*.
- 34 Fidell, S., Pearsons, K, Tabachnick, B.G., Howes, R. (2000, May). *Effects on Sleep Disturbance  
35 of Changes in Aircraft Noise Near Three Airports*. Journal of the Acoustical Society of  
36 America, 107(5) Pt.1, pgs. 2535-2548.

- 37 International Civil Aviation Organization. (2004). *Guidance on the Balanced Approach to*  
38 *Aircraft Noise Management*. Doc 9828, AN/451, First Edition.
- 39 Urban Renewal Administration, Housing and Home Finance Agency, and Bureau of Public  
40 Roads, Department of Commerce. (1965). *Standard Land Use Coding Manual: A*  
41 *Standard System for Identifying and Coding Land Use Activities*.

1

**APPENDIX E. ANNOTATED BIBLIOGRAPHY**

2 *Note: A large portion of the material in this annotated bibliography is taken from the Airport*  
3 *Cooperative Research Program (ACRP) project 03-03, Enhancing Airport Land Use*  
4 *Compatibility.*<sup>83</sup> *Much of it has been edited.*

5 American National Standards Institute. (2002). *Acoustical Performance Criteria, Design*  
6 *Requirements, and Guidelines for Schools*. ANSI S12.60-2002. Melville, NY: Acoustical  
7 Society of America.

8 This Standard provides acoustical performance criteria, design requirements, and design  
9 guidelines for new school classrooms and other learning spaces. The standard may be  
10 applied when practicable to the major renovation of existing classrooms. These criteria,  
11 requirements, and guidelines are keyed to the acoustical qualities needed to achieve a  
12 high degree of speech intelligibility in learning spaces. Test procedures are provided in an  
13 annex when conformance to this standard is to be verified.

14 Basner, M., et al. (2004, July). *Effects of Nocturnal Aircraft Noise*, Vol. 1, Executive Summary.  
15 German Aerospace Center (DLR), Institute of Aerospace Medicine. Cologne, Germany.

16 This study reports the results of laboratory and in-home sleep studies. The in-home study  
17 locations were chosen to be sites with high aircraft noise and low levels of other noise.  
18 The in-home results differed considerably from the laboratory results, with subjects being  
19 much less inclined to awaken from aircraft noise in their homes. Many variables were  
20 recorded, such as sleep stage, heart rate, respiratory movements, and general body  
21 movements (motility). The aircraft noise was quantified in terms of the maximum  
22 A-weighted sound level at the sleeper's ear. The subject was considered to be awakened  
23 if the sleep stage changed from a deeper sleep stage to the lightest sleep stage (called S1)  
24 or to awake. The study attempted to determine the percentage of awakenings that are  
25 induced by aircraft noise beyond the awakenings that normally (spontaneously) occur. In  
26 general, aircraft levels must exceed 35 dBA at the sleeper's ear before any awakenings  
27 more than spontaneous ones, are likely to occur. When accounting for spontaneous  
28 awakenings, aircraft maximum levels of up to approximately 75 dBA are likely to  
29 produce 10% additional awakenings.

30 Brink, M., Wirth, K., and Schierz C. (2006). *Effects of Early Morning Aircraft Overflights on*  
31 *Sleep and Implications for Policy Making*. *Euronoise 2006*. Tampere, Finland.

32 This paper reports a study of what happened when recorded aircraft arrivals and  
33 departures were played in sleeper's bedrooms. The findings were that 1) the subjects  
34 were awakened more readily by aircraft noise events in the early morning (closer to rising  
35 time) than by the same events in the evening (the time closer to retiring); 2) the first  
36 aircraft noise events in the early morning are more disturbing (greater motility) than  
37 succeeding events or than events in the evening; 3) the amount of motility is affected by

---

<sup>83</sup> The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. In October 2005, the FAA executed a contract with the National Academies, acting through its Transportation Research Board (TRB), to serve as manager of the ACRP. Additional information on the ACRP and the Land Use Project is available on the TRB website.

38 the time history of the noise event – events like arrivals that quickly rise and fall, produce  
39 higher levels of motility than do the slower rising and falling levels of departures, despite  
40 having equal maximum levels.

41 California Department of Transportation, Division of Aeronautics. *Noise Standards*. Title 21,  
42 Subchapter 6.

43 Article 3, Chapter 4, Part 1, Division 9, Public Utilities Code (Regulation of Airports)  
44 provides the noise standards governing the operations for all California DOT approved  
45 airports. “These standards are based upon two separate legal grounds: (1) the power of  
46 airport proprietors to impose noise ceilings and other limitations on the use of the airport,  
47 and (2) the power of the state to act to an extent not prohibited by federal law.”

48 If a county, city, or community declares an airport as having a noise problem (i.e.,  
49 noncompatible uses within the Noise Impact Boundary (NIB)) then, the county can  
50 require the airport to monitor the noise and validate the NIB. If the county’s audit of the  
51 airport’s NIB study finds the airport does have a noise problem, then the airport must  
52 submit quarterly reports with a map depicting the NIB, noise measurement levels, and  
53 number of people estimated living within the NIB, as well as aircraft operations and  
54 number of aircraft type having the highest noise levels. The regulation provides  
55 suggestions for controlling and reducing noise issues.

56 California Department of Transportation, Division of Aeronautics. (2002, January). *California*  
57 *Airport Land Use Planning Handbook*. Santa Rosa, CA.

58 The Handbook is divided into two parts. Part I describes Airport Land Use Commission  
59 (ALUC) procedures and plans. These chapters discuss the establishment of ALUCs, the  
60 preparation and adoption of airport land use compatibility plans, formulation of airport  
61 land use compatibility policies, ALUC review of local actions, and responsibilities of  
62 local agencies. Part II discusses in more detail the two principal airport land use  
63 compatibility issues of aircraft noise and safety. These chapters address measurement of  
64 airport noise, establishment of airport noise compatibility policies, aircraft accident  
65 characteristics and data, and the establishment of airport safety compatibility policies.  
66 The handbook also contains a 14 page summary and ten appendices that include a  
67 summary of California laws related to airport land use planning, federal regulation  
68 governing obstructions in the vicinity of airports, sample implementation documents and  
69 guidance on performing supporting analysis, general aviation accident data, and a list of  
70 reference documents.

71 Caves, R. E., & Gosling, G. D. (1999). *Strategic Airport Planning*. Oxford: Elsevier Science,  
72 Limited.

73 The book provides an overview of airport systems planning from a global perspective and  
74 addresses how the concept of strategic system planning can be applied to planning  
75 airports and airport systems. The authors examine the evolving context of airport  
76 planning, including environmental concerns and economic considerations, as well as  
77 institutional issues. The book describes both the regional and national airport system  
78 planning process, and presents a wide range of case studies from the United States,  
79 Canada, Europe, Brazil, and Japan. There is a chapter on the community response to  
80 aircraft noise which provides a brief review of selected literature on the effect of aircraft

81 noise on property values and discusses some of the implications for noise mitigation  
82 measures, including sound-proofing homes and compensation.

83 Clark County, Nevada. (2000, June 21). *Unified Development Code*, Title 30, Zoning Overlay  
84 Districts, Section 30.48.

85 Clark County, NV, uses an Airport Environs (AE) Overlay District to determine the  
86 range of compatible land uses to prohibit noncompatible development and prohibit uses  
87 that are detrimental to the health, safety, and welfare of its citizens. The AE Overlay  
88 District supersedes the nine other types of overlay districts which include a residential  
89 neighborhood preservation overlay, a gaming enterprise overlay, and a red rock design  
90 overlay. Specifically the AE Overlay District requires all development to follow FAA  
91 regulations concerning airspace and safety, and requires noise attenuated construction  
92 standards in compliance with Clark County Code, chapter 22.22. The code designates 12  
93 sub-districts or areas with specific land-use requirements that include runway protection  
94 zones, accident potential zones, and a variety of noise contour zones. These 12  
95 sub-districts use a table to determine the appropriate type of land-use, permitting  
96 standards, and mitigation requirements. Further, the code requires all county airports to  
97 submit Airport Airspace Zoning Maps and specifically requires McCarran Airport to  
98 provide a Noise Exposure Map to the County every 5 years.

99 Denver Regional Council of Governments. (1998). *Airport Compatible Land Use Design*  
100 *Handbook*.

101 This reference document provides tools for local policymakers, planners, and airport  
102 managers to improve compatibility between airports and surrounding communities.

103 Department of Defense (DOD). (1977, November 8). *Air Installations Compatible Use Zones*.  
104 Number 4165.57. Washington, D.C.: DOD.

105 This document defines the DOD policy to achieve compatible land uses of public and  
106 private lands near military airfields while maintaining operational effectiveness.  
107 Incompatible land is defined as areas that may obstruct the airspace or as areas exposed  
108 to health, safety, or welfare hazards of aircraft operations. The DOD's first priority is to  
109 take all "reasonable, economical and practical measures to reduce and/or control the  
110 generation of noise from flying and flying related activities." After all reasonable noise  
111 source control measures are taken, the DOD recognizes that significant land areas will  
112 remain exposed to noise that is incompatible with certain uses. Therefore the DOD  
113 developed guidelines for compatible land uses within three zones: the Clear Zone, the  
114 Accident Potential Zone, and the Noise Zone.

115 DOD. (2002, August). *Joint Land Use Study (JLUS)*, Program Guidance Manual. Washington,  
116 D.C.: DOD.

117 The purpose of the JLUS is to encourage cooperative land use planning between military  
118 installations and surrounding communities in order to accommodate future compatible  
119 growth of both. The DOD will fund a study to develop local jurisdictional development  
120 guidelines for accident potential zones and noise exposure zones above DNL 65 dB that  
121 will include limits on tall structures, on-base measures to mitigate community impacts,  
122 and peripheral land uses that adversely impact installation operations. Communities are  
123 asked to put forth a good faith commitment that the study recommendations which may

124 include comprehensive planning, zoning ordinances, subdivision regulations, and  
125 building codes will be accepted and incorporated into local land development planning  
126 and decision-making. This study is a partnership between the military and the local  
127 community. JLUS recommends implementation through a permanent advisory board  
128 comprised of military and community stakeholders in order to uphold the JLUS  
129 recommendations and offer peer support for politically sensitive land use controls.

130 DOD, Departments of the Air Force, the Army, and the Navy. (1978, June 15). *Planning in the*  
131 *Noise Environment*. Washington, D.C.: DOD.

132 This document was developed for installation planners as a procedural tool designed to  
133 aid in the development of acceptable noise environments for facilities on military  
134 installations. It presents guidance for selecting sites for new facilities within existing or  
135 expected future noise environments and discusses noise reduction techniques which may  
136 be applied to render marginally acceptable locations suitable for use. The guidelines  
137 presented are consistent with the Air Installation Compatible Use Zone Program and land  
138 use recommendations generally accepted by the planning community.

139 EPA. (1974, March). *Information on Levels of Environmental Noise Requisite to Protect the*  
140 *Public Health and Welfare with an Adequate Margin of Safety*. Report 550/9-74-004.  
141 Washington, D.C.: EPA.

142 In order to provide adequate guidance to state and local government, the EPA published  
143 information as to the levels of noise “requisite to protect the public health and welfare  
144 with an adequate margin of safety.” The document identifies levels to protect public  
145 health and welfare for a number of situations. These levels are not standards, but it is  
146 EPA’s judgment that the maintenance of levels of environmental noise at or below the  
147 identified levels is requisite to protect the public from adverse health and welfare effects.

148 FAA. AC 150/5320-14, *Airport Landscaping for Noise Control*.

149 This document provides guidance to airport planners and operators in the use of tree and  
150 vegetation screens in and around airports.

151 FAA. (1999, May). *Airport Noise Compatibility Planning (ANCP) Toolkit*. Washington, D.C.

152 The Airport Noise Compatibility Planning Toolkit implements the FAA Land Use  
153 Planning Initiative's short-term recommendations to develop a land use planning  
154 information package for FAA regions. This toolkit includes various publications that  
155 address airport noise compatibility planning. It can be used by airport sponsors, local  
156 planning jurisdictions, and other government entities as a guide to assist in compatible  
157 land use planning around the nation's airports. A similar version of the toolkit is being  
158 specifically designed for use by state aviation officials.

159 FAA. (2015, July 16). Order 1050.1F, *Environmental Impacts: Policies and Procedures*.  
160 Washington, D.C.

161 This is the FAA’s agency-wide environmental protocol for compliance with the National  
162 Environmental Policy Act, and implements the CEQ’s regulations. Appendix A, section  
163 14, addresses noise. An initial noise analysis is accomplished during the environmental  
164 assessment in order to determine if significant noise impacts are expected for forecasted

165 conditions. If significant noise impacts are expected, then either noise abatement and  
166 mitigation that reduces noise impact below the significant noise impact threshold levels  
167 or a more detailed analysis as part of an EIS is required. Additional contours and  
168 supplemental noise analyses are optional and determined by the FAA on a case-by-case  
169 basis.

170 FAA. (2006, April 28). Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing*  
171 *Instructions for Airport Projects*. Washington, D.C.

172 This supplements FAA Order 1050.1E by providing NEPA instructions for Federal  
173 actions that support airport development projects. Essentially, NEPA and CEQ’s  
174 regulations “provide Federal agencies with instructions on protecting the quality of the  
175 human and natural environments” and requires these agencies to consider the  
176 environmental impacts of actions prior to making a decision. This Order provides  
177 implementation guidance of NEPA, CEQ’s regulations, 40 CFR 1500-1508, and  
178 Department of Transportation’s Order 5610.1C, *Procedures for Considering*  
179 *Environmental Impacts*. Additionally, Order 5050.4B incorporates the Vision 100  
180 provisions on increasing air capacity and decreasing congestion.

181 FAA. (2019, February 26). Order 5100.38C Change 1, *Airport Improvement Program Handbook*.  
182 Appendix R is most relevant to the Part 150 program. Washington, D.C.

183 This Handbook describes the FAA’s funding and project criteria for Airport  
184 Improvement Program grants.

185 FAA. Title 14 CFR part 91. *General Operating and Flight Rules*.

186 This federal regulation establishes general rules for the operation of aircraft with regard  
187 to diverse airport types. This includes various flight conditions, such as Instrument Flight  
188 Rules or Visual Flight Rules, maintenance, special flight operations, foreign aircraft  
189 operations, and operating noise limits.

190 FAA. (2004). Title 14 CFR part 150, and Amendments 150-1 to 150-4. *Airport Noise*  
191 *Compatibility Planning*.

192 Part 150, Airport Noise Compatibility Planning, is the primary Federal regulation guiding  
193 and controlling planning for aviation noise compatibility on and around airports. Part 150  
194 established procedures, standards, and methodologies to be used by airport operators for  
195 the preparation of Noise Exposure Maps and Noise Compatibility Programs. The Part  
196 150 process is a balanced approach for mitigating the noise impacts of airports upon their  
197 neighbors, while protecting or increasing both airport access and capacity as well as  
198 maintaining the efficiency of the national aviation system.

199 The regulations contained in Part 150 are voluntary and airport operators are not required  
200 to participate. However, an approved Part 150 NCP is the primary vehicle for gaining  
201 approval of applications for Federal grants for noise abatement projects, and provides the  
202 analyses of impacts of proposed changes to an airport’s operations. The Part 150 program  
203 responds to the principles set forth in the Aviation Noise Abatement Policy Statement of  
204 1976 and the requirements of the Aviation Safety and Noise Abatement Act of 1979.

205

206 FAA. Title 14 CFR part 161. *Notice and Approval of Airport Noise and Access Restrictions.*

207 This regulation implemented that portion of the Airport Noise and Capacity Act of 1990  
208 governing notice and approval of airport noise and access restrictions affecting the  
209 operation of Stage 2 and Stage 3 aircraft. This regulation defines requirements and  
210 procedures for airport operators to follow when proposing new or modified aircraft noise  
211 and access restrictions. Under this regulation, airport sponsors must comply with  
212 applicable Part 161 requirements before imposing noise or access limitations on any  
213 aircraft classified as Stage 2 or Stage 3, regardless of aircraft weight.

214 Before restrictions on Stage 2 aircraft may be imposed, the airport operator must inform  
215 the public of the proposed restriction, its anticipated or actual costs and benefits, any  
216 alternative restrictions proposed, and non-restriction alternatives considered. The sponsor  
217 must allow several entities to comment on the proposed restriction, including federal,  
218 state, and local government agencies, aircraft operators, and the public. Any restriction on  
219 the operation of Stage 2 aircraft must also comply with applicable federal law, including  
220 grant agreements.

221 Before restrictions on Stage 3 aircraft may be imposed, the airport operator must inform  
222 the public of the proposed restriction, its anticipated or actual costs and benefits, any  
223 alternative restrictions proposed, and non-restriction alternatives considered. The sponsor  
224 must allow several entities to comment on the proposed restriction, including federal,  
225 state, and local government agencies, aircraft operators, and the public. The airport  
226 operator must then submit an application to the FAA for approval or disapproval of the  
227 proposed noise or access restriction(s). Another means of imposing a restriction on Stage  
228 3 aircraft operations is to reach written agreement between the airport operator and the  
229 operators of Stage 3 aircraft affected by the proposed restriction.

230 Part 161 could provide improved airport land use compatibility should the proposed  
231 restriction be shown to be noise beneficial, not unjustly discriminatory and not unduly  
232 burdensome on commerce or the national system of airports. See Part 161 for a full  
233 description of the statutory conditions for approval of noise and access restrictions. The  
234 analysis must demonstrate the proposed restriction provides benefits that non-restriction  
235 alternatives do not and cannot provide within the significant (DNL/CNEL 65 dB) noise  
236 contour. Successful completion of the Part 161 process would permit the airport operator  
237 to implement noise and access restrictions at the airport.

238 FAA & National Association of State Aviation Officials (NASAO). (2000, February).  
239 *Cooperative Partnership between the FAA and the State Agencies for Reducing*  
240 *Community Concerns Related to Aircraft Noise.*

241 This survey of state agencies and FAA regions primarily focuses on awareness and  
242 education programs and activities, including laws and regulations in effect. Responses  
243 were received from eight FAA regions and 42 states. Of these, 79 percent reported some  
244 type of noise program run by local or state officials, including many regulations and  
245 guidelines. Of the reported programs, few were directed at public education and  
246 awareness. The document summarizes the best examples of education programs gleaned  
247 from the survey.



248 Federal Interagency Committee on Aviation Noise (FICAN). (1997, June). *Effects of Aviation*  
249 *Noise on Awakenings from Sleep*.

250 In 1992, FICON recommended an interim dose-response curve to predict the percent of  
251 the exposed population expected to be awakened as a function of the exposure to single  
252 event noise levels expressed in terms of sound exposure level (SEL). Since the adoption  
253 of FICON's interim curve in 1992, substantial field research in the area of sleep  
254 disturbance has been completed. The data from these studies show a consistent pattern,  
255 with considerably less percent of the exposed population expected to be behaviorally  
256 awakened.

257 In light of this new information, FICAN recommends the adoption of a new  
258 dose-response curve for predicting awakening, based on the data in this paper and the  
259 supporting references. Because the adopted curve represents the upper limit of the data  
260 presented, it should be interpreted as predicting the "maximum percent of the exposed  
261 population expected to be behaviorally awakened."

262 Federal Interagency Committee on Noise (FICON). (1992, August). *Federal Agency Review of*  
263 *Selected Airport Noise Analysis Issues*. Spectrum Sciences and Software Inc.: Ft. Walton  
264 Beach, FL.

265 The 1990 Federal Interagency Committee on Noise, FICON, was formed to review  
266 Federal policies that govern the assessment of airport noise impacts. It has since been  
267 superseded by FICAN. FICON produced this report and made aviation noise policy  
268 recommendations. This report explicitly recommends continued use of DNL, but  
269 recognizes that this metric and use of only the value of DNL 65 dB may be insufficient to  
270 communicate the potential noise effects and the need for noise abatement measures.  
271 Policy recommendations included: (1) Continued use of the DNL metric as the principal  
272 means for describing long-term noise exposure of aircraft. (2) Continued agency  
273 discretion in the use of supplemental noise analyses. (3) Improved public understanding  
274 of the DNL metric, supplemental methodologies and aircraft noise impacts. (4) A  
275 screening analysis for noise sensitive areas (i.e., additional analysis should be performed  
276 in environmental documents where there is an increase in noise of 3 dB or greater at the  
277 DNL 60 dB noise level). The full report can be downloaded from the FICAN website.

278 Federal Interagency Committee on Urban Noise (FICUN). (1980, June). *Guidelines for*  
279 *Considering Noise in Land Use Planning and Control*.

280 A number of Federal agencies have published policies and/or guidance on noise and land  
281 use. These agencies included the Department of Defense, Department of Transportation,  
282 Housing and Urban Development, Environmental Protection Agency, and Veteran's  
283 Administration. The 1980 document provided a consolidation of federal guidance on  
284 incorporating noise considerations in local development planning and site review. While  
285 this document did not replace individual federal agency material, it has served as a guide  
286 for individual agencies in dealing with their respective noise and land use compatibility  
287 programs.

288 Fidell, S., Barger, D.S., Schultz, T.J. (1991, January). Updating a Dosage-Effect Relationship for  
289 the Prevalence of Annoyance Due to General Transportation Noise. *Journal of the*  
290 *Acoustic Society of America*, 89, 221-233.

291 More than a decade had passed since a relationship between community noise exposure  
292 and the prevalence of annoyance was synthesized by Schultz from the findings of a dozen  
293 social surveys. This quantitative dosage-effect relationship (DNL metric) has been  
294 adopted as a standard means for predicting noise-induced annoyance in environmental  
295 assessment documents. This 1991 document updates the 1978 relationship with findings  
296 of social surveys conducted since its publication. Although the number of data points  
297 from which a new relationship was inferred more than tripled, the 1978 relationship still  
298 provides a consistent fit to the original data.

299 Fidell, S., Pearsons, K., Tabachnick, B.G., Howes, R. (2000, May). Effects on Sleep Disturbance  
300 of Changes in Aircraft Noise Near Three Airports. *Journal of the Acoustical Society of*  
301 *America*, 107(5), 2,535-2,548.

302 Field measurements were conducted of potential sleep disturbance associated with  
303 changes in nighttime aircraft noise exposure near three airports. One study was conducted  
304 near Stapleton International Airport and Denver International Airport in anticipation of  
305 the closure of the former and opening of the latter. A second study was conducted in the  
306 vicinity of DeKalb-Peachtree Airport, a large general aviation airport. No major  
307 differences in noise-induced sleep disturbance were observed as a function of changes in  
308 nighttime aircraft noise exposure.

309 Fidell, S., Richard, H., Tabachnick, B.G., Pearsons, K., and Sneddon, M.D. (1995, December).  
310 *Noise-Induced Sleep Disturbance near Two Civil Airports*, NASA Report 198252.

311 This report presents the methods and results of four in-home sleep studies conducted in  
312 the vicinities of Denver Stapleton International Airport (DEN) and Denver International  
313 Airport (DIA). The studies were carried out before and after the closing of DEN and  
314 before and after the opening of DIA. Sound Exposure Level, SEL, was the metric of the  
315 noise event used. The percent of noise events producing either awakenings or increased  
316 movement varied widely. Approximately 2% of events at 70 dB SEL resulted in  
317 behavioral awakenings, and from 21% to 75% of events at 70 dB SEL resulted in  
318 actimetric (movement) responses depending on the criteria used. All measures show an  
319 increasing awakening or arousal response with increasing SEL.

320 General Accounting Office. (2000, August). *Aviation and the Environment, Airport Operations*  
321 *and Future Growth Present Environmental Challenges*. GAO/RCED-00-153.  
322 Washington, D.C.

323 This report provides “information on (1) the key concerns and challenges associated with  
324 airports’ current operations and future growth—particularly concerns about noise, water  
325 pollution, and air pollutant emissions—and the actions being taken by the nation’s busiest  
326 airports to balance environmental concerns with such operations and growth and (2) the  
327 actions taken by FAA and other federal agencies to address environmental concerns  
328 associated with airports’ current operations and future growth.” The study found that  
329 noise is the primary environmental concern and challenge for airports. The top concern  
330 was older aircraft, followed by incompatible local zoning, pressure for residential  
331 development, and increasing population.

332 Miedema, H.M.E., et al. (2003, January). *Elements for a Position Paper on Night-Time*  
333 *Transportation Noise and Sleep Disturbance*. TNO Inro report 2002-59. Netherlands.

334 The EU Directive (DIRECTIVE 2002/49/EC, relating to the assessment and management  
335 of environmental noise) specifies  $L_{\text{night}}$  as the indicator for sleep disturbance. This report  
336 presents relationships between  $L_{\text{night}}$  and sleep disturbance for transportation noise. The  
337 effects of sleep that are addressed are: 1) onset of motility, 2) increase in mean motility  
338 during sleep and 3) self-reported sleep disturbance.

339 National Technical Information Service (NTIS), U.S. Department of Commerce. (1992,  
340 October). *Guidelines for the Sound Insulation of Residences Exposed to Aircraft*  
341 *Operations*.

342 The guide provides a project management handbook for studying, initiating, and  
343 implementing residential sound insulation programs in neighborhoods around civilian  
344 and military airports. The guide presents information based on fundamental acoustic  
345 principles supported by practical experience gained in numerous residential sound  
346 insulation projects across the country. The most successful solutions to problems  
347 typically encountered in these projects have been discussed in the guide.

348 Navrud, Stale. (2002, April 12). *The State-of-the-Art on Economic Valuation of Noise*. Final  
349 Report to European Commission DG Environment.

350 This paper reviews the state-of-the-art in economic valuation of noise to provide advice  
351 to the European Commission in determining interim values for noise to be used in Benefit  
352 Cost Analysis.

353 Nijland, H.A., E.E.M.M. Van Kempen, G.P. Van Wee, and J. Jabben. (2003). *Costs and Benefits*  
354 *of Noise Abatement Measures*. Transport Policy 10, pp. 131-140.

355 This paper describes a cost-benefit analysis of a number of possible noise abatement  
356 measures in the Netherlands. Benefits are calculated according to consumers' preferences  
357 for dwellings, and values applied are derived from two different methodologies (hedonic  
358 pricing and contingent valuation). Costs are shown to be surpassed by benefits. The paper  
359 identifies weaknesses in valuing noise, particularly where issues of equity, benefit  
360 transfer and embedding are concerned.

361 Ollerhead, J.B., et al. (1992, December). *Report of a Field Study of Aircraft Noise and Sleep*  
362 *Disturbance*. United Kingdom: Department of Transport.

363 This is one of the first large scale in-home studies of awakening due to aircraft noise.  
364 Subjects were between the ages of 20 and 70 years. Subjects kept sleep diaries and wore  
365 actimeters (to measure motility) for 15 nights. The objectives were to determine the  
366 relationship between outdoor aircraft sound levels and the probability of sleep  
367 disturbance. Overall, aircraft noise events with a Sound Exposure Level less than 90 dB  
368 were unlikely to produce any measurable increase in rates of sleep disturbance. The study  
369 also found that sensitivity to sleep disturbance varied by more than a factor of two – the  
370 most sensitive individuals were more than twice as likely to be disturbed by an event than  
371 were the least sensitive. An important conclusion was that all sleep disturbance data  
372 collected in laboratory situations significantly over-estimated the probability of  
373 awakening in a home situation.

374 Oregon Department of Aviation. (2003, January). *Airport Land Use Compatibility Guidebook for*  
375 *Oregon*.

376 Oregon’s Department of Environmental Quality (DEQ) recognizes airport noise as a  
377 threat to the public health and welfare of residents living near an airport. Oregon follows  
378 the FAA recommendations for specific noise abatement and mitigation within and above  
379 the 65 DNL noise contours.

380 The guidebook offers overlay zoning ordinances and planning templates for airports in  
381 order to identify noncompatible land uses, prevent future noncompatible development  
382 and protect the airport as a viable part of the transportation system. Due to complex fleet  
383 mixes these templates should not be used at larger commercial airports, such as Portland,  
384 Eugene, and Medford.

385 Papsidero, V. (1992). Airport Noise Regulations. *Planning Advisory Service Report 437*.  
386 Chicago, IL: American Planning Association.

387 This report looks at how to use noise overlay districts to encourage land-use  
388 compatibility within an airport area. It reviews the federal guidelines for establishing  
389 noise overlay zones, defines terms used in discussions of airport-related noise problems,  
390 and presents models of a zoning ordinance, a subdivision ordinance, a building code, and  
391 an easement contract.

392 Passchier-Vermeer, W., et al. (2002, June). *Sleep Disturbance and Aircraft Noise Exposure,*  
393 *Exposure-Effect Relationships*. TNO Report number 2002.027. Netherlands.

394 This study was conducted in people’s homes in the vicinity of Schiphol Airport. Both  
395 actimeters and button pushes were used to identify motility and behavioral awakenings.  
396 Results are reported as probability of motility and probability of increased motility  
397 relative to non-noise motility. One result was that the probability of increased motility  
398 increases when indoor maximum A-weighted sound levels from aircraft exceed 40 dB (or  
399 an SEL of about 50 dB). Indoor sound levels were found to effect subjects’ response,  
400 with louder interior levels decreasing the probability of aircraft noise induced motility.

401 Schultz, T.J. (1978, August). Synthesis of Social Surveys on Noise Annoyance. *Journal of the*  
402 *Acoustical Society of America*, 64 (2), 377-405.

403 This article is the original published paper relating percent of people reporting being  
404 “highly annoyed” to DNL. It provides a curve, now often referred to as “the Schultz  
405 Curve,” that graphically presents that “dose-response” relationship. It is often cited as the  
406 basis for the use of DNL 65 dB as the threshold of noise impact. It should be noted that  
407 the “Schultz Curve” includes annoyance from all transportation sources, see Fidell, S.  
408 Mar-Apr 2004, for an interpretation of annoyance produced by aircraft only.

409 Transportation and Regional Services. (2000). *Expanding Ways to Describe and Assess Aircraft*  
410 *Noise*. Australia.

411 This document strives to advance the way in which aircraft noise exposure information is  
412 conveyed to the non-expert as a basis for informed dialogue between airports and  
413 surrounding communities. It responds to the difficulties in communicating the sound  
414 levels produced or expected to be produced by aircraft operations at an airport. This  
415 document presents several tested alternative descriptions for cumulative metrics. The  
416 methods presented do not replace, but supplement, the cumulative metrics of noise  
417 exposure.

418 Upham, P., Thomas, C., Gillingwater, D., and Raper, D. (2003, May). Environmental Capacity  
419 and Airport Operations: Current Issues and Future Prospects. *Journal of Air Transport*  
420 *Management*, 9 (3), 145–151. Manchester, United Kingdom: Elsevier.

421 This paper defines the environmental capacity of an airport in terms of “aircraft noise, air  
422 quality, third party risk, biodiversity, climate change and community opposition to  
423 growth.” The positive effects of quieter aircraft have been offset by growth in air traffic.  
424 Impact can be mitigated in the short term through operational noise abatement measures.  
425 Effective land use planning is mentioned as a long term measure. The recommendations  
426 for maximizing the environmental capacity of an airport do not address land use  
427 compatibility. Long term airport planning, including planning for ground transportation  
428 infrastructure, is recommended.

429 US Code Title 49 Transportation, Subtitle VII *Aviation Programs*, Part B, Chapter 471 Airport  
430 Development, Subchapter I Airport Improvements, Section 47101 (c) Capacity  
431 Expansion and Noise Abatement.

432 This paragraph states “...it is in the public interest to recognize the effects of airport  
433 capacity expansion projects on aircraft noise. Efforts to increase capacity through any  
434 means can have an impact on surrounding communities. Noncompatible land uses around  
435 airports must be reduced and efforts to mitigate noise must be given a high priority.”

436 US Code Title 49 Transportation, Subtitle VII *Aviation Programs*, Part B, Chapter 475 Noise,  
437 Subchapter I Noise Abatement.

438 This subchapter requires that a single system be developed for measuring noise and  
439 determining the level of noise exposure caused by airport operations. It also requires  
440 identification of land uses normally compatible with exposure to noise. Section 47505 of  
441 the act authorizes the issuance of grants for airport noise compatibility planning to reduce  
442 or prevent noncompatible land uses in communities around airports.

443 US Code Title 49 Transportation, Subtitle VII *Aviation Programs*, Part B, Chapter 475 Noise,  
444 Subchapter II National Aviation Noise Policy Airport Noise and Capacity Act of 1990.

445 As stated in the law, Congress found that community noise concerns led to uncoordinated  
446 and inconsistent restrictions on aviation that could impede the national air transportation  
447 system and that a noise policy must be carried out on a national level. Congress stated it  
448 recognized that community concerns can be alleviated through the use of new technology  
449 airplanes and the use of revenues. In this law, Congress established the collection of  
450 passenger facility charges, the phase out of Stage 2 airplanes weighing greater than  
451 75,000 pounds from operating in the continental United States, and a requirement for the  
452 federal government to establish procedures for reviewing airport noise and access  
453 restrictions on the operation of Stage 2 and Stage 3 airplanes. As of January 1, 2000, all  
454 turbojet airplanes weighing greater than 75,000 pounds were required to meet Stage 3  
455 noise levels or cease operations in the continental United States.

456 The FAA adopted a new noise standard for subsonic jet airplanes and subsonic transport  
457 category large airplanes. The standard ensures that the latest available noise reduction  
458 technology is incorporated into new airplane designs. This Stage 4 airplane design noise  
459 standard (published July 5, 2005, in the *Federal Register*) applies to any person  
460 submitting an application for a new airplane type design on and after January 1, 2006.

461 US Code Title 49 Transportation, Subtitle VII *Aviation Programs*, Part B, Chapter 471 Airport  
462 Development, Subchapter I Airport Improvement Section 47141

463 This section, authorized in section 160 of *Vision 100 - Century of Aviation*  
464 *Reauthorization Act*, Public Law 108-176, H.R.2115 (2003, December), established a  
465 pilot program enabling states or local governmental agencies to receive federal funding  
466 for land-use compatibility planning and projects. The government entity must have land  
467 use jurisdiction and be located around large or medium sized hub airports that had not  
468 conducted a Part 150 Study within the past 10 years. The state or local agency must enter  
469 into a written cooperative agreement with the airport operator that the agreement will  
470 achieve, to the maximum extent possible, compatible land uses consistent with Federal  
471 land use compatibility criteria under Section 47502(3) and that those compatible land  
472 uses will be maintained in perpetuity. Additionally, it requires jurisdictions that accept  
473 federal funding for land-use compatibility plans to comply in perpetuity with all FAA  
474 land-use regulations including airspace and height constraints.

475 The law also provided funding for an FAA study to provide prospective home buyers  
476 located within the vicinity of an airport access to the Noise Exposure Maps and other  
477 information derived from these maps. The ability to have information about an airport's  
478 noise exposure was seen as an expansion of real estate disclosure and was viewed as an  
479 important step in compatible land-use planning around airports.

480 Waitz, IA, et al. (2004, December). *Aviation and the Environment*. Report to the United States  
481 Congress. Cambridge, MA.

482 This is the study required by Vision 100, to seek ways to reduce aircraft noise and  
483 emissions and increase aircraft fuel efficiency. Three recommendations were made from  
484 this study. First, establish a federal interagency group to coordinate and communicate  
485 governmental actions to reduce the negative impacts of aviation on local air quality, noise  
486 and climate change. Secondly, develop metrics and tools that communicate best scientific  
487 understandings of aviation's environmental impacts on human health and welfare. The  
488 tools should integrate environmental and economic cost/benefit analyses in order to  
489 evaluate research benefits of source reduction technologies and operational  
490 advancements, assess environmental constraints on airspace expansion, account for  
491 airline economics, assess policy and operational decision impacts on communities, and  
492 understand aviation's environmental damage and future mitigation costs. Third,  
493 nationally pursue a balanced approach towards development of operational, technological  
494 and policy options to reduce the unfavorable aviation environmental impacts.

495 Washington State Department of Transportation, Aviation Division. (1999, February). *Airports*  
496 *and Compatible Land Use*. Volume One: An Introduction and Overview for Decision-  
497 Makers. Seattle, WA.

498 This volume is an introduction to airport land use compatibility planning as applied in  
499 Washington State. Part I covers the State interest in aviation. Part II covers the challenge  
500 of encroachment and the Airport Land Use Compatibility Program. The program includes  
501 general technical assistance, a best practices handbook, comprehensive plan review, and  
502 technical outreach workshops. Part III discusses the impact of the challenge: height  
503 hazards, safety, and noise. Part IV discusses the dimensions of the challenge:

504 understanding risk and liability. Part V concludes that airports and local jurisdictions  
505 must be willing to work together on long term solutions.

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**APPENDIX F. TERMS AND ACRONYMS****A**

2	<b>AC</b>	Advisory Circular
3	<b>ADO</b>	Airports District Office
4	<b>AEDT</b>	Aviation Environmental Design Tool
5	<b>AEE</b>	Office of Environment and Energy
6	<b>AEM</b>	Area Equivalent Method
7	<b>AFE</b>	Above Field Elevation
8	<b>AIP</b>	Airport Improvement Program
9	<b>AIR</b>	Aerospace Information Report
10	<b>Airport Operator</b>	The public agency or private owner of a public-use airport,
11		typically referred to in this AC as airport sponsor.
12	<b>ALP</b>	Airport Layout Plan
13	<b>ANCA</b>	Airport Noise and Capacity Act
14	<b>ANOZ</b>	Airport Noise Overlay Zones
15	<b>APA</b>	American Planning Association
16	<b>APO</b>	Office of Aviation Policy and Plans
17	<b>APU</b>	Auxiliary Power Unit
18	<b>ARTCC</b>	Air Route Traffic Control Center
19	<b>ASNA</b>	Aviation Safety and Noise Abatement Act of 1979
20	<b>ATCT</b>	Airport Traffic Control Tower
21	<b>ATO</b>	Air Traffic Organization

**C**

22	<b>CAC</b>	Citizen's Advisory Committee
23	<b>CatEx</b>	Categorical Exclusion
24	<b>CDA</b>	Continuous Descent Arrival
25	<b>CFR</b>	Code of Federal Regulations
26	<b>CNEL</b>	Community Noise Equivalent Level (California)
27	<b>CIR</b>	Circuit Flight

**D**

28	<b>dB</b>	Decibel
29	<b>dB(A)</b>	A-weighted decibels
30	<b>DNL</b>	Day-Night Average Sound Level
31	<b>DOT</b>	Department of Transportation

**E**

32	<b>EA</b>	Environmental Assessment
33	<b>EIS</b>	Environmental Impact Statement
34	<b>EPA</b>	Environmental Protection Agency

**F**

35	<b>FAA</b>	Federal Aviation Administration
36	<b>ARP POC</b>	The airport sponsor's normal point of contact within the FAA
37		Airports line of business. This is typically the FAA project
38		manager at an Airports District Office (ADO) or Regional
39		Office.
40	<b>FBO</b>	Fixed Base Operator
41	<b>FICON</b>	Federal Interagency Committee on Noise
42	<b>FICAN</b>	Federal Interagency Committee on Aviation Noise
43	<b>FMS</b>	Flight Management Systems
44	<b>FOIA</b>	Freedom of Information Act
45	<b>FONSI</b>	Finding of No Significant Impact

**G**

46	<b>GIS</b>	Geographic Information Systems
47	<b>GSE</b>	Ground Service Equipment

**H**

48	<b>HNM</b>	Helicopter Noise Model
----	------------	------------------------

**I**

49	<b>ILS</b>	Instrument Landing System
50	<b>INM</b>	Integrated Noise Model

**L**

51	<b>LBCS</b>	Land-Based Classification Standards
52	<b>Leq</b>	Equivalent Sound Level
53	<b>Lmax</b>	Maximum Sound Level

**N**

54	<b>NADP</b>	Noise Abatement Departure Profile
55	<b>NASAO</b>	National Association of State Aviation Officials
56	<b>NAVAIDs</b>	Navigational Aids
57	<b>NBAA</b>	National Business Aviation Association
58	<b>NCP</b>	Noise Compatibility Program
59	<b>NED</b>	National Elevation Dataset
60	<b>NEM</b>	Noise Exposure Map
61	<b>NEPA</b>	National Environmental Policy Act
62	<b>NLR</b>	Noise Level Reduction
63	<b>NPD</b>	Noise-Power-Distance Curves
64	<b>NPIAS</b>	National Plan of Integrated Airport Systems
65	<b>NRHP</b>	National Register of Historic Places

**O**

66	<b>ODP</b>	Optimum Descent Performance/Procedure
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**P**

67	<b>Part 150</b>	“Part 150” refers to title 14 Code of Federal Regulations (CFR) Part 150, in other words the regulation.
68		
69	<b>Part 150 Study</b>	“Part 150 Study” or “Part 150 Process” (upper case) refers to an airport sponsor’s Noise Compatibility Planning Study.
70		
71	<b>PDR</b>	Purchase of Development Rights
72	<b>PFC</b>	Passenger Facility Charge

**R**

73	<b>RNAV</b>	Area Navigation
74	<b>RNP</b>	Required Navigation Performance

75	<b>RV</b>	Recreational Vehicle
<b>S</b>		
76	<b>SAE</b>	Society of Automotive Engineers
77	<b>SEC</b>	Securities and Exchange Commission
78	<b>SEL</b>	Sound Exposure Level
79	<b>SID</b>	Standard Instrument Departure
80	<b>SLUCM</b>	Standard Land Use Coding Manual
81	<b>SRM</b>	Safety Risk Management
82	<b>STAR</b>	Standard Terminal Arrival
<b>T</b>		
83	<b>TA</b>	Time Above
84	<b>TAC</b>	Technical Advisory Committee
85	<b>TAF</b>	Terminal Area Forecast
86	<b>TDR</b>	Transfer Development Rights
87	<b>TNG</b>	Touch-And-Go (check to see which one is correct)
88	<b>TRACON</b>	Terminal Radar Approach Control
<b>U</b>		
89	<b>USC</b>	United States Code
90	<b>USGS</b>	United States Geological Survey
<b>V</b>		
91	<b>VFR</b>	Visual Flight Rules

### Advisory Circular Feedback Form

Paperwork Reduction Act Burden Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0746. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are voluntary to obtain or retain benefits per 14 CFR 77. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Planning & Environmental Division, Federal Aviation Administration ATTN: APP-400, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Planning & Programming at (202) 267-5383.

Subject: AC 150/5020-1A

Date: \_\_\_\_\_

*Please check all appropriate line items:*

An error (procedural or typographical) has been noted in paragraph \_\_\_\_\_ on page \_\_\_\_.

Recommend paragraph \_\_\_\_\_ on page \_\_\_\_\_ be changed as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In a future change to this AC, please cover the following subject:  
*(Briefly describe what you want added.)*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other comments:

\_\_\_\_\_  
\_\_\_\_\_  
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I would like to discuss the above. Please contact me at (phone number, email address).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Submitted by: \_\_\_\_\_

Date: \_\_\_\_\_



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject:** Hazardous Wildlife Attractants on or  
near Airports

**Date:** 02/21/2020

**AC No:** 150/5200-33C

**Initiated By:** AAS-300

**Change:**

**1 Purpose.**  
This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

**2 Cancellation.**  
This AC cancels AC 150/5200-33B, *Hazardous Wildlife Attractants on or near Airports*, dated August 28, 2007.

**3 Application.**  
The Federal Aviation Administration recommends the guidance in this AC for land uses that have the potential to attract hazardous wildlife on or near public-use airports. This AC does not constitute a regulation, is not mandatory, and is not legally binding in its own right. It will not be relied upon as a separate basis by the FAA for affirmative enforcement action or other administrative penalty. Conformity with this AC is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations, except as follows:

1. Airports that hold Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D, may use the standards, practices and recommendations contained in this AC as one, but not the only, acceptable means of compliance with the wildlife hazard management requirements of Part 139.
2. The FAA recommends the guidance in this AC for airports that receive funding under Federal grant assistance programs, including the Airport Improvement Program. See Grant Assurance #34.

3. The FAA recommends the guidance in this AC for projects funded by the Passenger Facility Charge program. See PFC Assurance #9.
4. The FAA recommends the guidance in this AC for land-use planners and developers of projects, facilities, and activities on or near airports.

#### 4 **Principal Changes.**

Changes are marked with vertical bars in the margin. Change in this AC include:

1. Clarification by the FAA that non-certificated airports are recommended to conduct a Wildlife Hazard Assessment (Assessment) or a Wildlife Hazard Site Visit (Site Visit);
2. Table 1, Ranking of Hazardous Species, has been moved to Advisory Circular 150/5200-32, *Reporting Wildlife Aircraft Strikes* (5/31/2013);
3. Consolidation and reorganization of discussion on land uses of concern; and updated procedures for evaluation and mitigation. Discussion addresses off-airport hazardous wildlife attractants, followed by discussion of on-airport attractants. It also clarifies language regarding the applicability of the AC.

#### 5 **Background.**

1. Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a risk<sup>1</sup> to aircraft safety, they are not equally hazardous<sup>2</sup>. These hazard rankings can help focus hazardous wildlife management efforts on those species or groups that represent the greatest risk to safe air and ground operations in the airport environment. Used in conjunction with a site-specific Assessment that will determine the relative abundance and use patterns of wildlife species, these rankings combined with a systematic risk analysis can help airport operators better understand the general threat level (and consequences) of certain wildlife species. Also, the rankings can assist with the creation of a “high risk” list of hazardous species that warrant immediate attention.
2. Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport’s approach or departure airspace or aircraft operations area. Constructed or natural areas— such as

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<sup>1</sup> Risk is the relationship between the severity and probability of a threat. It is the product of hazard level and abundance in the critical airspace, and is thus defined as the probability of a damaging strike with a given species.

<sup>2</sup> Hazardous wildlife are species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).

poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, wetlands, or some conservation-based land uses — can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks, can produce substantial attractions for hazardous wildlife.

3. During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on and near airports can jeopardize future airport expansion, making proper community land-use planning essential. This AC provides airport operators and those parties with whom they cooperate with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land-use practices on or near public-use airports.

#### 6 **Memorandum of Agreement Between Federal Resource Agencies.**

The FAA, the U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services signed a Memorandum of Agreement (MOA) to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife strikes) throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the Nation's valuable environmental resources.

#### 7 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody  
Director of Airport Safety and Standards



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## CHAPTER 1. GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS

### 1.1 Introduction.

- 1.1.1 Airport operators should maintain an appropriate environment for the safe and efficient operation of aircraft, which entails mitigating wildlife strike hazards by fencing, modifying the landscape in order to deter wildlife or by hazing or removing wildlife hazardous to aircraft from congregating on airports. When considering proposed land uses, operators and sponsors of airports certificated under Part 139, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports, specifically those listed in Chapter 2, can significantly increase the potential for wildlife strikes.
- 1.1.2 The FAA urges regulatory agencies and planning and zoning agencies to evaluate proposed new land uses within the separation criteria and prevent the creation of land uses that attract or sustain hazardous wildlife within the separation distances.
- 1.1.3 The FAA recommends the use of minimum separation criteria outlined below for land-use practices that attract hazardous wildlife to the vicinity of airports. Please note that FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or aircraft operations area. (See the discussion of the synergistic effects of surrounding land uses in Paragraph 2.8 of this AC.). For the purpose of evaluating distance criteria, the delineation of the aircraft operations area may also consider future airport development plans depicted on the Airport Layout Plan (e.g., planned runway extension).
- 1.1.4 The separation distances are based on (1) flight patterns and performance criteria of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board recommendations.

### 1.2 Airports Serving Piston-Powered Aircraft.

Airports that do not sell Jet-A fuel normally serve piston-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 5,000 feet from these airports for any of the hazardous wildlife attractants discussed in Chapter 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Figure 1 depicts an example of the 5,000-foot separation distance measured from the nearest aircraft operations area.

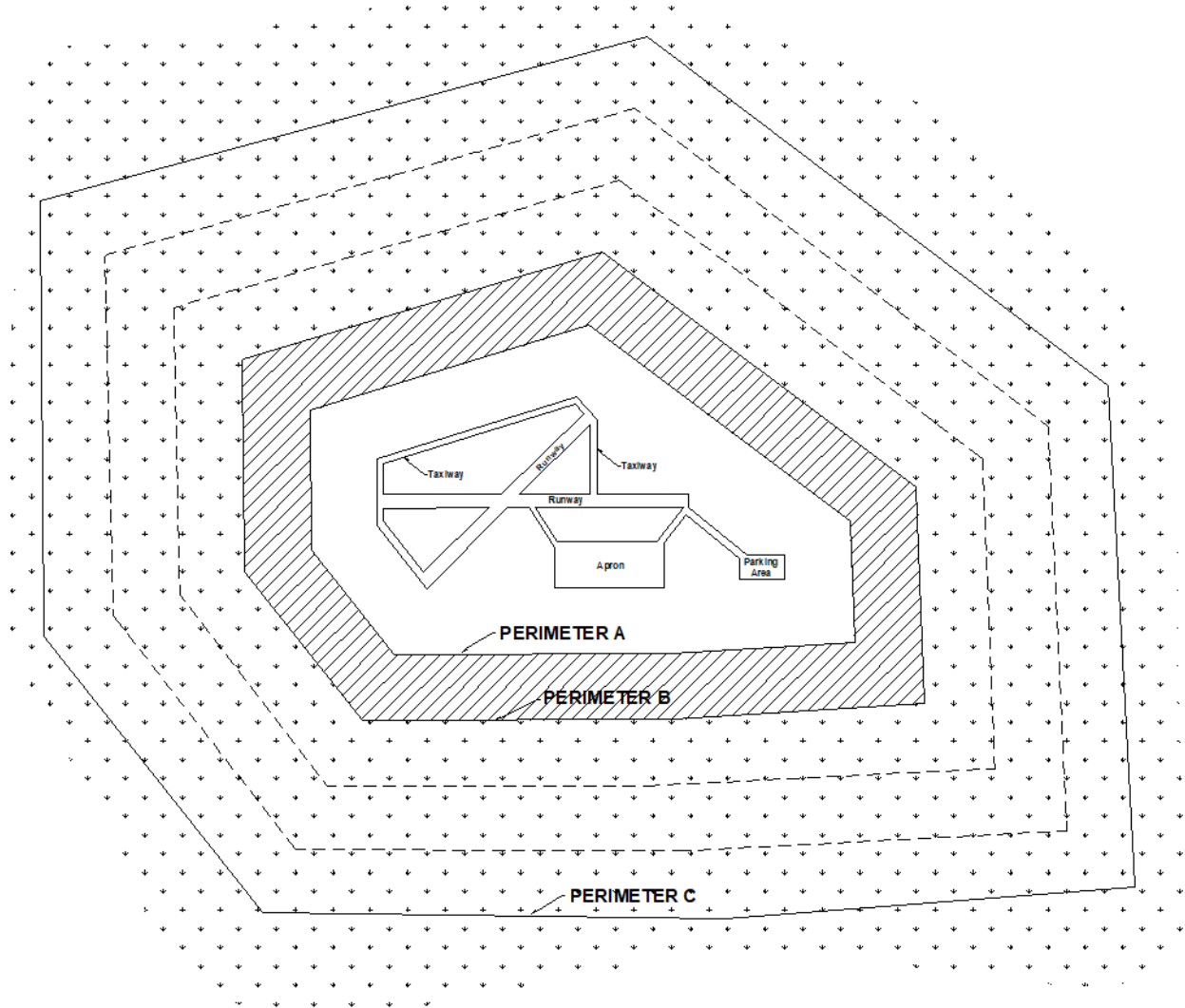
**1.3 Airports Serving Turbine-Powered Aircraft.**

For airports serving turbine-powered aircraft, the FAA recommends a separation distance of 10,000 feet from these airports for any of the hazardous wildlife attractants discussed in Chapter 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Figure 1 depicts an example of the 10,000-foot separation distance from the nearest aircraft movement areas.

**1.4 Protection of Approach, Departure, and Circling Airspace.**

For all airports, the FAA recommends a distance of 5 miles between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Special attention should be given to hazardous wildlife attractants that could cause hazardous wildlife movement into or across the approach or departure airspace. Figure 1 depicts an example of the 5-mile separation distance measured from the nearest aircraft operations area.

**Figure 1. Example of recommended separation distances described in Chapter 1 within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.**



**PERIMETER A:** For airports serving piston-powered aircraft, it is recommended hazardous wildlife attractants be 5,000 feet from the nearest aircraft operations area.

**PERIMETER B:** For airports serving turbine-powered aircraft, it is recommended hazardous wildlife attractants be 10,000 feet from the nearest aircraft operations area.

**PERIMETER C:** Recommended for all airports, 5-mile range to protect approach, departure and circling airspace.

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## CHAPTER 2. LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE

### 2.1 General.

- 2.1.1 Many types of vegetation, habitats and land use practices can provide an attractant to animals that pose a risk to aviation safety. Hazardous wildlife use the natural or artificial habitats on or near an airport for food, water or cover. The wildlife species and the size of the populations attracted to the airport environment vary considerably, depending on several factors, including land-use practices on or near the airport. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports* manual, prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French). This manual, as well as other helpful resources can be viewed and downloaded free of charge from the Wildlife Strike Resources section of the FAA's wildlife hazard mitigation web site: [http://www.FAA.gov/airports/airport\\_safety/wildlife](http://www.FAA.gov/airports/airport_safety/wildlife)).
- 2.1.1.1 The USDA / Animal and Plant Health Inspection Service (APHIS) / Wildlife Services developed a new publication series on wildlife damage management and is available online. The Wildlife Damage Management Technical Series highlights wildlife species or groups of wildlife species that cause damage to agriculture, property and natural resources, and/or impact aviation and human health and safety. The publications can be found at: [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa\\_reports/ct\\_wildlife+damage+management+technical+series](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/ct_wildlife+damage+management+technical+series).
- 2.1.1.2 Additional resources have been provided by the USDA / APHIS / Wildlife Services National Wildlife Research Center (NWRC) at: [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nwrc/sa\\_publications/ct\\_research\\_gateway](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nwrc/sa_publications/ct_research_gateway). The NWRC Research Gateway contains research articles, reports, factsheets, technical notes, data and other materials on wildlife hazard mitigation, risk reduction, animal ecology, habitats, and advanced technologies and methodologies.
- 2.1.2 This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. The FAA has determined that the land uses listed below are generally not compatible with safe airport operations when they are located within the separation distances provided in Paragraphs 1.2 through 1.4.
- 2.1.3 As a reminder, these types of land uses or facilities often require permits from the appropriate permitting agency. The FAA may work with the permitting agency to include conditions for monitoring and mitigation measures, if necessary. Ultimately, the permittee is responsible for compliance to these conditions and the permitting agency is responsible for tracking compliance.



## 2.2 Waste Disposal Operations.

Municipal solid waste landfills (municipal landfills) are known to attract large numbers of hazardous wildlife, particularly birds. Because of this, these operations, when located within the separations identified in the siting criteria in Paragraphs 1.2 through 1.4, are considered incompatible with safe airport operations.

### 2.2.1 Siting for New Municipal Solid Waste Landfills Subject to AIR 21.

2.2.1.1 Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (P. L. 106-181) (AIR 21), 49 U.S.C. § 44718(d), prohibits the construction or establishment of a new municipal landfill within 6 miles of certain public-use airports. Before these prohibitions apply, both the airport and the landfill must meet the very specific conditions described below. These restrictions do not apply to airports or landfills located within the state of Alaska.

2.2.1.2 The airport must (1) have received a Federal grant(s) under 49 U.S.C. § 47101, et. seq.; (2) be under control of a public agency; (3) serve some scheduled air carrier operations conducted in aircraft with less than 60 seats; and (4) have total annual enplanements consisting of at least 51 percent of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

2.2.1.3 The proposed municipal landfill must (1) be within 6 miles of the airport, as measured from airport property line to the landfill property line, and (2) have started construction or establishment on or after April 5, 2001. Section 44718(d) only limits the construction or establishment of some new landfills. It does not limit the expansion, either vertical or horizontal, of existing landfills.

2.2.1.4 Regarding existing municipal landfills and lateral expansions of landfills, 40 CFR § 258.10 requires owners or operators of a landfill units located within the separation distances provided in Paragraphs 1.2 through 1.4 to demonstrate that the unit is designed and operated so that it does not pose a bird hazard to aircraft. To accomplish this, follow the instructions provided in Paragraphs 3.2 and 3.3, document the wildlife monitoring and mitigation procedures that are cooperatively developed, and place this documentation in the operating permit of the facility.

### 2.2.2 Siting for New Municipal Landfills Not Subject to AIR 21.

If an airport and a municipal landfill do not meet the criteria of § 44718(d), then FAA recommends against locating the landfill within the separation distances identified in Paragraphs 1.2 through 1.4. In determining this distance separation, measurements should be made from the closest point of the airport property boundary to the closest point of the landfill property boundary.

### 2.2.3 Considerations for Existing Waste Disposal Facilities Within the Limits of Separation Criteria.

The FAA recommends against airport development projects that would increase the number of aircraft operations or accommodate larger or faster aircraft near landfill operations located within the separations identified in Paragraphs 1.2 through 1.4. In addition, in accordance with 40 CFR § 258.10, owners or operators of existing landfill units that are located within the separations listed in Paragraphs 1.2 through 1.4 must demonstrate that the unit is designed and operated so it does not pose a bird hazard to aircraft. (See Paragraph 4.3.2 of this AC for a discussion of this demonstration requirement.)

### 2.2.4 Enclosed Trash Transfer Stations.

Enclosed waste-handling facilities that receive garbage behind closed doors; process it via compaction, incineration, or similar manner; and remove all residue by enclosed vehicles generally are compatible with safe airport operations, provided they are constructed and operated properly and are not located on airport property or within the Runway Protection Zone. These facilities should not handle or store putrescible waste outside or in a partially enclosed structure accessible to hazardous wildlife. Trash transfer facilities that are open on one or more sides; or store uncovered quantities of municipal solid waste outside, even if only for a short time; or use semi-trailers that leak or have trash clinging to the outside; or do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations. The FAA considers fully enclosed waste-handling facilities constructed or operated incorrectly incompatible with safe airport operations if they are located closer than the separation distances specified in Paragraphs 1.2 through 1.4.

### 2.2.5 Composting Operations on or near Airport Property.

Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife. Sewage sludge, woodchips, and similar material are not municipal solid wastes and may be used as compost bulking agents. The compost, however, must never include food or other municipal solid waste. Composting operations should not be located on airport property unless effective, risk-reducing mitigations are in place. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any aircraft operations area or the distance called for by airport design requirements (see AC 150/5300-13, *Airport Design*). This spacing should prevent material, personnel, or equipment from penetrating any Object Free Area, Obstacle Free Zone, Threshold Siting Surface, or Clearway. Airport operators should monitor composting operations located in proximity to the airport to ensure that steam or thermal rise does not adversely affect air traffic.

### 2.2.6 Underwater Waste Discharges.

The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Paragraphs 1.2 through 1.4 because it could attract scavenging hazardous wildlife.

### 2.2.7 Recycling Centers.

Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, aluminum, electronic, and household wastes such as paint, batteries, and oil, are, in most cases, not attractive to hazardous wildlife and are acceptable.

### 2.2.8 Construction and Demolition Debris Facilities.

2.2.8.1 Construction and demolition landfills generally do not attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, construction and demolition landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, construction and demolition landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities.

2.2.8.2 Therefore, a construction and demolition landfill co-located with another waste disposal operation should be located outside of the separations identified in Paragraphs 1.2 through 1.4.

2.2.8.3 Airport operators should be aware that on-site storage of construction and maintenance debris, as well as out-of-service aircraft or aircraft components, may provide an attractant for hazardous species (e.g., nesting or perching locations). The FAA recommends these on-site areas be monitored and/or mitigated, if necessary.

### 2.2.9 Fly Ash Disposal.

2.2.9.1 The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

2.2.9.2 Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Paragraphs 1.2 through 1.4.

## 2.3 **Water Management Facilities.**

Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, ponds

and fountains for ornamental purposes, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. Development of new open water facilities within the separation criteria identified in Paragraphs 1.2 through 1.4 should be avoided to prevent wildlife attractants. If necessary, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment. The FAA recommends these plans be developed in consultation with a Qualified Airport Wildlife Biologist<sup>3</sup>, to minimize hazardous wildlife attractants.

### 2.3.1 Existing Stormwater Management Facilities.

- 2.3.1.1 On-airport stormwater management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect stormwater, protect water quality, and control runoff. Because they slowly release water after storms, they may create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan, Part 139 regulations require the immediate correction of any wildlife hazards arising from existing stormwater facilities located on or near airports using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a Qualified Airport Wildlife Biologist.
- 2.3.1.2 Where possible, airport operators should modify stormwater detention ponds to allow a maximum 48-hour detention period for the design storm. The combination of open water and vegetation is particularly attractive to waterfowl and other hazardous wildlife. Water management facilities holding water longer than 48 hours should be maintained in a manner that keeps them free of both emergent and submergent vegetation. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat. Drainage basins with a concrete or paved pad should be maintained to prevent or remove any sediment build-up to prevent vegetation growth.
- 2.3.1.3 When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wire grids, pillows,

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<sup>3</sup> See Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports.*

or netting, to deter birds and other hazardous wildlife. When physical barriers are proposed, airport operators must evaluate their use, effectiveness and maintenance requirements. Airport operators must also ensure physical barriers will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

- 2.3.1.4 The FAA recommends that airport operators encourage off-airport stormwater treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into stormwater treatment facility operating practices when their facility is located within the separation criteria specified in Paragraphs 1.2 through 1.4.

### 2.3.2 New Stormwater Management Facilities.

The FAA recommends that storm water management systems located within the separations identified in Paragraphs 1.2 through 1.4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period after the design storm and to remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap or concrete lined, narrow, linear-shaped water detention basins. When it is not possible to place these ponds away from an airport's aircraft operations area (but still on airport property), airport operators may use physical barriers, such as bird balls, wire grids, floating covers, vegetation barriers (bottom liners), or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. Caution is advised when nets or wire grids are used for deterring birds from attractants. Mesh size should be < 5 cm (2") to avoid entangling and killing birds and should not be made of a monofilament material. Grids installed above and across water to deter hazardous birds (e.g., waterfowl, cormorants, etc.) are different than using a small mesh covering but also provides an effective deterrent. Grid material, size, pattern and height above water may differ on a case-by-case basis. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, a review by a Qualified Airport Wildlife Biologist should be conducted, prior to approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages the use of underground storm water infiltration systems because they are less attractive to wildlife.

### 2.3.3 Existing Wastewater Treatment Facilities.

- 2.3.3.1 The FAA recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport.

2.3.3.2 Where required, a wildlife management plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a Qualified Airport Wildlife Biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

#### 2.3.4 New Wastewater Treatment Facilities.

The FAA recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Paragraphs 1.2 through 1.4. Appendix 1 defines wastewater treatment facility as “any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes.” The definition includes any pretreatment involving the reduction or elimination of pollutants prior to introducing such pollutants into a treatment facility. When a wastewater treatment facility is proposed within the separation criteria, the airport operator, project proponent, and local jurisdiction should discuss the proposed project location with regard to its location near the airport and the separation distances identified in Paragraphs 1.2 through 1.4. If possible, a more suitable location for the proposed facility should be identified. If no other suitable location exists, FAA recommends that the proposed facility plans be reviewed by a Qualified Airport Wildlife Biologist to identify measures to avoid or reduce the facility’s potential to attract hazardous wildlife. If appropriate measures cannot be incorporated to reduce potential wildlife hazards, airport operators should document their opposition in a letter to the local jurisdiction.

#### 2.3.5 Artificial Marshes.

In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA recommends against establishing artificial marshes within the separations identified in Paragraphs 1.2 through 1.4.

#### 2.3.6 Wastewater Discharge and Sludge Disposal.

The FAA recommends careful consideration regarding the discharge of wastewater or biosolids (i.e., secondarily treated sewage sludge) on airport property. Such discharges might improve soil moisture and quality on unpaved areas and lead to improved turf growth. Depending on the airfield plant communities and habitats present, this can be an attractive food source for many species of animals or, conversely, could result in limited attractiveness to hazardous wildlife. Also, improved turf requires more frequent mowing and could attract geese. Airports should improve their turf with the goal of a monoculture of turf that is least attractive to wildlife. Wastewater or biosolids

applications might assist in achieving this goal. Caution should be exercised when discharges saturate airfield areas adjacent to paved surfaces. The resultant soft, muddy conditions could restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

## 2.4 Wetlands.

Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Wetlands can be attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1 - AC 150/5200-32). Some types of wetlands are not as attractive to wildlife as others and they should be reviewed on a case-by-case basis to determine the likelihood of proposed wetlands increasing the numbers of hazardous wildlife at the airport. Factors such as size, shape, location, canopy cover and vegetative composition among other things should be considered when determining compatibility.

**Note:** If questions exist as to whether an area qualifies as a wetland, contact the District Office of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, or a wetland consultant qualified to delineate wetlands.

### 2.4.1 Existing Wetlands on or near Airport Property.

If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports within 5 miles of the aircraft operations area. Where required, a wildlife management plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a FAA Qualified Airport Wildlife Biologist.

### 2.4.2 New Airport Development.

Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Paragraphs 1.2 through 1.4. Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a Qualified Airport Wildlife Biologist, in coordination with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the state wildlife management agency should evaluate the wildlife hazards and prepare a wildlife management plan that indicates methods of minimizing the hazards.

### 2.4.3 Mitigation for Wetland Impacts from Airport Projects.

Wetland mitigation may be necessary when unavoidable wetland disturbances result from new airport development projects or projects required to correct wildlife hazards from wetlands. Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Paragraphs 1.2 through 1.4.

#### 2.4.3.1 **Onsite Mitigation of Wetland Functions.**

Wetland mitigation/conservation easements must not inhibit the airport operator's ability to effectively control hazardous wildlife on or near the mitigation site or effectively maintain other aspects of safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife must be avoided. The FAA will review any onsite mitigation proposals to determine compatibility with safe airport operations and grant assurance compliance. Early coordination with the FAA is encouraged for any proposal to use airport land for wetland mitigation. A Qualified Airport Wildlife Biologist should evaluate any wetland mitigation projects that are needed to protect unique wetland functions and that must be located in the separation criteria in Paragraphs 1.2 through 1.4 before the mitigation is implemented. A wildlife management plan should be developed to reduce the wildlife hazards.

#### 2.4.3.2 **Offsite Mitigation of Wetland Functions.**

- 2.4.3.2.1 The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Paragraphs 1.2 through 1.4 unless they provide unique functions that must remain onsite (see 2.4.3.1). Agencies that regulate impacts to or around wetlands recognize that it may be necessary to split wetland functions in mitigation schemes. Therefore, regulatory agencies may, under certain circumstances, allow portions of mitigation to take place in different locations.
- 2.4.3.2.2 The FAA encourages landowners or communities supporting the restoration or enhancement of wetlands to do so only after critically analyzing how those activities would affect aviation safety. To do so, landowners or communities should contact the affected airport sponsor, FAA, and/or a Qualified Airport Wildlife Biologist.
- 2.4.3.2.3 Those parties should work cooperatively to develop restoration or enhancement plans that would not worsen existing wildlife hazards or create such hazards. See Paragraphs 4.1.1 – 4.1.3 for land-use modifications evaluation criteria.
- 2.4.3.2.4 If parties develop a mutually acceptable restoration or enhancement plan, the landowner or community proposing the restoration or enhancement must monitor the restored or enhanced site. This monitoring must verify that efforts have not worsened or created hazardous wildlife attraction or activity. If such attraction or activity occurs, the landowner or community should work with the airport sponsor, or a Qualified Airport Wildlife Biologist to reduce the hazard to aviation.



#### 2.4.3.3 **Mitigation Banking.**

Wetland mitigation banking is the creation or restoration of wetlands in order to provide mitigation credits that can be used to offset permitted wetland losses. Mitigation banking benefits wetland resources by providing advance replacement for permitted wetland losses; consolidating small projects into larger, better-designed and managed units; and encouraging integration of wetland mitigation projects with watershed planning. This last benefit is most helpful for airport projects, as wetland impacts mitigated outside of the separations identified in Paragraphs 1.2 through 1.4 can still be located within the same watershed. Wetland mitigation banks meeting the separation criteria offer an ecologically sound approach to mitigation in these situations. Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property.

### 2.5 **Dredge Spoil Containment Areas.**

The FAA recommends against locating dredge spoil containment areas (also known as Confined Disposal Facilities) within the separations identified in Paragraphs 1.2 through 1.4 if the containment area or the spoils contain material that would attract hazardous wildlife. Proposals for new dredge spoil containment areas located within the separation distances should be reviewed on a case-by-case basis to determine the likelihood of resulting in an increase in hazardous wildlife. The FAA recommends that airport sponsors work with a Qualified Airport Wildlife Biologist and/or the FAA to review proposals for dredge spoil containment areas located within separation criteria.

### 2.6 **Agricultural Activities.**

Many agricultural crops can attract hazardous wildlife and should not be planted within the separations identified in Paragraphs 1.2 through 1.4. Corn, wheat, and other small grains in particular should be avoided. If the airport has no financial alternative to agricultural crops to produce the income necessary to maintain the viability of the airport, then the airport should consider growing crops that hold little food value for hazardous wildlife, such as grass hay. Attractiveness to hazardous wildlife species during all phases of production, from planting through harvest and fallow periods, should be considered when contemplating the use of airport property for agricultural production. Where agriculture is present, crop residue (e.g., waste grain) should not be left in the field following harvest. Also, airports should consult AC 150/5300-13, *Airport Design*, to ensure that agricultural crops do not create airfield obstructions or other safety hazards. Before planning or initiating any agricultural practices on airport property, operators should get approval from the appropriate FAA regional Airports Division Office and demonstrate that the additional cost of wildlife control and potential accidents is offset by revenue generated by agricultural leases. Annual review of the Airport Certification Manual by the Certification Inspector does not constitute approval and is insufficient to meet this requirement.

### 2.6.1 Livestock Production.

Confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg laying operations) often attract flocking birds, such as blackbirds, starlings, or pigeons that pose a hazard to aviation. Therefore, the FAA recommends against such facilities within the separations identified in Paragraphs 1.2 through 1.4. The airport operator should be aware of any wildlife hazards that appear to be attracted to off-site livestock operations and consider working with a Qualified Airport Wildlife Biologist to identify reasonable and feasible measures that may be proposed to landowners to reduce the attractiveness of the site to the potentially hazardous wildlife species.

2.6.1.1 In exceptional circumstances, and following FAA review and approval, livestock may be grazed on airport property as long as they are off the airfield and separated behind fencing where they cannot pose a hazard to aircraft. The livestock should be fed and watered as far away from the airfield and approach/departure space as possible because the feed and water may attract birds. The wildlife management plan should include monitoring and wildlife mitigation for any areas where the livestock and their feed/water is located in case a wildlife hazard is detected. Airports without wildlife management plans should equally consider monitoring and mitigation protocols to identify and address any wildlife hazards associated with livestock and their feeding operations.

### 2.6.2 Alternative Uses of Agricultural Land.

2.6.2.1 Habitat modification both on and surrounding an airfield is one of the best and most economical long term mitigation strategies to decrease risk that wildlife pose to flight safety. Alternative land uses (e.g., solar and biofuel) at airports could help mitigate many of the challenges for the airport operator, developers, and conservationists. However, careful planning must first determine that proposed alternative energy production at airports does not create wildlife attractants or other hazards.

2.6.2.2 Some airports are surrounded by vast areas of farmed land within the distances specified in Paragraphs 1.2 through 1.4. Seasonal uses of agricultural land for activities such as hunting can create a hazardous wildlife situation. In some areas, farmers will rent their land for hunting purposes. Rice farmers, among others, flood their land to attract waterfowl or for conservation efforts. This is often done during waterfowl hunting season to obtain additional revenue by renting out duck blinds.

2.6.2.3 The waterfowl hunters then use decoys and call in hundreds, if not thousands, of birds, creating a threat to aircraft safety. It is recommended that a Qualified Airport Wildlife Biologist review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate mitigating measures into the wildlife management plan, when possible.

## 2.7 **Aquaculture.**

Aquaculture is the breeding, rearing, and harvesting of fish, shellfish, and plants in all types of water environments including ponds, rivers, lakes, and the ocean. Aquaculture is used to produce food fish, sport fish, bait fish, ornamental fish, and to support restoration activities. Aquacultured species are grown in a range of facilities including tanks, cages, ponds, and raceways. When an aquaculture facility is proposed within the separation criteria, the airport operator, project proponent, and local jurisdiction should discuss the proposed project location with regard to its attraction to hazardous species, location near the airport and the separation distances identified in Paragraphs 1.2 through 1.4. If a facility is identified as a possible significant attraction, a more suitable location for the proposed facility should be identified. If no other suitable location exists, it is recommended that the proposed facility plans be reviewed by a Qualified Airport Wildlife Biologist to identify measures to avoid or reduce the facility's potential to attract hazardous wildlife.

### 2.7.1 Freshwater Aquaculture.

2.7.1.1 Freshwater aquaculture activities (e.g., catfish, tilapia, trout or bass production) are typically conducted outside of fully enclosed buildings in constructed ponds or tanks and are inherently attractive to a wide variety of birds and therefore pose a significant risk to airport safety when within the separation distances specified in Paragraphs 1.2 through 1.4. Freshwater aquaculture should only be considered if extensive mitigation measures have been incorporated to eliminate attraction to hazardous birds. Examples of such mitigation include:

1. Netting or other material to exclude hazardous birds (e.g., eagles, osprey, gulls, cormorants);
2. Acoustic hazing including pyrotechnics, propane cannons, directional sonic/hailing devices and other similar technologies;
3. Feeding procedure cleanliness, exclusion techniques prohibiting birds from perching or accessing food; efficiency of feeding operation procedures that reduce fish food attraction to hazardous birds;
4. Operation procedure efficiency transferring live fish to and from enclosures or removal of dead fish; maintenance and upkeep of facility;
5. Monitoring, mitigation and communication protocols with nearby airports as a proactive safety feature in response to specific hazardous species in the event they are identified at the facility in unacceptable numbers.

### 2.7.2 Marine Aquaculture.

Marine aquaculture (Mariculture) refers to the culturing of species that live in the ocean. When appropriately managed and mitigated as necessary, mariculture facilities do not pose a significant risk to airport safety.

### 2.7.2.1 **Finfish Mariculture.**

2.7.2.1.1 U.S. finfish mariculture primarily produces salmon and steelhead trout as well as lesser amounts of cod, moi, yellowtail, barramundi, seabass, and seabream. Maricultures use rigid and non-rigid enclosures (e.g., cages) at the surface or submerged in the water column. These enclosures may be fully enclosed, or be open at the top or covered with netted material to negate losses from depredation by birds or other predators. Different facilities employ different designs and operational protocols.

2.7.2.1.2 While mariculture operations typically do not pose a significant attractant to hazardous birds, design and operational features can be incorporated as permit conditions to mitigate attraction and effectively reduce this risk. Examples of such mitigation include:

1. Fully enclosed cages using netting or other material to exclude hazardous birds (e.g., gulls, cormorants, pelicans) and to insure retention of fish;
2. Submerged enclosures to reduce attraction to hazardous birds;
3. Feed barge cleanliness, exclusion techniques prohibiting birds from perching or accessing food; efficiency of feeding operation procedures that reduce fish food attraction to hazardous birds;
4. Operation procedure efficiency transferring live fish to and from enclosures or removal of dead fish; maintenance and upkeep of facility;
5. Monitoring, mitigation and communication protocols with nearby airports as a proactive safety feature in response to specific hazardous species in the event they are identified at the facility in unacceptable numbers.

### 2.7.2.2 **Shellfish Mariculture.**

U.S. shellfish mariculture primarily produces oysters, clams, mussels, lobster and shrimp. Shellfish may be grown directly on the bottom, in submerged cages or bags, or on suspended lines. These types of mariculture operations do not typically present a significant attractant to hazardous birds. For those operations that are found to pose a significant risk, design and operation features that diminish possible attraction to hazardous bird species (e.g., reducing areas for perching or feeding) can effectively reduce this risk.

### 2.7.2.3 **Plant Mariculture.**

2.7.2.3.1 Microalgae, also referred to as phytoplankton, microphytes, or planktonic algae constitute the majority of cultivated algae. Macroalgae, commonly known as seaweed, also have many commercial and industrial uses.

- 2.7.2.3.2 While few commercial seaweed farms exist, the sector is growing. These types of mariculture operations do not typically present an attractant to hazardous birds.

## 2.8 **Golf Courses, Landscaping, Structures and Other Land-Use Considerations.**

### 2.8.1 Golf Courses.

The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. If golf courses are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. Accordingly, airport operators should develop, at a minimum, onsite measures to minimize hazardous wildlife attraction in consultation with a Qualified Airport Wildlife Biologist. Existing golf courses located within these separations that have been documented to attract hazardous wildlife are encouraged to develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. The FAA recommends against construction of new golf courses within the separations identified in Paragraphs 1.2 through 1.4 if determined that the new facility would create a significant wildlife hazard attractant by a Qualified Airport Wildlife Biologist. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

### 2.8.2 Landscaping and Landscape Maintenance.

2.8.2.1 Depending on its geographic location, landscaping can attract hazardous wildlife. The FAA recommends that airport operators approach landscaping with caution and confine it to airport areas not associated with aircraft movements. Vegetation that produces seeds, fruits, or berries, or that provides dense roosting or nesting cover should not be used. Airports should develop a landscape plan to include approved and prohibited plants. The landscape plan should consider the watering needs of mature plants. A Qualified Airport Wildlife Biologist should review all landscaping plans. Airport operators should also monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

2.8.2.2 Turf grass areas on airports have the potential to be highly attractive to a variety of hazardous wildlife species. Research conducted by the USDA Wildlife Services' National Wildlife Research Center has shown that no one airfield vegetation management regimen will deter all species of hazardous wildlife in all situations. The composition and height of airfield grasslands should be properly managed to reduce their attractiveness to hazardous wildlife. In many situations, an intermediate height, monoculture turf grass might be most favorable. In cooperation with a

Qualified Airport Wildlife Biologist, airport operators should develop airport turf grass management plans on a prescription basis, including cultivar selection during reseeding efforts, that is specific to the airport's geographic location, climatic conditions, and the type of hazardous wildlife likely to frequent the airport.

2.8.2.3 Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production. Plantings should follow the specific recommendations for grass management and seed and plant selection made by the State University Cooperative Extension Service, the local office of Wildlife Services, or a Qualified Airport Wildlife Biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a Qualified Airport Wildlife Biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

### 2.8.3 Structures.

2.8.3.1 Certain structures attract birds for loafing and nesting. Flat rooftops can be attractive to many species of gulls for nesting, hangars provide roosting / nesting opportunities for rock doves, towers, light posts and navigation aids can provide loafing / hunting perches for raptors and aircraft can provide loafing / nesting sites for European starlings, blackbirds and other species. These structures should be monitored and mitigated, if located on-site. Off-site structural attractions may require additional coordination to effectively mitigate their use by hazardous species.

2.8.3.2 Cellular communications towers are becoming increasingly more attractive to large birds (e.g., osprey, eagles, herons, vultures) for nesting and rearing their young. This problem is a growing concern because once the young fledge from nests built on manmade structures they are more likely to return to these kinds of sites to reproduce in future years.

### 2.8.4 Other Hazardous Wildlife Attractants.

Other land uses (e.g., conservation easements, parks, wildlife management areas) or activities not addressed in this AC may have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, each certificate holder must take prompt remedial action(s) to protect aviation safety and all non-certificated airports should take prompt remedial action(s) to protect aviation safety.

## 2.9 **Habitat for State and Federally Listed Species on Airports.**

An airport's air operations area is an artificial environment that has been created and maintained for aircraft operations. Because an aircraft operations area can be markedly different from the surrounding native landscapes, it may attract wildlife species that do not normally occur, or that occur only in low numbers in the area. Some of the grassland species attracted to an airport's aircraft operations area are at the edge of their natural ranges, but are attracted to habitat features found in the airport environment. Also, some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer. Some of these wildlife species are Federal or state-listed threatened and endangered species or have been designated by state resource agencies as species of special concern.

### 2.9.1 State-Listed Species Habitat Concerns.

2.9.1.1 Many state wildlife agencies have requested that airport operators facilitate and encourage habitat on airports for state-listed threatened and endangered species or species of special concern. Airport operators should exercise caution in adopting new management techniques because they may increase wildlife hazards and be inconsistent with safe airport operations. Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety.

2.9.1.2 Not all state-listed threatened and endangered species or species of concern pose a direct threat to aviation safety. However, these species may pose an indirect threat and be hazardous because they attract other wildlife species or support prey species attractive to other species that are directly hazardous. Also, the habitat management practices that benefit these state-listed threatened and endangered species and species of special concern may attract other hazardous wildlife species. On-airport habitat and wildlife management practices designed to benefit wildlife that directly or indirectly create safety hazard where none existed before are incompatible with safe airport operations.

### 2.9.2 Federally Listed Species Habitat Concerns.

2.9.2.1 The FAA supports efforts to protect threatened and endangered species, as a matter of principle and consistent with the Endangered Species Act of 1973. The FAA must balance these requirements with our requirements and mission to maintain a safe and efficient airport system. Requests to enhance or create habitat for threatened and endangered species often conflict with the safety of the traveling public and may place the protected species at risk of mortality by aircraft collisions. The FAA does not support the creation, conservation or enhancement of habitat or refuges to attract endangered species on airports. If endangered species are present on an airport, specific obligations may apply under the Endangered

Species Act, 16 U.S.C. § 1531 et seq. and the airport operator should contact the Airports District Office Environmental Protection Specialist.

- 2.9.2.2 The designation of critical habitat for listed species under the Endangered Species Act on airport lands may be an incompatible land use in conflict with the intended and dedicated purpose of airport lands and may limit or preclude the ability of the airport to develop new infrastructure and growth capacity to meet future air carrier service demand. In addition, depending on the listed species (primarily but not limited to avian species), the designation of critical habitat within the separation distances provided in paragraphs 1.2 - 1.4 can represent a hazardous wildlife attractant in conflict with 14 CFR Part 139.337.

## **2.10 Synergistic Effects of Surrounding Land Uses.**

There may be circumstances where two or more different land uses would not, by themselves, be considered hazardous wildlife attractants or are located outside of the separations identified in Paragraphs 1.2 through 1.4 but collectively may create a wildlife corridor directly through the airport and/or surrounding airspace. An example involves a lake located outside of the separation criteria on the east side of an airport and a large hayfield on the west side of an airport. These two land uses, taken together, could create a flyway for Canada geese directly across the airspace of the airport. Airport operators must consider the entire surrounding landscape and community when developing the wildlife management plan.



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## **CHAPTER 3. PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS AND CONDITIONS FOR NON-CERTIFICATED AIRPORTS TO CONDUCT WILDLIFE HAZARD ASSESSMENTS AND WILDLIFE HAZARD SITE VISITS**

### **3.1 Introduction.**

In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA recommends all airports conduct a Wildlife Hazard Site Visit or Wildlife Hazard Assessment unless otherwise mandated after an initial triggering events defined in Part 139 Section 139.337. After the airport has completed the site visit or assessment and implemented a wildlife management plan, investigations should be conducted following subsequent triggering events to determine if the original assessment and plan adequately address the situation or if conditions have changed that would warrant an update to the plan. In this section, airports that are certificated under 14 C.F.R. § 139.337 are referred to as “certificated airports” and all others are referred to as “non-certificated airports.” When a statement refers to both certificated and non-certificated airports, “airport” or “all airports” is used.

### **3.2 Coordination with Qualified Airport Wildlife Biologists.**

Hazardous wildlife management is a complex discipline and conditions vary widely across the United States. Therefore, only airport wildlife biologists meeting the qualification requirements in Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*, can conduct Site Visits and Assessments. Airports must maintain documentation that the Qualified Airport Wildlife Biologist meets the qualification requirements in Advisory Circular 150/5200-36.

### **3.3 Wildlife Hazard Management at Airports: A Manual For Airport Personnel.**

- 3.3.1 The Wildlife Hazard Management at Airports manual, prepared by FAA and USDA Wildlife Services staff, contains a compilation of information to assist airport personnel in the development, implementation, and evaluation of wildlife management plans at airports. The manual includes specific information on the nature of wildlife strikes, legal authority, regulations, wildlife management techniques, Assessments, Plans, and sources of help and information. The manual is available in three languages: English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA’s wildlife hazard mitigation web site: [https://www.faa.gov/airports/airport\\_safety/wildlife](https://www.faa.gov/airports/airport_safety/wildlife). This manual only provides a starting point for addressing wildlife hazard issues at airports. FAA recommends that airports consult with a Qualified Airport Wildlife Biologists to assist with development of a wildlife management plan and the implementation of management actions by airport personnel.

- 3.3.2 There are many other resources complementary to this manual for use in developing and implementing wildlife management plans. Several are listed in the manual's bibliography or on the FAA Wildlife Mitigation website:  
[https://www.faa.gov/airports/airport\\_safety/wildlife](https://www.faa.gov/airports/airport_safety/wildlife)

### **3.4 Wildlife Hazard Site Visits and Wildlife Hazard Assessments.**

- 3.4.1 Operators of certificated airports are encouraged to conduct an initial assessment regardless of whether the airport has experienced one of the triggering events. Doing so would allow the airport to take proactive action and mitigate the wildlife risk before experiencing an incident. All other airports are encouraged to conduct an assessment or site visit (as defined in FAA Advisory Circular 150/5200-38) conducted by a Qualified Airport Wildlife Biologist (as defined in FAA Advisory Circular 150/5200-36). Part 139 certificated airports are currently required to ensure that an assessment is conducted consistent with 14 C.F.R. § 139.337.
- 3.4.2 The intent of a site visit is to provide an abbreviated analysis of an airport's wildlife hazards and to provide timely information that allows the airport to expedite the mitigation of these hazards. The FAA also recommends that airports conduct an assessment or site visit as soon as practicable in order to identify any immediate wildlife hazards and/or mitigation measures.
- 3.4.3 Non-certificated airports should submit the results of the site visit or assessment to the FAA for review. The FAA will review the submitted site visit or assessment and make a recommendation regarding the development of a wildlife management plan. A wildlife management plan can be developed based on a site visit and will be required if the non-certificated airport is going to request federal grants for the purpose of mitigating wildlife hazards.

### **3.5 Wildlife Hazard Management Plan.**

- 3.5.1 The FAA will consider the results of the assessment, along with the aeronautical activity at the airport and the views of the airport operator and airport users, in determining whether a wildlife management plan is needed for certificated airports, or recommended for non-certificated airports.
- 3.5.2 If the FAA determines that a wildlife management plan is needed for a certificated airport, the airport operator must formulate a plan, using the assessment as its basis and submit to the FAA for approval. If the FAA recommends that a non-certificated airport develop a plan, either an assessment or a site visit can be used as the basis for the wildlife management plan. Airports should consult AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*, for further information on preparation and implementation requirements for their wildlife management plan.

- 3.5.3 The goal of an airport's wildlife management plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport. For wildlife management plans to effectively reduce wildlife hazards on and near airports, accurate and consistent wildlife strike reporting is essential. Airports should consult AC 150/5200-32, *Reporting Wildlife Aircraft Strikes*, for further information on responsibilities and recommendations concerning wildlife strikes.
- 3.5.4 The wildlife management plan must identify hazardous wildlife attractants on or near the airport and the appropriate wildlife management techniques to minimize the wildlife hazard. It must also prioritize the management measures.

### **3.6 Local Coordination.**

The FAA recommends establishing a Wildlife Hazards Working Group to facilitate the communication, cooperation, and coordination of the airport and its surrounding community necessary to ensure the effectiveness of the wildlife management plan. The cooperation of the airport community is essential to prevent incompatible development in the airport vicinity. Whether on or off the airport, input from all involved parties must be considered when a potentially hazardous wildlife attractant is being proposed. Based on available resources, airport operators should undertake public education activities with the local planning agencies because some activities in the vicinity of an airport, while harmless under normal conditions, can attract wildlife and present a danger to aircraft (see Paragraphs 4.5 to 4.8). For example, if public trails are planned near wetlands or in parks adjoining airport property, the public should know that feeding birds and other wildlife in the area may pose a risk to aircraft.

### **3.7 Operational Notifications of Wildlife Hazards.**

- 3.7.1 Operational notifications include active correspondence addressing wildlife issues on or near an airport, notifications and alerts. If an existing land-use practice creates a wildlife hazard and the land-use practice or wildlife hazard cannot be immediately eliminated, airport operators must issue a Notice to Airmen (NOTAM) and encourage the land owner or manager to take steps to control the wildlife hazard and minimize further attraction. Permanent attractions that cannot be eliminated or mitigated may be noted in the Airport/Facility Directory. NOTAMS and Airport/Facility Directory notifications are not appropriate for short-term or immediate advisories that can be relayed via Pilot Reports, direct air traffic control voice communications, or temporary Automated Terminal Advisory System alerts. Care should be given to avoid the continual broadcast of general warnings for extended periods of time. General warnings such as "birds in the vicinity of the aerodrome" offer little timely information to aid pilots and eventually may be ignored if not updated.
- 3.7.2 The Automated Terminal Advisory System (ATIS) is a continuous broadcast of recorded aeronautical information for aerodromes and their immediate surroundings. ATIS broadcasts contain essential information, such as current weather information,

active runways, available approaches, wildlife hazards and any other information required by the pilots. They indicate significant (moderate or severe) wildlife activity, as reported by an approved agency that presents temporary hazards on the ATIS broadcast. Pilots take notice of available ATIS broadcasts before contacting the local control unit, which reduces the controllers' workload and relieves frequency congestion. The recording is updated in fixed intervals or when there is a significant change in the information. Although ATIS broadcasts involving wildlife should be timely and specific, pilots do not need to know species-specific information. General descriptive information detailing size and number of animals, locations and timing of occurrence provides useful, actionable information for pilots.

- 3.7.3 A pilot report (PIREP) is reported by a pilot to indicate encounters of hazardous weather (e.g., icing or turbulence) and hazardous wildlife. Pilot reports are short-lived warnings providing immediate information on pilot observations that are transmitted in real-time to air traffic control. Large animals near active surfaces, soaring vultures and raptors within approach/ departure corridors and waterfowl such as geese feeding in grassy areas next to runways are all examples of pilot reports generated by pilots.

### **3.8 Federal and State Depredation Permits.**

The FAA recommends that airports maintain federal and state depredation permits to allow mitigation and/ or removal of hazardous species. All protected species require special permits for lethal mitigation or capture and relocation procedures. Similarly, endangered or threatened species mitigation also requires special permits. The FAA recommends that airports work closely with a Qualified Airport Wildlife Biologist during the U.S. Fish and Wildlife Service consultation and permitting process. The following Orders can help airports reduce risks from hazardous species by allowing private citizens to control hazardous species off airport properties without the need for a Federal depredation permit.

#### **3.8.1 Standing Depredation Orders.**

- 3.8.1.1 Federal law allows people to protect themselves and their property from damage caused by migratory birds. Provided no effort is made to kill or capture the birds, a depredation permit is not required to merely scare or herd depredating migratory birds other than endangered or threatened species or bald or golden eagles (50 CFR 21.41).
- 3.8.1.2 In addition, certain species of migratory birds may be mitigated without a federal permit under specific circumstances, many of which relate to agricultural situations. The following Standing Depredation Orders have applicability near airports:
- 50 CFR § 21.49- Control Order for Resident Canada Geese at Airports and Military Airfields.
  - 50 CFR § 21.50- Depredation Order for Resident Canada Geese Nests and Eggs.

- 50 CFR § 21.43 - Depredation Order for Blackbirds, Cowbirds, Crows, Grackles, and Magpies.
- 50 CFR § 21.54 - Control Order for Muscovy Ducks in the United States.
- 50 CFR § 21.55 - Control Order for Invasive Migratory Birds in Hawaii.

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## **CHAPTER 4. RECOMMENDED PROCEDURES FOR THE FAA, AIRPORT OPERATORS AND OTHER GOVERNMENT ENTITIES REGARDING OFF-AIRPORT ATTRACTANTS**

### **4.1 FAA Notification and Review of Proposed Land-Use Practice Changes in the Vicinity of Public-Use Airports.**

4.1.1 For projects that are located within 5 miles of the airport's aircraft operations area, the FAA may review development plans, proposed land-use changes, operational changes, major federal actions or wetland mitigation plans to determine if such changes increase risk to airport safety by attracting hazardous wildlife on and around airports. The FAA is not a permitting agency for land use modifications that occur off airport properties, therefore, such reviews are typically initiated by state or federal permitting agencies seeking FAA input on new or revised permits. Each of the land uses listed in Chapter 2 of this AC has the potential to pose a risk to airport operations when they are located within the separation distances provided in Paragraphs 1.2 through 1.4.

4.1.2 Off-site land use modifications near airports may include an assessment of risk for facilities and land-use changes and, if necessary, mitigation strategies that may reduce risk to an acceptable level. However, the FAA recognizes that individual facilities or land-use modifications may present a range of attractants to different species, resulting in varying levels of risk. Therefore, the FAA considers each proposal on a case-by-case basis.

4.1.3 The FAA analyzes each land-use modification or new facility proposal prior to its establishment or any significant planned changes to design or operations that may increase the risk level. As part of a review, the FAA considers several factors that include, but are not limited to:

1. Type of attractant;
2. Size of attractant;
3. Location/distance of attractant from airport;
4. Design (e.g., construction, material, mitigation techniques employed into design);
5. Operation (e.g., cleanliness, constancy/ volume of use, seasonality, time of day);
6. Monitoring protocols (e.g., frequency, documentation, evaluation, species identification and number thresholds that trigger actions of communication or mitigation, baseline wildlife data);
7. Mitigation protocols (e.g., responsibilities, methods, intensity, pre-determined objectives, documentation, evaluation); and
8. Communication protocols to airport and/ or air traffic control tower;

4.1.4 The review of these factors may result in FAA recommended additions or modifications to a conditional use permit that allows the permitting agency to track compliance with the permittee obligations. Such conditions placed within a permit



may involve a comprehensive outline and recognition of individuals responsible for monitoring, communication, and mitigation measures if certain action thresholds are met. Action thresholds are defined in this instance as those pre-determined parameters (e.g., number, location, behavior, time of day) of specific hazardous species that would trigger a mitigation response. Additionally, baseline data should be used to determine the effect, if any, on wildlife populations at the proposed off-site location and/or at the airport.

- 4.1.5 Baseline data may need to be collected, depending on the existence of useful data and timeline for site modification. If, after taking into account the factors above, FAA determines that a facility poses a significant risk to airport safety, FAA will object to its establishment or renewal.
- 4.1.6 For projects that are located within 5 miles of the airport's aircraft operations area, the FAA Airport District Office may review development plans, proposed land-use changes, operational changes, major federal actions or wetland mitigation plans to determine if such changes present potential wildlife hazards to aircraft operations. The FAA considers sensitive airport areas as those that lie under or next to approach or departure airspace. This brief examination should indicate if further investigation is warranted.
- 4.1.7 Where a Qualified Airport Wildlife Biologist has conducted a further study to evaluate a site's compatibility with airport operations, the FAA may use the study results to make a determination.

## **4.2 Waste Management Facilities.**

### **4.2.1 Notification of New/Expanded Project Proposal.**

- 4.2.1.1 49 U.S.C. § 44718(d), prohibits the construction or establishment of new municipal landfills within 6 miles of certain public-use airports, when both the airport and the landfill meet specific conditions. See Paragraph 2.2 of this guidance for a more detailed discussion of these restrictions.
- 4.2.1.2 The Environmental Protection Agency (EPA) requires any landfill operator proposing a new or expanded waste disposal operation within 5 miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal. See 40 CFR § 258, *Criteria for Municipal Solid Waste Landfills*, Section 258.10, *Airport Safety*. The EPA also requires owners or operators of new landfill units, or lateral expansions of existing MSWLF landfill units, that are located within 10,000 feet of any airport runway end used by turbine-powered aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft. (See 4.3.2 below.)

- 4.2.1.3 When new or expanded municipal landfills are being proposed near airports, landfill operators must notify the airport operator and the FAA of the proposal as early as possible pursuant to 40 CFR § 258.
- 4.2.1.4 The FAA discourages the development of waste disposal and other facilities, discussed in Chapter 2, located within the separation criteria specified in Paragraphs 1.2 through 1.4. To show that a waste-handling facility sited within the separations identified in Paragraphs 1.2 through 1.4 does not attract hazardous wildlife and does not threaten aviation, the developer must establish the facility will not handle putrescible material other than that as outlined in 2.2.4. The FAA recommends against any facility other than those outlined in 2.2.4 (enclosed transfer stations). The FAA will use this information to determine if the facility will be a hazard to aviation.

### **4.3 Other Land-Use Practice Changes.**

- 4.3.1 The FAA encourages operators of public-use airports who become aware of proposed land use practice changes that may attract hazardous wildlife within 5 miles of their airports to notify their assigned Airport Certification Safety Inspector or Airports District Office Program Manager. The FAA also encourages proponents of such land use changes to notify the FAA as early in the planning process as possible. Advanced notice affords the FAA an opportunity (1) to evaluate the effect of a particular land-use change on aviation safety and (2) to support efforts by the airport sponsor to restrict the use of land next to or near the airport to uses that are compatible with the airport.
- 4.3.2 The airport operator, project proponent, or land-use operator may use FAA Form 7460-1, Notice of Proposed Construction or Alteration, or other suitable documents similar to FAA Form 7460-1 to notify the appropriate FAA Regional Airports Division Office. Project proponents can contact the appropriate FAA Regional Airports Division Office for assistance with the notification process prior to submitting Form 7460-1.
- 4.3.3 It is helpful if the notification includes a 15-minute quadrangle map of the area identifying the location of the proposed activity. The land-use operator or project proponent should also forward specific details of the proposed land-use change or operational change or expansion. In the case of solid waste landfills, the information should include the type of waste to be handled, how the waste will be processed, and final disposal methods.
- 4.3.4 Airports that have Received Federal Assistance.  
Airports that have received Federal assistance are required under their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations. See Grant Assurance 21. The FAA recommends that airport operators oppose off-airport land-use changes or practices, to

the extent practicable, within the separations identified in Paragraphs 1.2 through 1.4, which may attract hazardous wildlife. Failure to do so may lead to noncompliance with applicable grant assurances. The FAA will not approve the placement of airport development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures. Increasing the intensity of wildlife control efforts is not a substitute for preventing, eliminating or reducing a proposed wildlife hazard. Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for airport development projects.

#### **4.4 Coordination to Prevent Creation of New Off-Airport Hazardous Wildlife Attractants.**

Airport operators should work with local and regional planning and zoning boards to be aware of proposed land-use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in Paragraphs 1.2 through 1.4. Pay particular attention to proposed land uses involving creation or expansion of wastewater treatment facilities, development of wetland mitigation sites, or development or expansion of dredge spoil containment areas. At the very least, it is recommended that airport operators are on the notification list of the local planning board or equivalent review entity for all communities located within 5 miles of the airport, so they will receive notification of any proposed project and have the opportunity to review it for attractiveness to hazardous wildlife. This may be accomplished through one or more of the following:

##### **4.4.1 Site-specific Criteria.**

The airport should establish site-specific criteria for assessment of land uses attractive to hazardous wildlife and locations that would be of concern based on wildlife strikes and on wildlife abundance and activity at the airport and in the local area. These criteria may be more selective, but should not be less restrictive than this guidance.

##### **4.4.2 Outreach.**

Airports should actively seek to provide educational information and/ or provide input regarding local development, natural resource modification or wildlife-related concerns that affect wildlife hazards and safe air travel.

##### **4.4.2.1 External Outreach.**

Airport operators and a Qualified Airport Wildlife Biologist should consider outreach to local planning and zoning organizations on land uses of concern or to local organizations responsible for natural resource management (including wildlife, wetlands, and parks.) Airports should also consider developing and distributing position letters and educational materials on airport-specific concerns regarding wildlife hazards, wildlife activity and attraction. Finally, airports should provide formal comments on local procedures, laws, ordinances, plans, and regulatory actions such as permits related to land uses of concern.

#### 4.4.2.2 **Internal Outreach.**

Airports should consider developing and distributing position letters and educational materials on airport-specific concerns regarding species identification and mitigation procedures, wildlife hazards, wildlife activity and attraction to employees and personnel with access to the aircraft operations area.

#### 4.5 **Coordination on Existing Off-Airport Hazardous Wildlife Attractants.**

Airports are encouraged to work with landowners and managers to cooperatively develop procedures to monitor and manage hazardous wildlife attraction. If applicable, these procedures may include:

1. Conducting a wildlife hazard site visit by a wildlife biologist meeting the qualification requirements of Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*
2. Conducting regular, standardized, wildlife monitoring surveys;<sup>4</sup>
3. Establishing threshold numbers of wildlife which would trigger certain actions and/or communications;
4. Establishment of procedures to deter or remove hazardous wildlife.

#### 4.6 **Prompt Remedial Action.**

For attractants found on and off airport property, and with landowner or manager cooperation, Part 139 certificated airports must take immediate action in accordance with their Airport Certification Manual and the requirements of Part 139.337, to alleviate wildlife hazards whenever they are detected. It is also recommended that non-certificated airports take immediate action to alleviate wildlife hazards whenever they are detected. In addition, airports should take prompt action to identify the source of attraction and cooperatively develop procedures to mitigate and monitor the attractant. **For Part 139 Certificated airports, immediate actions are required in accordance with 139.337(a).**

#### 4.7 **FAA Assistance.**

If there is a question on the implementation of any of the guidance in this section, contact the FAA Regional Airports Division for assistance.

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<sup>4</sup> Recommended survey protocols can be found in AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*, and DeVault, T.L., B.F. Blackwell, and J.L. Belant, eds. 2013. *Wildlife in Airport Environments: Preventing Animal–Aircraft Collisions through Science-Based Management*. Johns Hopkins University Press, Baltimore, MD, USA. 181 pp.

#### 4.7.1 Airport Documentation Procedures.

Airports should document on-site and off-site wildlife attractants as part of their “Wildlife Hazard Management Plan Annual Review,” “Wildlife Hazard Management Plan Review Following a Triggering Event,” and the airport’s Continual Monitoring Annual Report (as outlined in FAA Advisory Circular 150/5200-38). As a best management practice, airports may choose to keep a log to track contacts from landowners or managers, permitting agencies, or other entities concerning land uses near the airport.

## APPENDIX A. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR

### A.1 General.

This appendix provides definitions of terms used throughout this AC.

1. **Air operations area.** Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.
2. **Airport operator.** The operator (private or public) or sponsor of a public-use airport.
3. **Approach or departure airspace.** The airspace, within 5 statute miles of an airport, through which aircraft move during landing or takeoff.
4. **Bird balls.** High-density plastic floating balls that can be used to cover ponds and prevent birds from using the sites.
5. **Certificate holder.** The holder of an Airport Operating Certificate issued under 14 C.F.R. Part 139.
6. **Construct a new municipal landfill.** To begin to excavate, grade land, or raise structures to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting agency.
7. **Detention ponds.** Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.
8. **Establish a new municipal landfill.** When the first load of putrescible waste is received on-site for placement in a prepared municipal solid waste landfill.
9. **Fly ash.** The fine, sand-like residue resulting from the complete incineration of an organic fuel source. Fly ash typically results from the combustion of coal or waste used to operate a power generating plant.
10. **General aviation aircraft.** Any civil aviation aircraft operating under 14 CFR Part 91.
11. **Hazardous wildlife.** Species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).
12. **Municipal Landfill.** A publicly or privately owned discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. A municipal landfill may receive other types wastes, such as commercial solid waste, non-hazardous sludge, small-quantity generator waste, and

industrial solid waste, as defined under 40 CFR § 258.2. A municipal landfill can consist of either a stand-alone unit or several cells that receive household waste.

13. **New municipal landfill.** A municipal solid waste landfill that was established or constructed after April 5, 2001.
14. **Piston-powered aircraft.** Fixed-wing aircraft powered by piston engines.
15. **Piston-use airport.** Any airport that does not sell Jet-A fuel for fixed-wing turbine-powered aircraft, and primarily serves fixed-wing, piston-powered aircraft. Incidental use of the airport by turbine-powered, fixed-wing aircraft would not affect this designation. However, such aircraft should not be based at the airport.
16. **Public agency.** A state or political subdivision of a state, a tax-supported organization, or an Indian tribe or pueblo (49 U.S.C. § 47102(19)).
17. **Public airport.** An airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(20)).
18. **Public-use airport.** An airport used or intended to be used for public purposes where the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft may be under the control of a public agency or privately owned and used for public purposes (49 U.S.C. § 47102(21)).
19. **Putrescible waste.** Solid waste that contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR §257.3-8).
20. **Putrescible-waste disposal operation.** Landfills, garbage dumps, underwater waste discharges, or similar facilities where activities include processing, burying, storing, or otherwise disposing of putrescible material, trash, and refuse.
21. **Retention ponds.** Storm water management ponds that hold water for more than 48 hours.
22. **Risk.** Risk is the relationship between the severity and probability of a threat. It is the product of hazard level and abundance in the critical airspace, and is thus defined as the probability of a damaging strike with a given species.
23. **Runway protection zone.** An area off the runway end to enhance the protection of people and property on the ground (see AC 150/5300-13). The dimensions of this zone vary with the airport design, aircraft, type of operation, and visibility minimum.
24. **Scheduled air carrier operation.** Any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial operator for which the air carrier, commercial operator, or their representative offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119 or as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

25. **Sewage sludge.** Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. (40 CFR § 257.2)
26. **Sludge.** Any solid, semi-solid, or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. (40 CFR § 257.2).
27. **Solid waste.** Any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including, solid liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act, or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954.(40 CFR § 257.2).
28. **Turbine-powered aircraft.** Aircraft powered by turbine engines including turbojets and turboprops but excluding turbo-shaft rotary-wing aircraft.
29. **Turbine-use airport.** Any airport that sells fuel for fixed-wing turbine-powered aircraft.
30. **Wastewater treatment facility.** Any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes, including publicly owned treatment works, as defined by Section 212 of the Clean Water Act. This definition includes any pretreatment involving the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a publicly owned treatment system. (See 40 CFR § 403.3 (q), (r), & (s)).
31. **Wildlife.** Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof. 50 CFR § 10.12. As used in this AC, wildlife includes feral animals and domestic animals out of the control of their owners (14 CFR Part 139, Certification of Airports).
32. **Wildlife attractants.** Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's aircraft operations area. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.



33. **Wildlife hazard.** A potential for a damaging aircraft collision with wildlife on or near an airport.
34. **Wildlife strike.** A wildlife strike is deemed to have occurred when:
- a. A strike between wildlife and aircraft has been witnessed;
  - b. Evidence or damage from a strike has been identified on an aircraft;
  - c. Bird or other wildlife remains, whether in whole or in part, are found:
    - i. Within 250 feet of a runway centerline or within 1,000 feet of a runway end unless another reason for the animal's death is identified or suspected, unless another reason for the animal's death is identified or;
    - ii. On a taxiway or anywhere else on or off airport that there is reason to believe was the result of a strike with an aircraft.
  - d. The presence of birds or other wildlife on or off the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal).

## APPENDIX B. ADDITIONAL RESOURCES

### B.1 Regulations

- 14 CFR § 139.337, *Wildlife Hazard Management*
- 40 CFR § 258, *Criteria for Municipal Solid Waste Landfills*

### B.2 Advisory Circulars

- AC 150/5200-32, *Reporting Wildlife Aircraft Strikes*
- AC 150/5200-33, *Hazard Wildlife Attractants on or Near Airports*
- AC 150/5200-34, *Construction or Establishment of New Landfills Near Public Airports*
- AC 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculum for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*
- AC 150/5200-38, *Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans*
- AC 150/5220-25, *Airport Avian Radar Systems*
- AC 150/5210-24, *Airport Foreign Object Debris (FOD) Management*

### B.3 Certification Alerts

- Certalert No. 97-09, *Wildlife Hazard Management Plan Outline* (11/17/1997)
- Certalert No. 98-05, *Grasses Attractive To Hazardous Wildlife* (9/21/1998)
- Certalert No. 06-07, *Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State Listed Threatened and Endangered Species and Species of Special Concern on Airports* (11/21/2006)
- Certalert No. 13-01, *Federal and State Depredation Permit Assistance* (1/30/2013)
- Certalert No.14-01, *Seasonal Mitigation of Hazardous Species at Airports: Attention to Snowy Owls* (2/26/2014)
- Certalert No. 16-03, *Recommended Wildlife Exclusion Fencing* (8/2016)

**B.4 Airport Cooperative Research Program Reports**

These, and other wildlife / aviation reports, are available from the Transportation Research Board of the National Academies (TRB) at <http://www.trb.org/Publications/Publications.aspx>.

- ACRP Research Report 198: Wetland Mitigation, Volume 2, A Guidebook for Airports (2019)
- ACRP Synthesis 92: Airport Waste Management and Recycling Practices (2018)
- ACRP Research Report 174: Guidebook and Primer (2018)
- ACRP Report 122: Innovative Airport Responses to Threatened / Endangered Species (2015)
- ACRP Report 125: Balancing Airport Stormwater and Bird Hazard Management (2015)
- ACRP Report 145: Applying an SMS Approach to Wildlife Hazard Management (2015)
- ACRP Synthesis 39 Report: Airport Wildlife Population Management (2013)
- ACRP Synthesis 52 Report: Habitat Management to Deter Wildlife at Airports (2014)
- ACRP Synthesis 23 Report: Bird Harassment, Repellent, and Deterrent Techniques for Use on and Near Airports (2011)
- ACRP Report 32: Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports (2010)

**B.5 Manuals**

- Wildlife Hazard Management at Airports - A Manual for Airport Personnel (2005)

**B.6 Orders**

- 50 CFR § 21.49, Control Order for Resident Canada Geese at Airports and Military Airfields
- 50 CFR § 21.50, Depredation Order for Resident Canada Geese Nests and Eggs
- 50 CFR § 21.43, Depredation Order for Blackbirds, Cowbirds, Crows, Grackles, and Magpies
- 50 CFR § 21.54, Control Order for Muscovy Ducks in the United States
- 50 CFR § 21.55, Control Order for Invasive Migratory Birds in Hawaii

## Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Safety and Operations Division, Federal Aviation Administration ATTN: AAS-300, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of AAS-300 at (202) 267-5257.

*Subject:* AC 150/5200-33C

*Date:* \_\_\_\_\_

*Please check all appropriate line items:*

An error (procedural or typographical) has been noted in paragraph \_\_\_\_\_ on page \_\_\_\_\_.

Recommend paragraph \_\_\_\_\_ on page \_\_\_\_\_ be changed as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In a future change to this AC, please cover the following subject:  
*(Briefly describe what you want added.)*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I would like to discuss the above. Please contact me at (phone number, email address).

Submitted by: \_\_\_\_\_

Date: \_\_\_\_\_



**MT. DIABLO UNIFIED SCHOOL DISTRICT**  
**JAMES W. DENT EDUCATION CENTER**  
1936 Carlotta Drive  
Concord, California 94519-1358  
(925) 682-8000, ext. 4000

**Dr. Lisa Gonzales**  
*Chief Business Officer*

To: City of Pittsburg  
From: Dr. Lisa Gonzales, Chief Business Officer  
Re: Environmental Impact Report (EIR) for the adoption and implementation of the  
Envision Pittsburg 2040 General Plan Update (2040 General Plan)  
Date: May 4, 2022

This memo is in response to the proposed EIR and the 2040 General Plan in Pittsburg, and this response is on behalf of the Mt Diablo Unified School District (MDUSD).

Leaders in MDUSD have notable concerns about the proposed Envision Pittsburg 2040 General Plan, updates, and amendments. Any changes that result in additional housing will create increased need for student housing in the form of schools. MDUSD does not have capacity for additional students at this time in its current school sites, and many of the proposed General Plan amendments are within the MDUSD boundaries.

Any amendments to the General Plan relating to housing will result in significant financial and substantial adverse physical hardships for the Mt. Diablo Unified School District.

Any approval of amendments will be subject to mitigation agreements with Mt. Diablo Unified. The agreements will need to be resolved and funded prior to permitting in order for the school district to get ahead of the necessary student housing that will need to be built prior to students moving into the proposed homes.



Elise Carroll &lt;ecarroll@denovoplanning.com&gt;

---

**FW: Comments for Notice of Preparation 2040 General Plan Update draft  
Environmental Impact Report**

---

**John Funderburg** <JFunderburg@pittsburgca.gov>

Thu, May 12, 2022 at 5:11 PM

To: Beth Thompson &lt;bthompson@denovoplanning.com&gt;, Elise Carroll &lt;ecarroll@denovoplanning.com&gt;

FYI...comments...

---

**From:** Jolan Longway <Jlongway@pittsburgca.gov>**Sent:** Thursday, May 12, 2022 4:16 PM**To:** John Funderburg <JFunderburg@pittsburgca.gov>**Subject:** Comments for Notice of Preparation 2040 General Plan Update draft Environmental Impact Report

Hello,

I have two main stormwater-related requests for the Environmental analysis:

1. Could the creek areas, and tributaries to creek areas be assigned "special" park designations? Pittsburg, like many cities is losing its battle to keep unhoused individuals from these areas.
2. Language that supports the implementation of the City's Green Stormwater Infrastructure Plan.

Let me know if you need more information regarding these.

Thank you

Jolan Longway

City of Pittsburg

Engineering Department

[65 Civic Avenue](#)[Pittsburg, CA 94565](#)

Development Manager / Clean Water

Program Coordinator

Phone: (925) 252-4803

5/17/22, 9:56 AM

De Novo Planning Group Mail - FW: Comments for Notice of Preparation 2040 General Plan Update draft Environmental Impact R...

Email: [jlongway@pittsburgca.gov](mailto:jlongway@pittsburgca.gov)

# **APPENDIX B**

## **Environmental Noise Assessment Appendices**



## Appendix A: Acoustical Terminology

<b>Acoustics</b>	The science of sound.
<b>Ambient Noise</b>	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
<b>ASTC</b>	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
<b>Attenuation</b>	The reduction of an acoustic signal.
<b>A-Weighting</b>	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
<b>Decibel or dB</b>	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
<b>CNEL</b>	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
<b>DNL</b>	See definition of Ldn.
<b>IIC</b>	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
<b>Frequency</b>	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
<b>Ldn</b>	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
<b>Leq</b>	Equivalent or energy-averaged sound level.
<b>Lmax</b>	The highest root-mean-square (RMS) sound level measured over a given period of time.
<b>L(n)</b>	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
<b>Loudness</b>	A subjective term for the sensation of the magnitude of sound.
<b>NIC</b>	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
<b>NNIC</b>	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
<b>Noise</b>	Unwanted sound.
<b>NRC</b>	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
<b>RT60</b>	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
<b>Sabin</b>	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
<b>SEL</b>	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
<b>SPC</b>	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
<b>STC</b>	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
<b>Threshold of Hearing</b>	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
<b>Threshold of Pain</b>	Approximately 120 dB above the threshold of hearing.
<b>Impulsive</b>	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
<b>Simple Tone</b>	Any sound which can be judged as audible as a single pitch or set of single pitches.



## **Appendix B: Continuous and Short-Term Ambient Noise Measurement Results**



**Appendix B1: Continuous Noise Monitoring Results**

Date	Time	Measured Level, dBA			
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>90</sub>
Tuesday, June 25, 2019	0:00	58	74	52	50
Tuesday, June 25, 2019	1:00	63	83	51	48
Tuesday, June 25, 2019	2:00	55	76	51	48
Tuesday, June 25, 2019	3:00	56	76	52	50
Tuesday, June 25, 2019	4:00	61	81	56	54
Tuesday, June 25, 2019	5:00	67	85	62	54
Tuesday, June 25, 2019	6:00	67	79	65	56
Tuesday, June 25, 2019	7:00	68	80	66	56
Tuesday, June 25, 2019	8:00	66	82	62	53
Tuesday, June 25, 2019	9:00	65	83	59	53
Tuesday, June 25, 2019	10:00	65	83	59	53
Tuesday, June 25, 2019	11:00	64	79	59	53
Tuesday, June 25, 2019	12:00	65	80	60	52
Tuesday, June 25, 2019	13:00	68	81	65	54
Tuesday, June 25, 2019	14:00	67	95	63	52
Tuesday, June 25, 2019	15:00	66	79	63	52
Tuesday, June 25, 2019	16:00	68	83	64	54
Tuesday, June 25, 2019	17:00	70	98	66	56
Tuesday, June 25, 2019	18:00	68	80	66	55
Tuesday, June 25, 2019	19:00	67	77	65	56
Tuesday, June 25, 2019	20:00	67	82	63	57
Tuesday, June 25, 2019	21:00	66	81	63	58
Tuesday, June 25, 2019	22:00	63	77	59	56
Tuesday, June 25, 2019	23:00	62	75	58	56

Statistics	Leq	Lmax	L50	L90
Day Average	67	83	63	54
Night Average	63	79	56	52
Day Low	64	77	59	52
Day High	70	98	66	58
Night Low	55	74	51	48
Night High	67	85	65	56
Ldn	70	Day %	79	
CNEL	71	Night %	21	

Site: LT-1

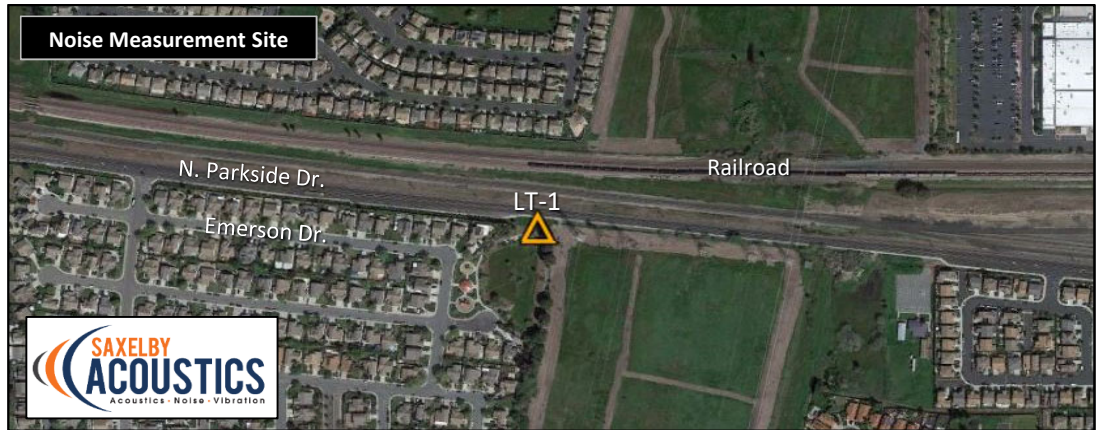
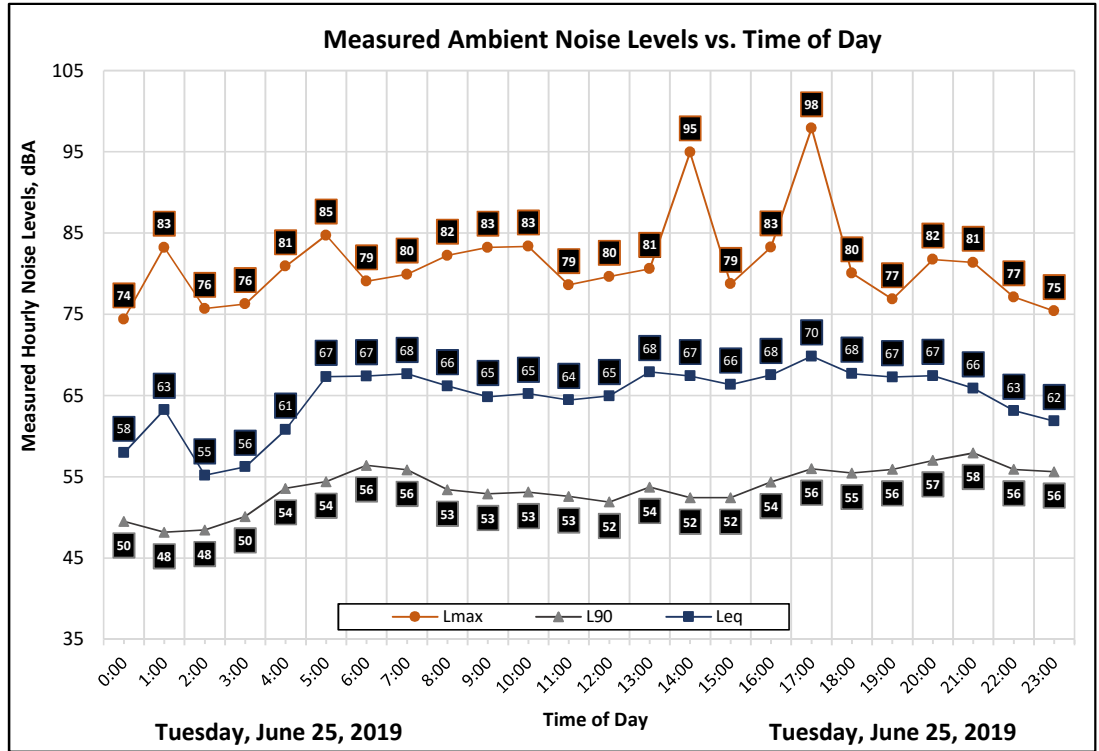
Project: City of Pittsburg General Plan Update

Meter: LDL 820-1

Location: N. Parkside Dr. at Americana Park

Calibrator: B&K 4230

Coordinates: 38.0259622°, -121.9085844°





**Appendix B2: Continuous Noise Monitoring Results**

Date	Time	Measured Level, dBA			
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>90</sub>
Tuesday, June 25, 2019	0:00	69	79	69	63
Tuesday, June 25, 2019	1:00	67	77	66	59
Tuesday, June 25, 2019	2:00	65	78	63	57
Tuesday, June 25, 2019	3:00	64	80	62	58
Tuesday, June 25, 2019	4:00	67	82	65	62
Tuesday, June 25, 2019	5:00	68	77	67	63
Tuesday, June 25, 2019	6:00	69	79	68	64
Tuesday, June 25, 2019	7:00	70	85	69	65
Tuesday, June 25, 2019	8:00	71	77	70	67
Tuesday, June 25, 2019	9:00	70	78	69	66
Tuesday, June 25, 2019	10:00	70	78	69	65
Tuesday, June 25, 2019	11:00	71	78	70	67
Tuesday, June 25, 2019	12:00	71	78	70	67
Tuesday, June 25, 2019	13:00	71	89	71	68
Tuesday, June 25, 2019	14:00	72	85	71	69
Tuesday, June 25, 2019	15:00	71	79	70	68
Tuesday, June 25, 2019	16:00	70	91	70	67
Tuesday, June 25, 2019	17:00	69	78	69	64
Tuesday, June 25, 2019	18:00	71	86	70	68
Tuesday, June 25, 2019	19:00	71	82	71	68
Tuesday, June 25, 2019	20:00	71	85	70	67
Tuesday, June 25, 2019	21:00	70	83	69	66
Tuesday, June 25, 2019	22:00	69	87	68	65
Tuesday, June 25, 2019	23:00	68	76	68	64

Statistics	Leq	Lmax	L50	L90
Day Average	70	82	70	67
Night Average	68	79	66	62
Day Low	69	77	69	64
Day High	72	91	71	69
Night Low	64	76	62	57
Night High	69	87	69	65
Ldn	75	Day %		76
CNEL	75	Night %		24

Site: LT-2

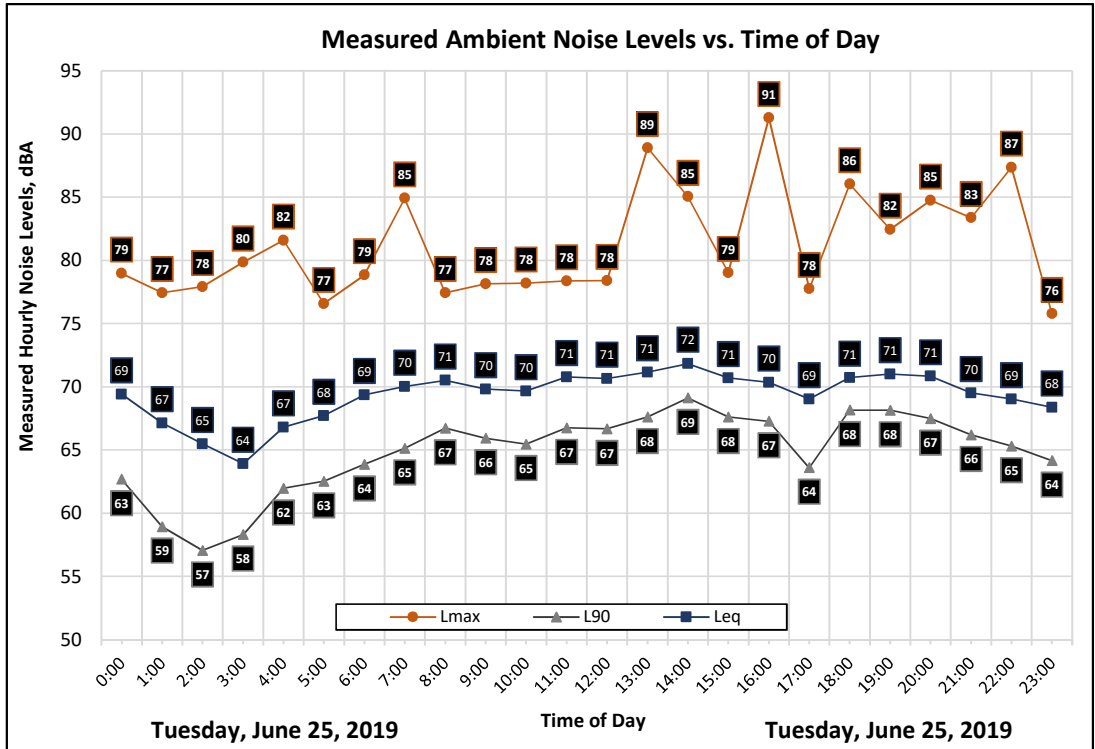
Project: City of Pittsburg General Plan Update

Meter: LDL 812-2

Location: CA-4/BART at Amrbose Park

Calibrator: B&K 4230

Coordinates: 38.0182485°, -121.9372823°



**Appendix B3: Continuous Noise Monitoring Results**

Date	Time	Measured Level, dBA			
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>90</sub>
Tuesday, June 25, 2019	0:00	60	76	55	51
Tuesday, June 25, 2019	1:00	57	74	52	49
Tuesday, June 25, 2019	2:00	55	75	51	48
Tuesday, June 25, 2019	3:00	56	78	52	49
Tuesday, June 25, 2019	4:00	60	77	56	53
Tuesday, June 25, 2019	5:00	62	84	58	54
Tuesday, June 25, 2019	6:00	65	77	62	56
Tuesday, June 25, 2019	7:00	67	79	64	57
Tuesday, June 25, 2019	8:00	67	81	64	56
Tuesday, June 25, 2019	9:00	70	90	66	58
Tuesday, June 25, 2019	10:00	68	84	65	58
Tuesday, June 25, 2019	11:00	67	91	63	56
Tuesday, June 25, 2019	12:00	67	84	64	56
Tuesday, June 25, 2019	13:00	67	88	64	56
Tuesday, June 25, 2019	14:00	67	83	65	57
Tuesday, June 25, 2019	15:00	68	81	65	56
Tuesday, June 25, 2019	16:00	71	101	65	57
Tuesday, June 25, 2019	17:00	69	87	66	57
Tuesday, June 25, 2019	18:00	73	101	65	57
Tuesday, June 25, 2019	19:00	67	86	63	55
Tuesday, June 25, 2019	20:00	67	90	62	56
Tuesday, June 25, 2019	21:00	65	83	62	55
Tuesday, June 25, 2019	22:00	65	82	61	56
Tuesday, June 25, 2019	23:00	62	80	58	54

Statistics	Leq	Lmax	L50	L90
Day Average	69	87	64	57
Night Average	61	78	56	52
Day Low	65	79	62	55
Day High	73	101	66	58
Night Low	55	74	51	48
Night High	65	84	62	56
Ldn	70	Day %	90	
CNEL	70	Night %	10	

Site: LT-3

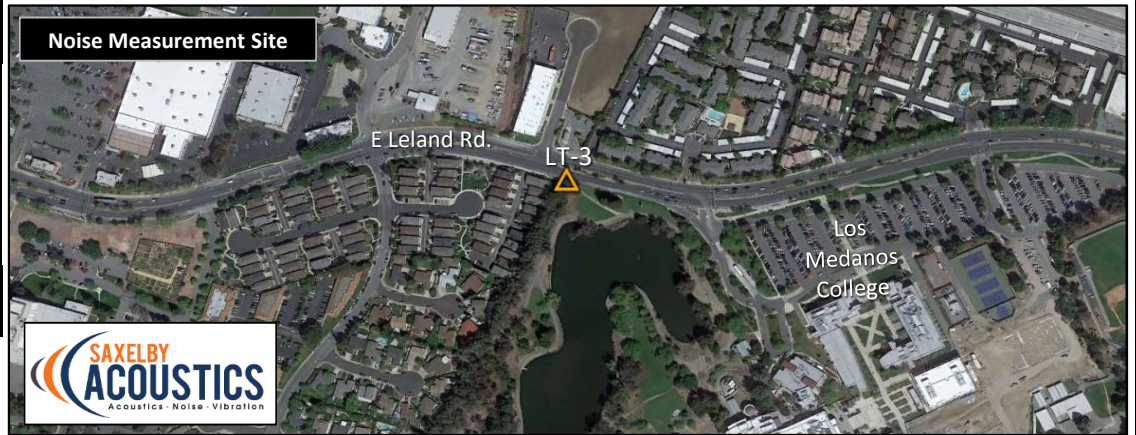
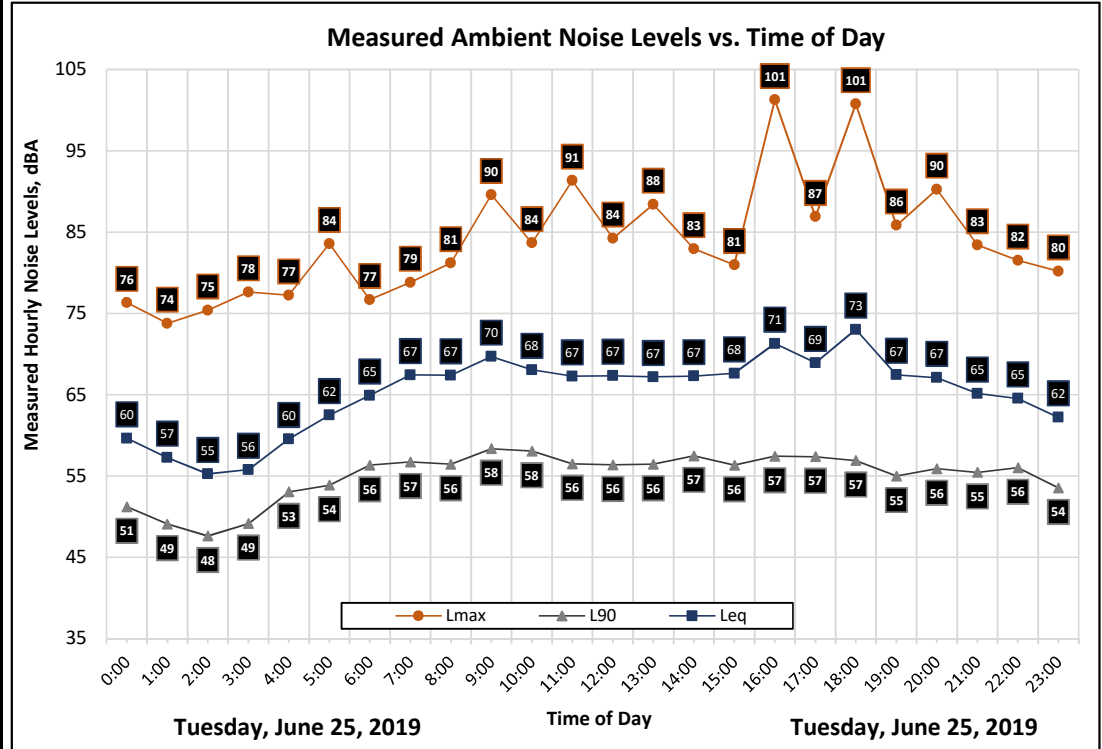
Project: City of Pittsburg General Plan Update

Meter: LDL 812-1

Location: East Leland Rd. at Los Medanos College

Calibrator: B&K 4230

Coordinates: 38.0080675°, -121.8639300°



**Appendix B4: Continuous Noise Monitoring Results**

Date	Time	Measured Level, dBA			
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>90</sub>
Tuesday, June 25, 2019	0:00	56	74	45	39
Tuesday, June 25, 2019	1:00	54	75	45	40
Tuesday, June 25, 2019	2:00	55	80	45	41
Tuesday, June 25, 2019	3:00	54	79	47	42
Tuesday, June 25, 2019	4:00	59	78	54	49
Tuesday, June 25, 2019	5:00	65	81	62	53
Tuesday, June 25, 2019	6:00	66	81	65	57
Tuesday, June 25, 2019	7:00	66	80	64	56
Tuesday, June 25, 2019	8:00	66	79	64	54
Tuesday, June 25, 2019	9:00	64	80	61	52
Tuesday, June 25, 2019	10:00	64	86	60	53
Tuesday, June 25, 2019	11:00	64	82	60	53
Tuesday, June 25, 2019	12:00	64	85	60	50
Tuesday, June 25, 2019	13:00	63	79	60	50
Tuesday, June 25, 2019	14:00	65	88	62	52
Tuesday, June 25, 2019	15:00	66	84	63	52
Tuesday, June 25, 2019	16:00	66	87	64	57
Tuesday, June 25, 2019	17:00	66	82	64	56
Tuesday, June 25, 2019	18:00	66	84	64	55
Tuesday, June 25, 2019	19:00	64	78	62	54
Tuesday, June 25, 2019	20:00	66	96	61	54
Tuesday, June 25, 2019	21:00	63	78	60	56
Tuesday, June 25, 2019	22:00	62	81	60	55
Tuesday, June 25, 2019	23:00	61	76	58	54

Statistics	L <sub>eq</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>90</sub>
Day Average	65	83	62	54
Night Average	61	78	54	48
Day Low	63	78	60	50
Day High	66	96	64	57
Night Low	54	74	45	39
Night High	66	81	65	57
L <sub>dn</sub>	68	Day %	79	
CNEL	69	Night %	21	

Site: LT-4

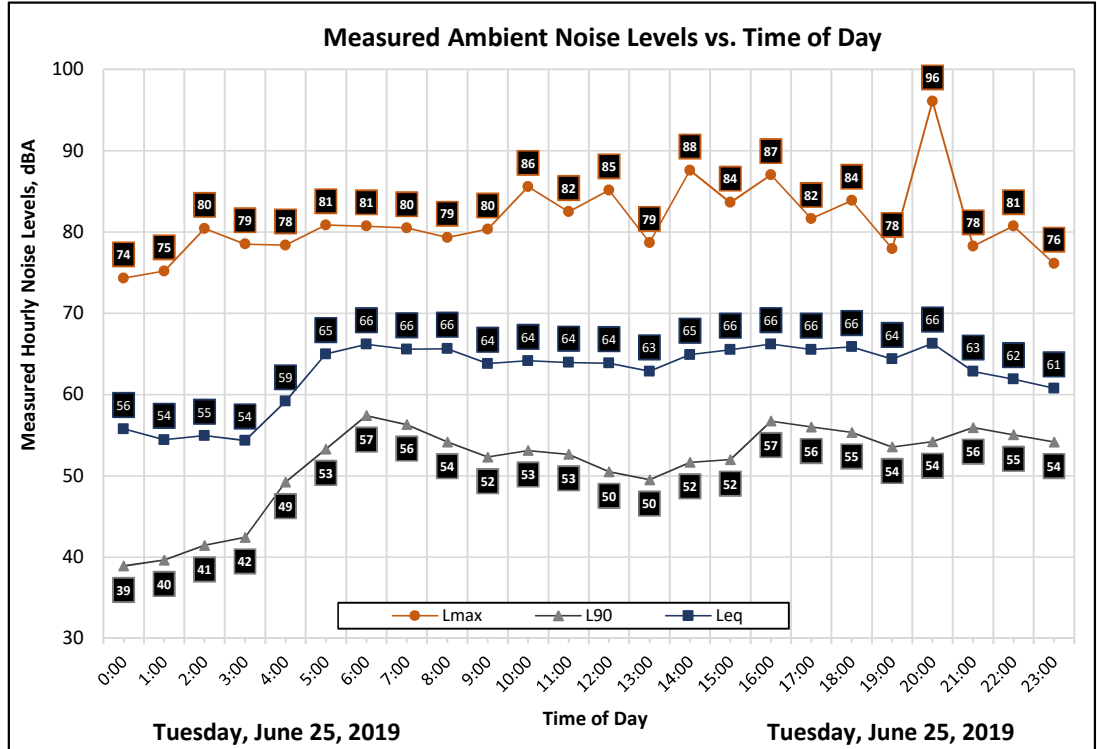
Project: City of Pittsburg General Plan Update

Meter: LDL 812-2

Location: Kirker Pass Rd. at Castlewood Dr.

Calibrator: B&K 4230

Coordinates: 37.9953322°, -121.8970643°





**Appendix B5 : Short Term Noise Monitoring Results**

**Site: ST-1**

**Project: Pittsburg General Plan Update**

**Meter: LDL 831-1**

**Location: Larry Lasater Park**

**Calibrator: B&K 4230**

**Coordinates: 38.0127554°, -121.9688892°**

**Start: 2019-06-24 16:29:52**

**Stop: 2019-06-24 16:39:52**

**SLM: Model 831**

**Serial: 1800**

**Measurement Results, dBA**

**Duration: 0:10**

**L<sub>eq</sub>: 47**

**L<sub>max</sub>: 60**

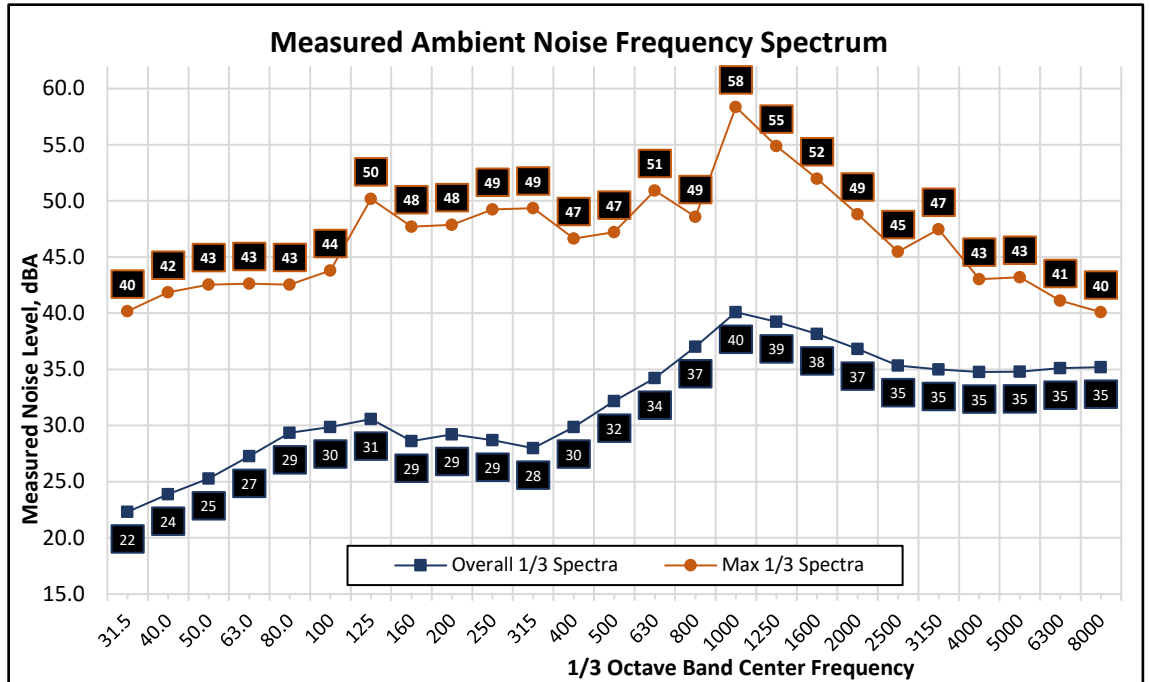
**L<sub>min</sub>: 38**

**L<sub>50</sub>: 45**

**L<sub>90</sub>: 43**

**Notes**

Primary noise source is traffic on Rancho Bernardo Dr. and Santa Teresa Dr. Secondary noise source is activity from neighboring schools.



Appendix B6 : Short Term Noise Monitoring Results

Site: ST-2

Project: Pittsburg General Plan Update

Meter: LDL 831-1

Location: Lynbrook Park

Calibrator: B&K 4230

Coordinates: 38.031067°, -121.955070°

Start: 2019-06-24 16:50:25

Stop: 2019-06-24 17:00:25

SLM: Model 831

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L<sub>eq</sub>: 55

L<sub>max</sub>: 74

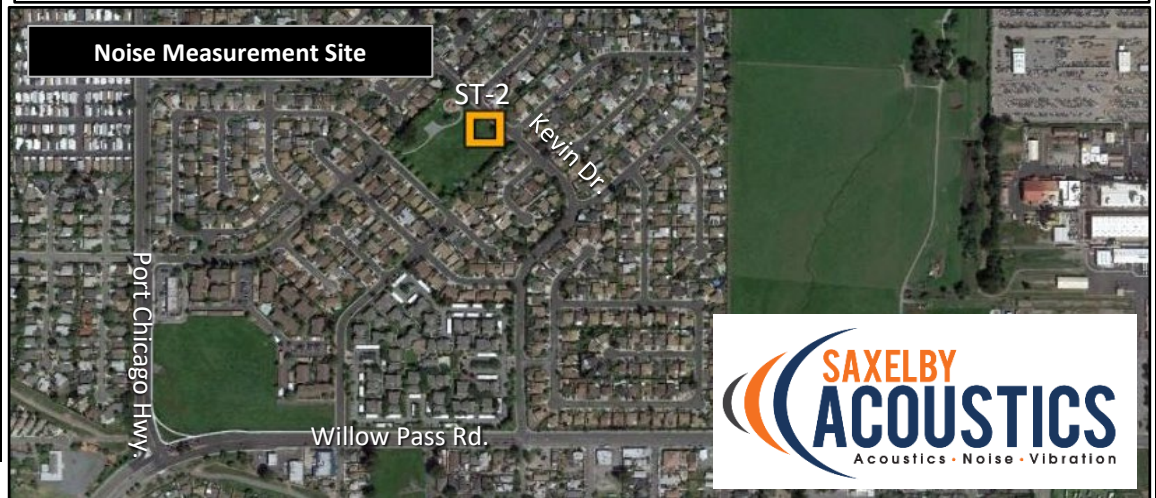
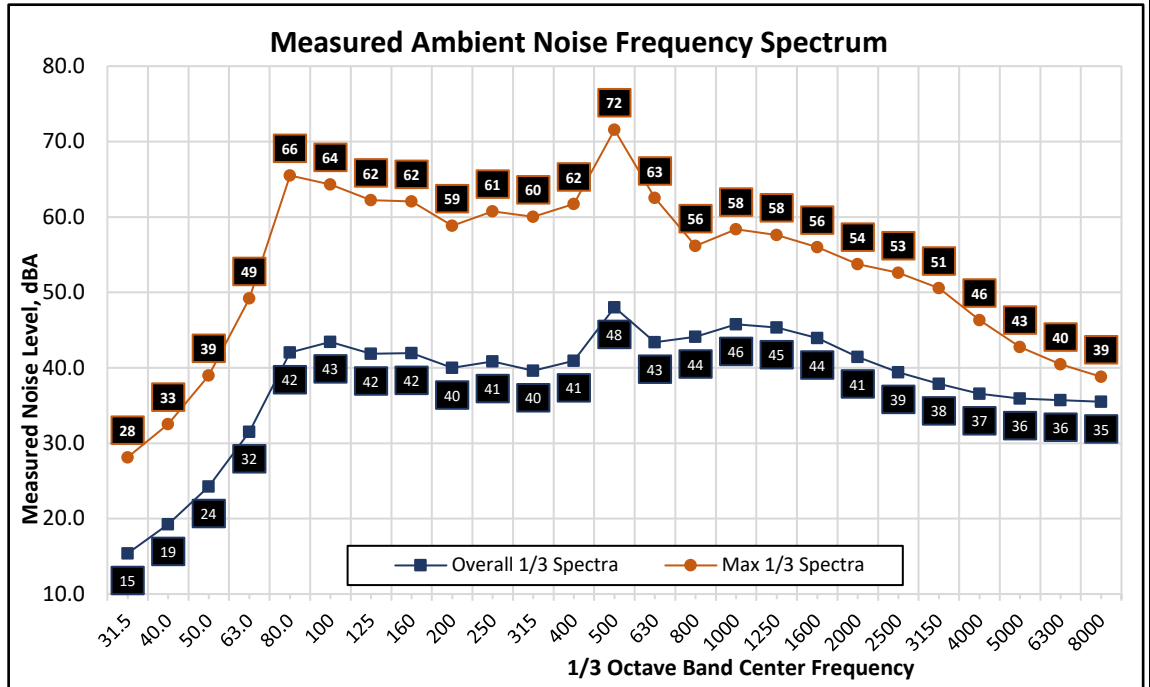
L<sub>min</sub>: 47

L<sub>50</sub>: 50

L<sub>90</sub>: 48

Notes

Primary noise source is traffic on Kevin Dr. Secondary noise source is activity from park-goers.





## Appendix B7 : Short Term Noise Monitoring Results

Site: ST-3

Project: Pittsburg General Plan Update

Meter: LDL 831-1

Location: California Seasons Park

Calibrator: B&K 4230

Coordinates: 38.0294526°, -121.9301923°

Start: 2019-06-26 09:47:46

Stop: 2019-06-26 09:57:46

SLM: Model 831

Serial: 1800

### Measurement Results, dBA

Duration: 0:10

$L_{eq}$ : 55

$L_{max}$ : 74

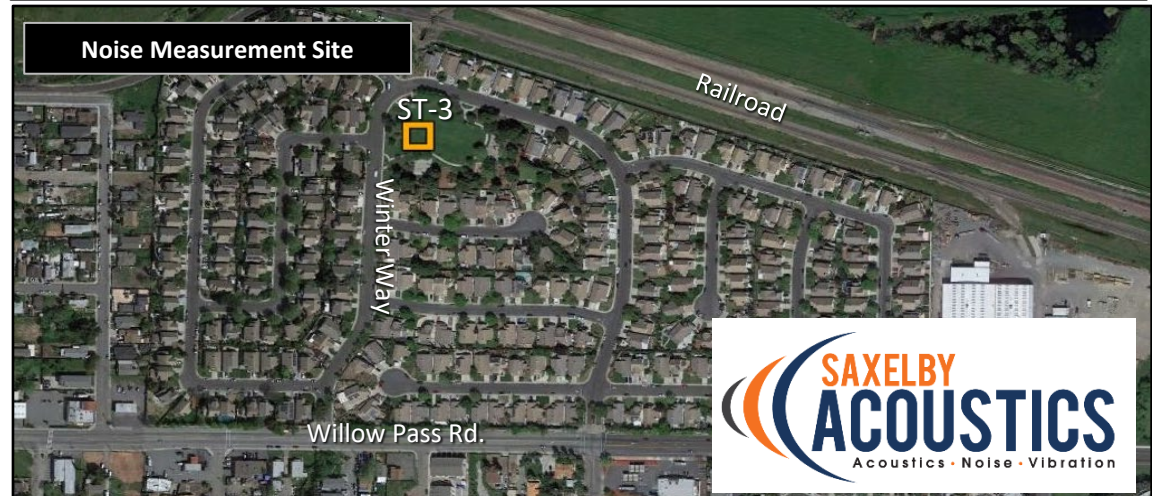
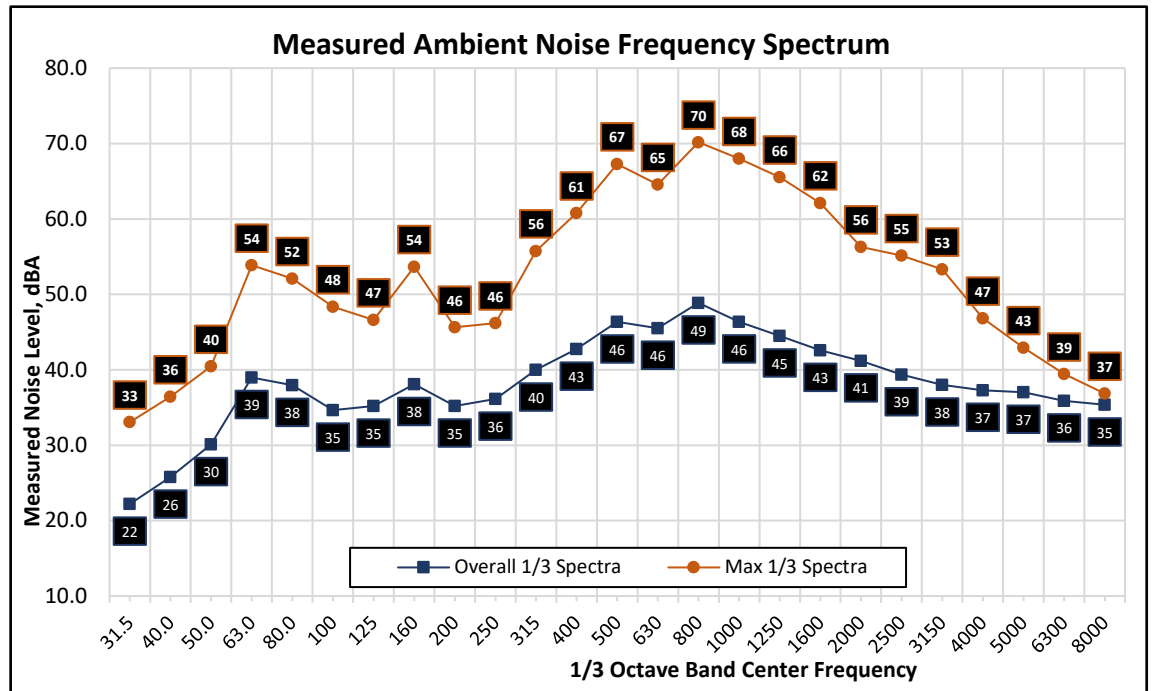
$L_{min}$ : 46

$L_{50}$ : 50

$L_{90}$ : 48

### Notes

Primary noise source is train horn from adjacent railway.  
Secondary noise source is activity from traffic on Winter Way and park-goers.



## Appendix B8 : Short Term Noise Monitoring Results

Site: ST-4

Project: Pittsburg General Plan Update

Meter: LDL 831-1

Location: Columbia Linear Park

Calibrator: B&K 4230

Coordinates: 38.0240923°, -121.8734283°

Start: 2019-06-24 11:37:17

Stop: 2019-06-24 11:47:17

SLM: Model 831

Serial: 1800

### Measurement Results, dBA

Duration: 0:10

$L_{eq}$ : 52

$L_{max}$ : 58

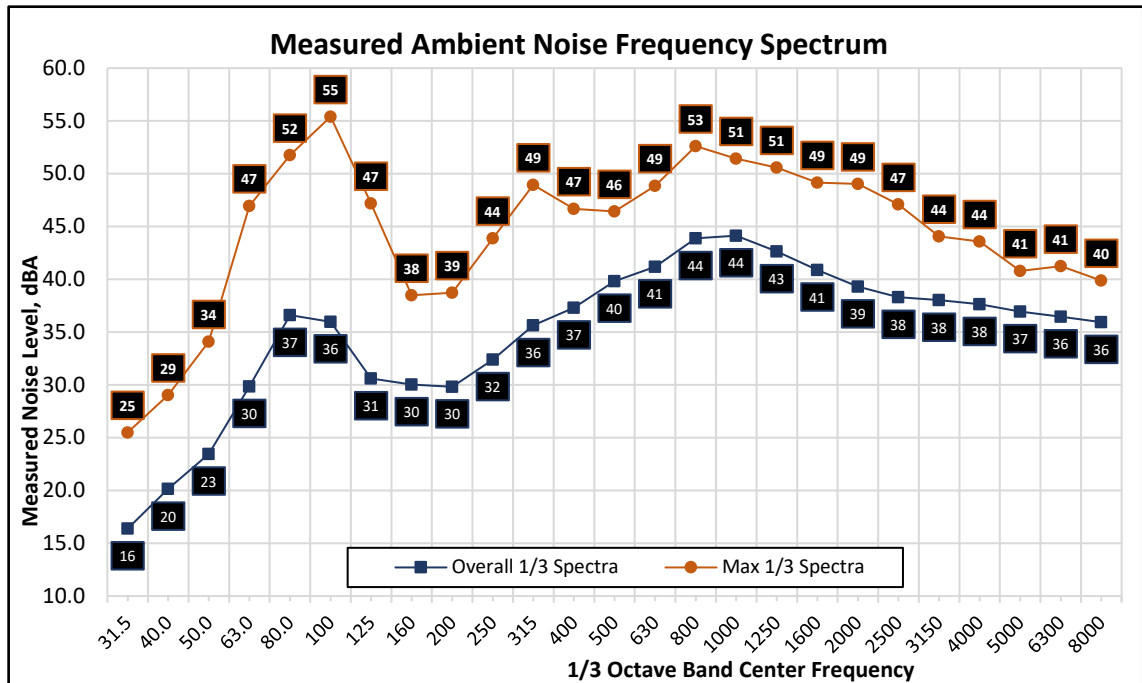
$L_{min}$ : 45

$L_{50}$ : 50

$L_{90}$ : 47

### Notes

Primary noise source is traffic on Winter Way. Secondary noise source is traffic on Pittsburg Antioch Hwy.



**SAXELBY**  
**ACOUSTICS**  
Acoustics · Noise · Vibration

**Appendix B9 : Short Term Noise Monitoring Results**

Site: ST-5

Project: Pittsburg General Plan Update

Meter: LDL 831-1

Location: Buchanan Park

Calibrator: B&K 4230

Coordinates: 38.0006621°, -121.8880326°

Start: 2019-06-28 08:08:26

Stop: 2019-06-28 08:18:26

SLM: Model 831

Serial: 1800

**Measurement Results, dBA**

Duration: 0:10

$L_{eq}$ : 50

$L_{max}$ : 65

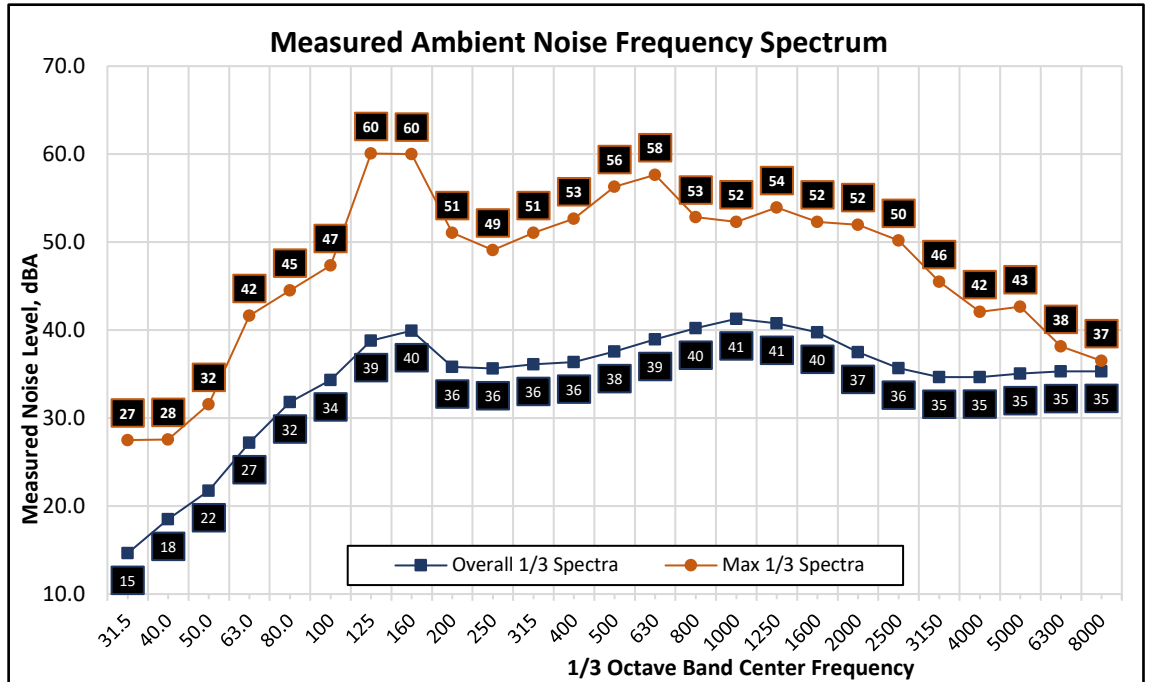
$L_{min}$ : 42

$L_{50}$ : 48

$L_{90}$ : 45

**Notes**

Primary noise source is traffic on Yosemite Drive and Harbor Street. Secondary sources include park-goers and wildlife.





**Appendix B10 : Short Term Noise Monitoring Results**

**Site: ST-6**

**Project: Pittsburg General Plan Update**

**Meter: LDL 831-1**

**Location: Highlands Ranch Park**

**Calibrator: B&K 4230**

**Coordinates: 37.9966982°, -121.8659252°**

**Start: 2019-06-28 08:31:55**

**Stop: 2019-06-28 08:41:55**

**SLM: Model 831**

**Serial: 1800**

**Measurement Results, dBA**

**Duration: 0:10**

**L<sub>eq</sub>: 48**

**L<sub>max</sub>: 57**

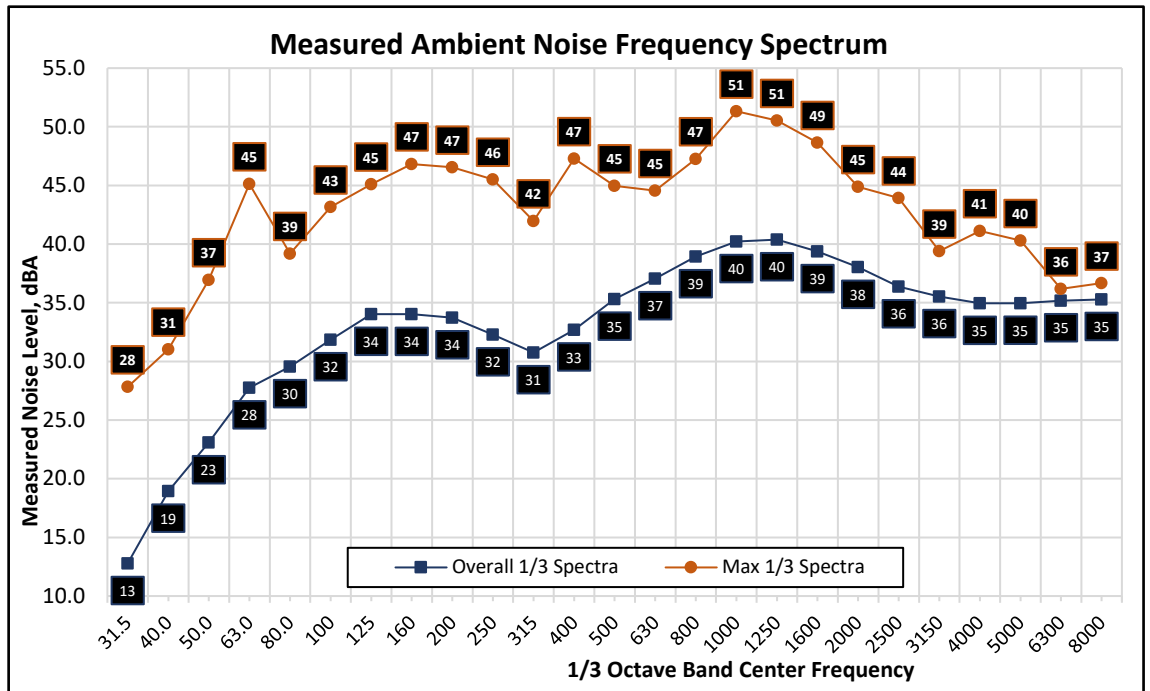
**L<sub>min</sub>: 42**

**L<sub>50</sub>: 48**

**L<sub>90</sub>: 46**

**Notes**

Primary source of noise is traffic on Rangewood Drive. Secondary sources include park-goers and traffic on Buchanan Road.



**Appendix B11 : Short Term Noise Monitoring Results**

**Site: ST-7**

**Project: Pittsburg General Plan Update**

**Meter: LDL 831-1**

**Location: Markley Creek Park**

**Calibrator: B&K 4230**

**Coordinates: 37.9899832°, -121.8545057°**

**Start: 2019-06-24 13:05:49**

**Stop: 2019-06-24 13:15:49**

**SLM: Model 831**

**Serial: 1800**

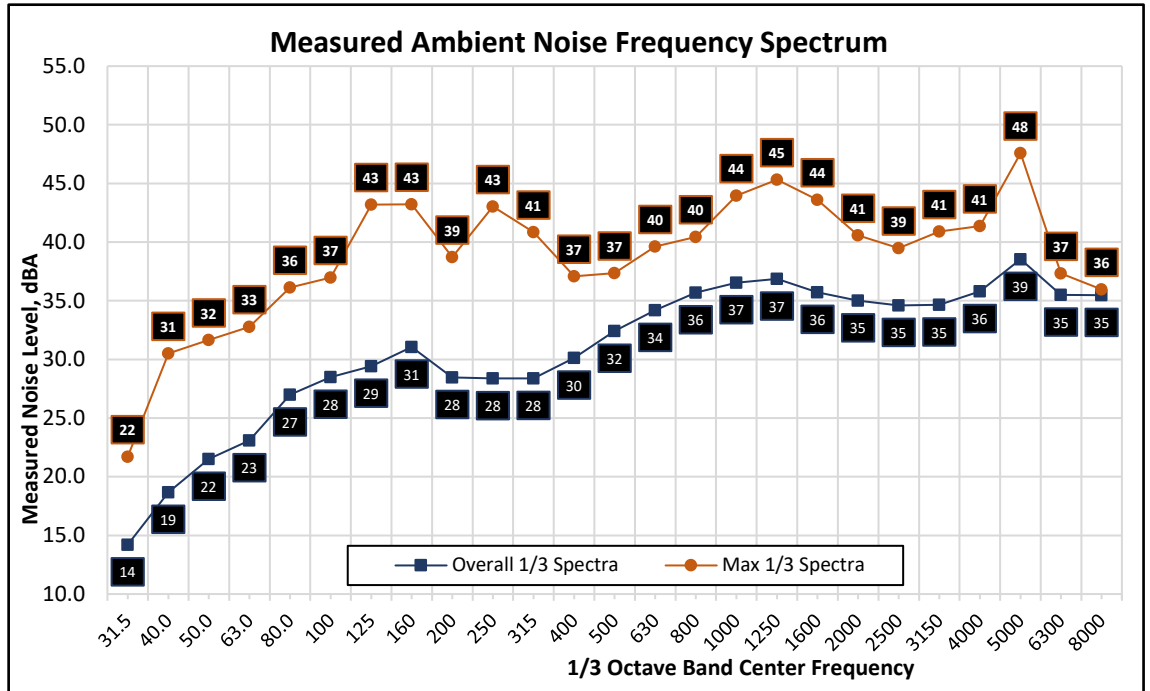
**Measurement Results, dBA**

**Duration: 0:10**

- L<sub>eq</sub>: 45**
- L<sub>max</sub>: 52**
- L<sub>min</sub>: 41**
- L<sub>50</sub>: 44**
- L<sub>90</sub>: 43**

**Notes**

Primary source of noise is traffic on Summit Way. Secondary noise source is construction in adjacent vacant field north of park boundary.



## Appendix C: Traffic Noise Calculation Inputs and Results



**Appendix C-1**

**FHWA-RD-77-108 Highway Traffic Noise Prediction Model**

**Project #:** 190203

**Description:** City of Pittsburg General Plan Update - Existing 2018

**Ldn/CNEL:** Ldn

**Hard/Soft:** Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset			Level, dBA
												60	65	70	
												dBA	dBA	dBA	
1	State Route 4	W/O Bailey Road	163,300	76	0	24	1.0%	1.0%	65	670	-5	2185	1014	471	63
2	State Route 4	W/O Railroad Ave	153,200	76	0	24	1.0%	1.0%	65	370	-5	2094	972	451	66
3	State Route 4	E/O Railroad Ave	137,600	76	0	24	1.0%	1.0%	65	370	-5	1949	905	420	66
4	State Route 4	E/O Loveridge Ave	131,100	76	0	24	1.0%	1.0%	65	310	-5	1887	876	407	67
5	Bailey Road	N/O Leland Ave	18,300	90	0	10	1.0%	1.0%	35	250	0	127	59	27	56
6	West Leland Rd	E/O Range Rd	18,900	90	0	10	1.0%	1.0%	40	70	-5	161	75	35	60
7	East Leland Rd	E/O Harbor St	25,800	90	0	10	1.0%	1.0%	40	70	-5	198	92	43	62
8	Railroad Ave	N/O Buchanan Rd	16,200	90	0	10	1.0%	1.0%	35	70	0	117	54	25	63
9	Railroad Ave	N/O California Ave	34,300	84	0	16	1.0%	1.0%	35	60	-5	229	106	49	64
10	California Ave	E/O Railroad Ave	23,400	90	0	10	1.0%	1.0%	40	50	0	186	86	40	69
11	W 10th St	W/O Herb White Way	11,700	90	0	10	1.0%	1.0%	35	40	0	94	44	20	66
12	Tenth St	E/O Railroad Ave	10,800	90	0	10	1.0%	1.0%	30	80	0	76	35	16	60
13	Willow Pass Rd	W/O Bailey Road	7,800	90	0	10	1.0%	1.0%	45	70	-5	108	50	23	58
14	Willow Pass Rd	W/O Range Road	17,600	84	0	16	1.0%	1.0%	40	80	-5	181	84	39	60
15	Harbor St	S/O SR 4	16,100	90	0	10	1.0%	1.0%	35	80	0	117	54	25	62
16	Harbor St	N/O Buchanan Rd	15,400	90	0	10	1.0%	1.0%	35	70	0	113	53	24	63
17	Atlantic Ave	E/O Railroad Ave	22,500	90	0	10	1.0%	1.0%	30	50	0	124	58	27	66
18	Loveridge Rd	N/O California Ave	21,500	90	0	10	1.0%	1.0%	40	2340	0	175	81	38	43
19	Loveridge Rd	N/O Buchanan Rd	18,900	90	0	10	1.0%	1.0%	35	60	0	130	60	28	65
20	Buchanan Rd	E/O Harbor St	19,100	90	0	10	1.0%	1.0%	35	100	-5	131	61	28	57
21	Pittsburg Antioch Hwy	E/O Loveridge Ave	12,300	90	0	10	1.0%	1.0%	50	1800	0	176	81	38	45
22	E 14th ST	W/O Pittsburg Antioch Hwy	5,400	90	0	10	1.0%	1.0%	30	50	0	48	22	10	60
23	Kirker Pass Rd	S/O Buchanan Rd	20,600	79	0	21	1.0%	1.0%	45	130	0	274	127	59	65
24	Somersville Rd	N/O Century Blvd	15,300	90	0	10	1.0%	1.0%	35	210	-5	113	52	24	51
25	Solari St	S/O E 10th St	2,100	90	0	10	1.0%	1.0%	35	50	0	30	14	6	57
26	Evora Rd	W/O Willow Pass Rd	14,700	90	0	10	1.0%	1.0%	45	6560	-5	165	77	36	31
27	E 3rd St	E/O Railroad Ave	3,000	90	0	10	1.0%	1.0%	25	50	0	25	12	5	56
28	N Parkside Dr	E/O Range Rd	8,700	79	0	21	1.0%	1.0%	40	60	-5	127	59	27	60



**Appendix C-2**

**FHWA-RD-77-108 Highway Traffic Noise Prediction Model**

**Project #:** 190203

**Description:** City of Pittsburg General Plan Update - Future 2040

**Ldn/CNEL:** Ldn

**Hard/Soft:** Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset			Level, dBA
												60 dBA	65 dBA	70 dBA	
1	State Route 4	W/O Bailey Road	186,700	76	0	24	1.0%	1.0%	65	670	-5	2389	1109	515	63.3
2	State Route 4	W/O Railroad Ave	172,200	76	0	24	1.0%	1.0%	65	370	-5	2264	1051	488	66.8
3	State Route 4	E/O Railroad Ave	150,800	76	0	24	1.0%	1.0%	65	370	-5	2072	962	446	66.2
4	State Route 4	E/O Loveridge Ave	149,900	76	0	24	1.0%	1.0%	65	310	-5	2064	958	445	67.3
5	Bailey Road	N/O Leland Ave	22,700	90	0	10	1.0%	1.0%	35	250	0	147	68	32	56.5
6	West Leland Rd	E/O Range Rd	23,300	90	0	10	1.0%	1.0%	40	70	-5	185	86	40	61.3
7	East Leland Rd	E/O Harbor St	30,500	90	0	10	1.0%	1.0%	40	70	-5	222	103	48	62.5
8	Railroad Ave	N/O Buchanan Rd	20,200	90	0	10	1.0%	1.0%	35	70	0	136	63	29	64.3
9	Railroad Ave	N/O California Ave	47,400	84	0	16	1.0%	1.0%	35	60	-5	284	132	61	65.1
10	California Ave	E/O Railroad Ave	27,300	90	0	10	1.0%	1.0%	40	50	0	206	96	44	69.2
11	W 10th St	W/O Herb White Way	24,500	90	0	10	1.0%	1.0%	35	40	0	155	72	33	68.8
12	Tenth St	E/O Railroad Ave	22,600	90	0	10	1.0%	1.0%	30	80	0	124	58	27	62.9
13	Willow Pass Rd	W/O Bailey Road	12,300	90	0	10	1.0%	1.0%	45	70	-5	147	68	32	59.8
14	Willow Pass Rd	W/O Range Road	30,100	84	0	16	1.0%	1.0%	40	80	-5	259	120	56	62.7
15	Harbor St	S/O SR 4	20,300	90	0	10	1.0%	1.0%	35	80	0	136	63	29	63.5
16	Harbor St	N/O Buchanan Rd	19,700	90	0	10	1.0%	1.0%	35	70	0	134	62	29	64.2
17	Atlantic Ave	E/O Railroad Ave	28,900	90	0	10	1.0%	1.0%	30	50	0	146	68	32	67.0
18	Loveridge Rd	N/O California Ave	23,300	90	0	10	1.0%	1.0%	40	2340	0	185	86	40	43.5
19	Loveridge Rd	N/O Buchanan Rd	20,000	90	0	10	1.0%	1.0%	35	60	0	135	63	29	65.3
20	Buchanan Rd	E/O Harbor St	22,700	90	0	10	1.0%	1.0%	35	100	-5	147	68	32	57.5
21	Pittsburg Antioch Hwy	E/O Loveridge Ave	13,600	90	0	10	1.0%	1.0%	50	1800	0	188	87	40	45.3
22	E 14th ST	W/O Pittsburg Antioch Hwy	6,600	90	0	10	1.0%	1.0%	30	50	0	55	25	12	60.6
23	Kirker Pass Rd	S/O Buchanan Rd	25,000	79	0	21	1.0%	1.0%	45	130	0	312	145	67	65.7
24	Somersville Rd	N/O Century Blvd	15,300	90	0	10	1.0%	1.0%	35	210	-5	113	52	24	51.0
25	Solari St	S/O E 10th St	4,800	90	0	10	1.0%	1.0%	35	50	0	52	24	11	60.3
26	Evora Rd	W/O Willow Pass Rd	21,200	90	0	10	1.0%	1.0%	45	6560	-5	211	98	45	32.6
27	E 3rd St	E/O Railroad Ave	5,800	90	0	10	1.0%	1.0%	25	50	0	39	18	8	58.4
28	N Parkside Dr	E/O Range Rd	11,100	79	0	21	1.0%	1.0%	40	60	-5	149	69	32	60.9





## **Appendix D: Example Noise Barrier Calculations**

### Appendix D-1 : Barrier Insertion Loss Calculation

**Project Information:**

Project Name: Pittsburg GPU  
 Location(s): Example Loading Dock - 100' with 12' sound wall

**Noise Level Data:**

Source Description: Loading Dock  
 Source Noise Level, dBA Leq: 66.0  
 Source Frequency (Hz): 1000  
 Source Height (ft): 8

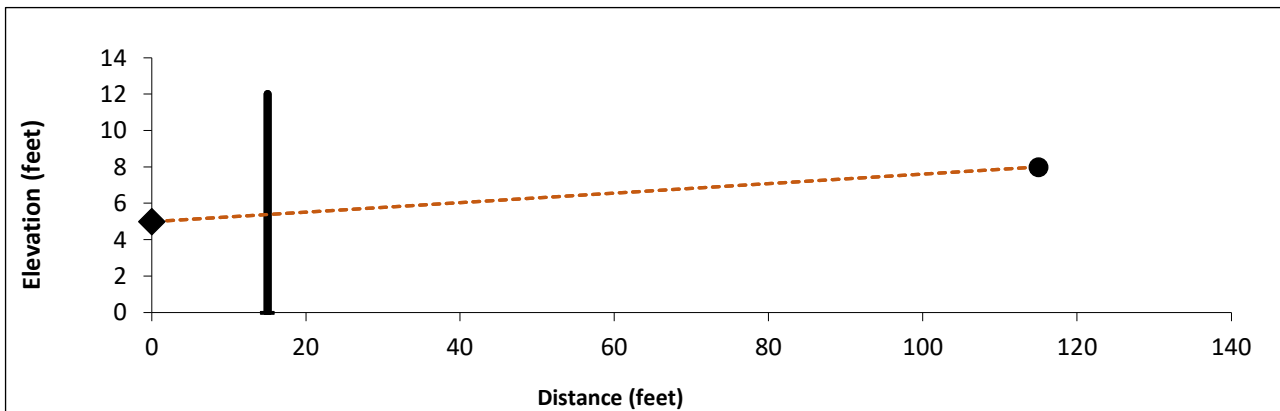
**Site Geometry:**

Receiver Description: Sensitive Use  
 Source to Barrier Distance ( $C_1$ ): 100  
 Barrier to Receiver Distance ( $C_2$ ): 15  
 Pad/Ground Elevation at Receiver: 0  
 Receiver Elevation<sup>1</sup>: 5  
 Base of Barrier Elevation: 0  
 Starting Barrier Height 12

#### Barrier Effectiveness

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
12	12	-13	53	Yes
13	13	-14	52	Yes
14	14	-15	51	Yes
15	15	-15	51	Yes
16	16	-16	50	Yes
17	17	-17	49	Yes
18	18	-17	49	Yes
19	19	-17	49	Yes
20	20	-17	49	Yes
21	21	-17	49	Yes
22	22	-17	49	Yes

Notes: <sup>1</sup> Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)



## Appendix D-2 : Barrier Insertion Loss Calculation

**Project Information:**

**Project Name:** Pittsburg GPU  
**Location(s):** Example Loading Dock - 250' with 12' sound wall

**Noise Level Data:**

**Source Description:** Loading Dock  
**Source Noise Level, dBA Leq:** 58.0  
**Source Frequency (Hz):** 1000  
**Source Height (ft):** 8

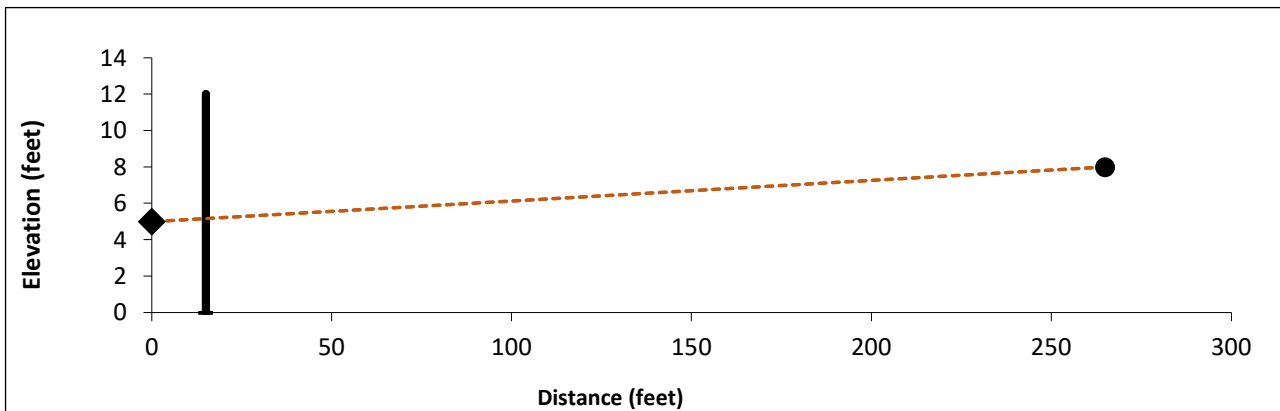
**Site Geometry:**

**Receiver Description:** Sensitive Use  
**Source to Barrier Distance ( $C_1$ ):** 250  
**Barrier to Receiver Distance ( $C_2$ ):** 15  
**Pad/Ground Elevation at Receiver:** 0  
**Receiver Elevation<sup>1</sup>:** 5  
**Base of Barrier Elevation:** 0  
**Starting Barrier Height:** 12

### Barrier Effectiveness

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
12	12	-13	45	Yes
13	13	-14	44	Yes
14	14	-15	43	Yes
15	15	-15	43	Yes
16	16	-16	42	Yes
17	17	-16	42	Yes
18	18	-17	41	Yes
19	19	-17	41	Yes
20	20	-17	41	Yes
21	21	-17	41	Yes
22	22	-17	41	Yes

**Notes:** <sup>1</sup> Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)



### Appendix D-3 : Barrier Insertion Loss Calculation

**Project Information:**

Project Name: Pittsburg GPU  
 Location(s): Example Loading Dock - 150' with building shielding

**Noise Level Data:**

Source Description: Loading Dock  
 Source Noise Level, dBA Leq: 62.5  
 Source Frequency (Hz): 1000  
 Source Height (ft): 8

**Site Geometry:**

Receiver Description: Sensitive Use  
 Source to Barrier Distance ( $C_1$ ): 150  
 Barrier to Receiver Distance ( $C_2$ ): 15  
 Pad/Ground Elevation at Receiver: 0  
 Receiver Elevation<sup>1</sup>: 5  
 Base of Barrier Elevation: 0  
 Starting Barrier Height 20

#### Barrier Effectiveness

Top of Barrier Elevation (ft)	Barrier Height (ft)	Insertion Loss, dB	Noise Level, dB	Barrier Breaks Line of Site to Source?
20	20	-17	45	Yes
21	21	-17	45	Yes
22	22	-17	45	Yes
23	23	-17	45	Yes
24	24	-17	45	Yes
25	25	-17	45	Yes
26	26	-18	44	Yes
27	27	-18	44	Yes
28	28	-18	44	Yes
29	29	-18	44	Yes
30	30	-18	44	Yes

Notes: <sup>1</sup> Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

