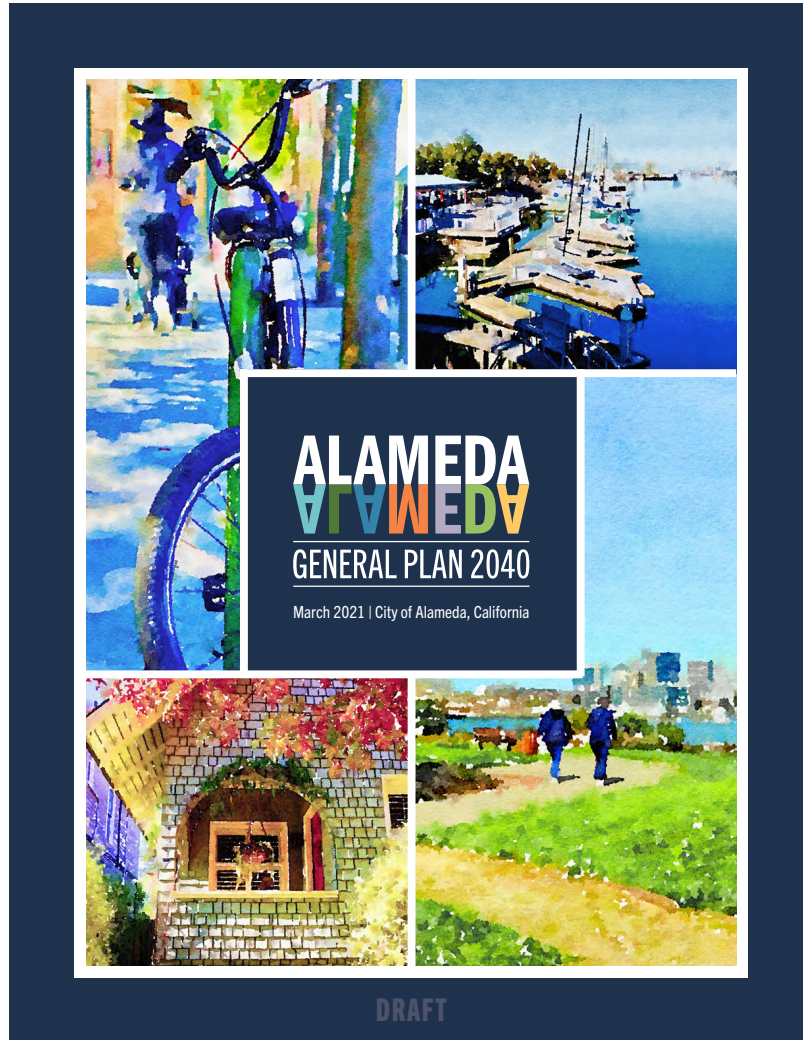


CITY OF ALAMEDA



Alameda General Plan 2040

DRAFT ENVIRONMENTAL IMPACT REPORT
SCH # 2021030563

VOLUME II

MAY 2021





Burrowing Owl on the Nature Reserve at Alameda Point
Credit: Richard Bangert, Alameda Point Environmental Report

Alameda General Plan 2040

Draft Environmental Impact Report

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15. HYDROLOGY AND WATER QUALITY

15.1 Introduction

This chapter describes the existing hydrology and water quality characteristics of Alameda and evaluates the potential environmental effects related to hydrology and water quality that could result from implementation of the *Alameda General Plan 2040*, including impacts on groundwater and drainage patterns, as well as increased flood and inundation hazards. Potential impacts on water supply are addressed in Chapter 7, Utilities and Service Systems.

When evaluating potential project impacts, the analysis presented in this chapter assumes that the project applicants for future development would comply with applicable federal, State, and local regulatory requirements intended to protect surface water and groundwater.

15.2 Setting

REGULATORY FRAMEWORK

This section summarizes the regulatory context for future development that would be facilitated by the proposed General Plan, including the laws, ordinances, regulations, plans, policies, and programs that are implemented at the federal, State, and local levels.

Federal Regulations and Agencies

Clean Water Act

The purpose of the Clean Water Act (CWA) is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies. The U.S. Environmental Protection Agency (US EPA) is responsible for implementing the CWA and has the authority to establish water quality standards if a state fails to do so. Principal portions of the CWA that affect development projects in the San Francisco Bay Area include Section 303 impaired water requirements, National Pollutant Discharge Elimination System (NPDES) construction and post-construction standards, Section 404 Permits, and Section 401 Certifications or Waivers. Each of these is discussed below.

Section 303 Standards

Section 303 of the Clean Water Act requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all waters of the United States. Under Section 303(d) of the Clean Water Act, states, territories, and

authorized tribes are required to develop lists of impaired waters (impaired waters are those that do not meet water quality standards, even after point sources of pollution have installed the required levels of pollution control technology). The law requires that these jurisdictions establish priority rankings for waterways on the lists and develop action plans to improve water quality.

This process includes development of Total Maximum Daily Loads (TMDLs) that set waste load allocations for point source and load allocations for non-point source pollutants. The State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) post and periodically update this list (typically every two years).

NPDES General Permit Requirements (Construction)

The CWA provides that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p), which established a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. In 1990, the US EPA published final regulations that established stormwater permit application requirements for specified categories of industries. The regulations provide that discharges of stormwater to waters of the United States from construction projects that encompass 5 or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations that became final on December 8, 1999 lowered the permitting threshold from 5 acres to 1 acre. In California, US EPA has delegated the implementation of this program to the SWRCB.

In response to these requirements, the SWRCB adopted a Statewide General Permit that applies to most stormwater discharges associated with construction activity. On August 19, 1999, the State Water Board issued General Construction Storm Water Permit Order 99-08-DWQ and on December 8, 1999 the State Water Board amended the Order to apply to sites as small as 1 acre. In accordance with this Order, project applicants or developers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to prepare a Storm Water Pollution Prevention Plan (SWPPP).

General Construction Storm Water Permit Order 99-08-DWQ was superseded in 2010 by new Construction General Permit (CGP) Order 2009-0009-DWQ (hereinafter referred to as the CGP), which contains significant additional requirements. Although the order expired on September 2, 2014, it has been administratively extended until a new order is adopted. Construction activities subject to this permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. In some cases, the CGP imposes post-construction requirements for a project.

The SWRCB subsequently amended the above order with Order No. 2010-0014-DWQ, and later Order No. 2012-006-DWQ. The CGP requires dischargers to file a public Notice of Intent, submit Permit Registration Documents to the SWRCB's SMARTS website, and obtain a Waste Discharger

Identification Number. The CGP only provides permission contingent on meeting all the order's conditions and requirements, including implementation of a SWPPP.

A SWPPP must include information to conclude that: (a) all pollutants and their sources are identified and would be controlled; (b) where not otherwise falling under a RWQCB permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (c) construction best management practices (BMPs) are effective and result in the elimination of pollutants in stormwater discharges and authorized non-stormwater discharges to a best available technology or control standard; (d) the analysis is supported by correct calculations and design details; and (e) stabilization BMPs are installed to reduce or eliminate pollutants after construction.

NPDES Phase I Stormwater Program for Municipalities

Stemming from federal Clean Water Act amendments in 1987, the NPDES regulatory program was extended from point sources to stormwater. Phase I was a program for Municipal Separate Storm Sewer Systems (MS4s) that serve populations of 100,000 or greater. These local governments had to implement a stormwater management program as a means to control polluted stormwater discharges. Starting in 1999, Phase II of the MS4s program applies to municipal systems for populations smaller than 100,000. The San Francisco Bay RWQCB previously issued 76 separate municipal stormwater permits under the NPDES program to the cities, counties, water districts, and flood control districts under its jurisdiction in the San Francisco Bay Area, but in 2015 the RWQCB reissued these permits as a single Municipal Regional Stormwater (MRP) NPDES Permit to regulate stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara counties, and the cities of Fairfield, Suisun City, and Vallejo. Marin, Napa, Solano, and Sonoma counties are covered under the Phase II permit for small MS4s.

In the City of Alameda, development projects must comply with NPDES Permit No. CAS612008, issued to the Alameda Countywide Clean Water Program (ACCWP)¹ and other Bay Area jurisdictions by the RWQCB (NPDES Order No. R2-2015-0049). The revised Municipal Regional Stormwater Permit was adopted on November 19, 2015 and became effective on January 1, 2016.

Since both the sources of pollutants in stormwater discharges and the points of discharge are diffuse, and the methods of reducing pollutants in stormwater discharges are in the development stage, water quality-based numerical effluent limitations are not currently feasible and have not been adopted. Instead, municipal stormwater permits include requirements to prevent or reduce discharges of pollutants that cause or contribute to violations of water quality objectives.

The MRP imposes a variety of responsibilities for monitoring and protecting stormwater quality on member agencies. Provision C.2 of the MRP identifies BMPs the municipal permittees are required to implement to reduce non-stormwater and polluted stormwater discharges to storm drains and

¹ Although the named Permittee in the MRP is Alameda Countywide Clean Water Program, this organization is also referenced on its website as Clean Water Program Alameda County as well as Alameda Countywide Clean Water Program.

watercourses during operation, inspection, and routine repair and maintenance activities of municipal facilities and infrastructure. BMPs are identified for the following activities:

- Street and road repair and maintenance
- Sidewalk/plaza maintenance and pavement washing
- Bridge and structure maintenance and graffiti removal
- Stormwater pump station operation and maintenance
- Rural public works construction and maintenance
- Corporation yard operation and maintenance

Provision C.8 of the MRP requires all permittees to perform regular monitoring of water quality using stipulated protocols. Where creeks or rivers are present, they must be monitored for chlorine, temperature, dissolved oxygen, and pH. Requirements vary by jurisdiction, but in Alameda County, at least eight stream reaches must be sampled per year, with at least three sites sampled in spring and three sites sampled in summer. Pathogens must be sampled at least five times per year and at least 80 samples analyzing pollutants of concern (POCs) must be conducted annually. POCs include polychlorinated biphenyls (PCBs), total mercury, copper, emerging contaminants, and nutrients (ammonium, nitrate, nitrite, etc.).

Provision C.9 requires permittees to implement a pesticide toxicity control program for use of pesticides in municipal operations and on municipal property, based on the concepts of Integrated Pest Management (IPM). These programs are intended to implement requirements of the TMDL for diazinon and pesticide-related toxicity in urban creeks in the region.

In 2015, the SWRCB adopted an amendment to the Water Quality Control Plan for Ocean Waters of California to control trash. This amendment requires Regional Boards to adopt provisions in NPDES permits eventually requiring the installation, operation, and maintenance of full capture systems for trash for all storm drains capturing runoff from the facility or site regulated by the NPDES permit. A supplementary approach to trash capture is cleanup, such as street sweeping, trash receptacles, and litter pickup. In 2015, the San Francisco Bay RWQCB added Provision C.10 to the NPDES stormwater permits issued to the municipalities under its jurisdiction. Permittees are required to reduce trash discharges from 2009 levels to receiving waters by 80 percent by July 1, 2019 and by 100 percent (or no adverse impact) by July 1, 2022.

Provisions C.11, C.12, C.13, and C.14 of the MRP require source and treatment control measures and pollution prevention strategies to reduce mercury, PCBs, copper, and bacteria, respectively, in urban stormwater runoff to achieve specified load reductions.

NPDES C.3 Requirements

In 2009, the San Francisco Bay RWQCB added Provision C.3 to the NPDES stormwater permits issued to the municipalities under its jurisdiction. The requirements of this provision are intended to reduce the introduction of urban pollutants into San Francisco Bay and the creeks, streams, lakes,

and other water bodies in the region. In general, projects subject to Provision C.3 must include the capture and onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops.

In addition to the responsibilities for monitoring and protecting stormwater quality the MRP imposes on member agencies, discussed above, it also includes requirements for individual development projects. Specifically, Provision C.3 of the MRP requires any private or public development project that would create or modify 10,000 square feet or more of impervious surfaces to take measures to improve water quality of stormwater discharges from the project site (i.e., stormwater runoff), including providing treatment of 100 percent of the stormwater runoff from the site. The size threshold is reduced to 5,000 square feet for certain special land use categories, which include auto service facilities, retail gasoline outlets, restaurants, and uncovered parking lots. Where a redevelopment project would alter 50 percent or more of the impervious surfaces of a previously existing project that was not subject to Provision C.3 requirements, the entire project must be designed and operated in compliance with Provision C.3. The Provision C.3 requirements also pertain to construction or widening of roads, trails, and sidewalks.

Projects subject to Provision C.3 must include low-impact development (LID) measures to capture and perform onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops. (Treatment may also occur offsite at an approved joint stormwater treatment facility.) Project applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable* (MEP), a standard established by the 1987 amendments to the federal Clean Water Act. LID treatment measures include harvesting and reuse, infiltration, evapotranspiration, and biotreatment.

Provision C.3 LID requirements include source controls and site design and stormwater treatment requirements. Examples of source control requirements that could be relevant to new development proposed in accordance with the proposed General Plan include:

- Landscaping that minimizes irrigation and runoff, promotes surface infiltration, minimizes the use of pesticides and fertilizers, and incorporates other appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping;
- Efficient irrigation systems;
- Properly designed trash storage areas; and
- Storm drain system stenciling or signage.

The MRP states that permittees (i.e., the cities and counties) should encourage projects that do not meet the Provision C.3 size thresholds to still implement these source control measures to the extent feasible.

Examples of site design and stormwater treatment requirements that could be relevant to future development include:

- Minimization of impervious surfaces;
- Construction of sidewalks, walkways, patios, and/or parking lots with pervious pavements;
- Inclusion of self-treating areas and self-retaining areas;
- Rainwater harvesting and reuse;
- Minimization of stormwater runoff by directing runoff from roofs, sidewalks, walkways, driveways, and/or uncovered parking lots onto vegetated areas; and
- Treatment of 100 percent of a site's stormwater runoff with onsite LID treatment measures (or with LID treatment measures at a joint stormwater treatment facility) through harvesting and re-use, infiltration, evapotranspiration, or biotreatment.

Biotreatment (or bioretention) systems must be designed to have a surface area no smaller than what is required to accommodate a stormwater runoff surface loading rate of 5 inches per hour, and infiltrate runoff at a minimum rate of 5 inches per hour during the life of the facility. The planting and soil media for biotreatment (or bioretention) systems must be designed to sustain healthy, vigorous plant growth and maximize stormwater runoff retention and pollutant removal. Biotreatment soil media must meet minimum specifications. Green roofs may be considered biotreatment systems provided they meet the criteria for treatment capacity stipulated in the MRP and have a sufficient depth of planting media to support the long-term health of the vegetation selected for the green roof.

The size and capacity of required stormwater treatment systems is determined in part on historical rainfall records for the project area. Systems may be based on the volume of runoff, the peak flow rate of runoff, or a combination of the two, with numeric hydraulic design criteria stipulated in the MRP for each method.

In certain cases where an applicant can demonstrate the infeasibility of treating 100 percent of the runoff from a project site, there are provisions for payment of an in-lieu fee for treatment of the untreated portion of stormwater at a regional or municipal treatment facility. Provision C.3 also defines three categories of "special projects" (Category A, B, and C) that may be eligible for a reduction in the amount of stormwater they are required to treat via Incentive LID Treatment Reduction Credits that must be approved by the RWQCB. Special projects are generally land development projects that can be characterized as infill, smart growth, high-density, or transit-oriented development that can either reduce existing impervious surfaces or create less "accessory" impervious areas and automobile-related pollutant impacts. The LID Treatment Reduction Credits allow the treatment of a stipulated portion of the site's runoff with non-LID treatment systems, such as tree box high-flow-rate bio-filters or vault-based high-flow-rate media filters.

Provision C.3 of the MRP also includes hydromodification management (HM) requirements for certain projects located in areas susceptible to hydrograph modification. Hydrograph modification occurs when an undeveloped site is developed with impervious surfaces such as buildings and pavements, which prevents natural infiltration by rain water, and which results in an increase in the

volume and rate of stormwater runoff from the site. Hydrograph modification has the undesirable effect of increasing erosion of natural creeks and earthen channels, which can cause flooding, property damage, degradation of stream habitat, and deterioration of water quality.

Projects that create or replace 1 acre or more of impervious surfaces on sites within a designated “susceptible area” as mapped by the ACCWP must implement HM measures to minimize changes in the rate and flow of stormwater runoff in comparison with pre-project conditions. The MRP includes provisions for compliance with the HM requirements in cases where meeting the HM standard is not practical due to excessive cost (more than 2 percent of project construction costs) or extreme space limitations.

For Alameda County permittees, the HM controls must be designed such that the post-project discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow up to the pre-project 10-year peak flow. HM measures can include site design and hydrologic source control measures, on-site structural HM measures, regional HM control structures, in-stream restorative measures, or a combination thereof. However, in-stream measures may only be used when the receiving stream is in a hardened channel or already shows evidence of excessive sediment, erosion, or deposition. The City of Alameda is not located within one of the areas mapped by the ACCWP as being susceptible to hydromodification, so HM controls are not required of new development projects in the City.²

Section 401 Certification

The Water Boards have the authority to regulate discharges of dredged or fill material to “waters of the United States” (which includes wetlands) through Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. CWA section 401 water quality certifications are issued to applicants for a federal license or permit for activities that may result in a discharge into waters of the United States (U.S.), including but not limited to the discharge or dredged or fill material. Waste discharge requirements under Porter-Cologne are issued for discharges of dredged or fill material to waters of the State. If a proposed project would impact waters of the United States or the State and the project applicant cannot demonstrate that the project is able to avoid these adverse impacts, water quality certification would most likely be denied. Where appropriate, prior to waiving or certifying water quality, the RWQCB may impose avoidance mitigation requirements on project applicants.

U.S. Environmental Protection Agency (US EPA)

The US EPA is responsible for implementing federal laws designed to protect air, water, and land. While numerous federal environmental laws guide US EPA’s activities, its primary mandate with respect to water quality is the CWA. In accordance with this mandate, US EPA has developed national technology-based standards and states have developed water quality standards in accordance with the CWA. US EPA also has authority to establish water quality standards if a state

² Alameda Countywide Clean Water Program, *C.3 Stormwater Technical Guidance: A Handbook for Developers, Builders, and Project Applicants*, Version 7, Appendix I: Hydromodification Management Map, September 11, 2019.

fails to do so. US EPA has established such standards for certain toxic pollutants applicable to California waters in the National Toxics Rule (NTR) and California Toxics Rule (CTR). These standards are used to determine the amount and the conditions under which pollutants can be discharged.

Federal Emergency Management Agency (FEMA)

Under Executive Order 11988, FEMA is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year (also termed the 100-year floodplain). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. Along with construction standards, the ordinance specifies that a Floodplain Permit must be obtained prior to any grading within the 100-year floodplain. The City of Alameda's floodplain management ordinance, discussed below, is codified at Chapter XX of the Alameda Municipal Code.

State Regulations and Agencies

Porter-Cologne Act and SWRCB

Under the State's Porter-Cologne Water Quality Control Act, any person discharging or proposing to discharge waste within the region (except discharges into a community sewer system) that could affect the quality of the waters of the State is required to file a Report of Waste Discharge (ROWD). The SWRCB and the RWQCBs share the responsibility under the Porter-Cologne Act to formulate and adopt water policies and plans, and to adopt and implement measures to fulfill CWA requirements. The RWQCB reviews the nature of the proposed discharge and adopts Waste Discharge Requirements (WDRs) to protect the beneficial uses of waters of the State. Waste discharge requirements could be adopted for an individual discharge or for a specific type of discharges in the form of a general permit. Acceptable control measures for point source discharges must ensure compliance with NPDES permit conditions, including discharge prohibitions and effluent limitations. The Water Board may waive the requirements for filing a ROWD or issuing WDRs for a specific discharge where such a waiver is not against the public interest. However, NPDES requirements may not be waived.

Specific to the City of Alameda and other Bay Area jurisdictions, the *Regional Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) serves to protect the water quality of the State consistent with identified beneficial uses. The water quality in and around Alameda is under the jurisdiction of the San Francisco Bay RWQCB.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) of 2014 was the first State legislation enacted to regulate groundwater extraction in California. (Although AB 3030, passed in 1992, previously provided local public agencies increased management authority over their groundwater resources by enabling them to develop Groundwater Management Plans (GMPs), this legislation did not regulate groundwater extraction.) The Act, codified at Division 6, Part 2.74 of the California

Water Code, requires governments and water agencies with jurisdiction over medium- and high-priority groundwater basins to prepare and adopt groundwater sustainability plans (GSPs) by June 30, 2017. The priority of the basins is based on the degree to which they are currently overdrafted. The GSPs must include programs to halt overdraft and bring the groundwater basins into balanced levels of pumping and recharge within 20 years of implementing the sustainability plans. For critically over-drafted basins, this deadline is in 2040; for the remaining high- and medium-priority basins, 2042 is the deadline. As groundwater basins are reprioritized, they are subject to varying deadlines for completion of a GSP.

The SGMA authorizes local governments and water agencies to create Groundwater Sustainability Agencies (GSAs) to prepare the GSPs and sustainably manage their groundwater basins. A combination of local agencies may form a groundwater sustainability agency by using a joint powers agreement, memorandum of agreement, or other legal mechanism. The SGMA creates 18 GSAs by statute, including the Alameda County Flood Control and Water Conservation District, which covers western Alameda County. SGMA assigns different roles to the California Department of Water Resources (DWR), the SWRCB, local agencies, and counties related to GSA formation. For example, in the event that there is an area within a high- or medium-priority basin that is not within the management area of a GSA, the county within which that unmanaged area lies is presumed to be the GSA for that area. Over 260 GSAs in over 140 groundwater basins were formed by SGMA's initial planning milestone. California has a total of 515 groundwater basins, and their prioritization level (very low, low, medium, and high) is determined by DWR.

The City of Alameda is located within the East Bay Plain Subbasin, which is designated as a medium-priority basin that ranges from the Carquinez Strait in the north to the City of Hayward area in the south. It is bounded by the Hayward fault zone in the east and San Francisco Bay in the west. The East Bay Municipal Utility District (EBMUD) is the GSA for the majority of the East Bay Plain Subbasin, except for the southern portion, for which the City of Hayward is the designated GSA. Although EBMUD and Hayward are in the process of jointly preparing a GSP for the entire subbasin in compliance with the SGMA, EBMUD's Board of Directors previously adopted the *South East Bay Plain Basin Groundwater Management Plan* on March 26, 2013. As of January 1, 2015, new or updated GMPs cannot be adopted in high- or medium-priority basin, where GSPs or an approved alternative are now required pursuant to the SGMA. GMPs may still be developed in very low- or low-priority basins.

Because only the southern portion of East Bay Plain Subbasin has significant storage capacity and has seen significant municipal, industrial, and irrigation well production, the GMP focuses on the southern portion of the Basin. This plan encompasses Bay Farm Island, but does not include Alameda Island.

Groundwater Quality Monitoring Act

The Groundwater Quality Monitoring Act (Act) of 2001 (AB 599) required the SWRCB to integrate existing monitoring programs and design new program elements, as necessary, to establish a comprehensive monitoring program capable of assessing each groundwater basin in the State

through direct and other statistically reliable sampling approaches. In collaboration with the SWRCB, the U.S. Geological Survey (USGS) subsequently prepared a plan for monitoring California's groundwater, outlined in the 2003 *Framework for a Ground-Water Quality Monitoring and Assessment Program for California*. The plan divides the State into ten hydrogeologic provinces and prioritizes and ranks the groundwater basins within each province, with the number of public drinking water supply wells in a basin being the primary criterion for ranking. The assessment identified 116 priority (Categories 1–4) basins, representing all ten hydrogeologic provinces. These priority basins, which are particularly concentrated in California's Central Valley, account for about three-quarters of California's 16,000 public supply wells. The USGS report describes a program that facilitates water quality assessment of groundwater basins at local, regional, and state scales employing a consistent study design.

The City of Alameda is located in the South Coast Ranges Hydrogeologic Province, which encompasses 74 groundwater basins and supports 1,740 public water supply wells, as well as 480 wells located outside basins.³

AB 599 was expanded in 2008 with the passage of AB 2222, which required the SWRCB to identify, and recommend to the Legislature, funding options to extend the comprehensive groundwater monitoring program until January 1, 2024. It also required the SWRCB to make recommendations to enhance public accessibility of information on groundwater conditions, resulting in a report titled *Public Accessibility to Information About Groundwater Conditions*, which was submitted to the Legislature in 2010.

AB 2222 required the SWRCB to identify by January 1, 2012 the California communities that rely on contaminated groundwater as a primary source of drinking water, identify the principal contaminants and contamination levels in that groundwater, and identify potential solutions and funding sources to clean up or treat groundwater or to provide alternative water supplies to ensure the provision of safe drinking water to communities identified. As a result of this legislation, the SWRCB developed the California Groundwater Ambient Monitoring and Assessment (GAMA) Program, a comprehensive assessment of statewide groundwater quality in California. The GAMA Program's Priority Basin Project focused on assessing shallow groundwater aquifers used for public drinking water supplies because they are more susceptible to contamination from human activities on the land surface.

The USGS is the technical lead of the Priority Basin Project, but the USGS collaborates with the Regional Water Quality Control Boards, Department of Water Resources, Department of Public Health, local and regional groundwater management entities, county and local water agencies, community groups, and private citizens. Well-owner participation in the GAMA Program is voluntary.

³ U.S. Geological Survey and California State Water Resources Control Board, *Framework for a Ground-Water Quality Monitoring and Assessment Program for California*, Figure 1: Hydrogeologic Provinces of California, and Table 1: Public-Supply Wells Located Inside and Outside of Mapped Ground-Water Basins, California, 2003.

Regional and Local Water Quality Regulations

San Francisco Bay Basin Plan

The *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)* documents the RWQCB's approaches to implementing State and federal policies in the context of actual water quality conditions. It contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the region. The Basin Plan identifies 18 categories or prohibited discharges to surface waters and defines a host of beneficial water uses that the RWQCB will protect, and establishes water quality objectives necessary to protect the designated beneficial water uses, and strategies and time schedules for achieving those objectives. Water quality objectives are achieved primarily through the establishment and enforcement of Waste Discharge Requirements (WDRs) for each discharger, which include industrial facilities, publicly-owned treatment works (POTWs) (i.e., wastewater treatment facilities), and much more. Beneficial uses addressed in the Basin Plan include:

- Agricultural supply
- Areas of biological significance
- Cold freshwater habitat
- Commercial and sport fishing
- Estuarine habitat
- Freshwater replenishment
- Groundwater recharge
- Industrial service supply
- Marine habitat
- Fish migration
- Municipal and domestic supply
- Navigation
- Industrial process supply
- Preservation of rare and endangered species
- Water-contact recreation
- Non-contact water recreation
- Shellfish harvesting
- Fish spawning
- Warm freshwater habitat
- Wildlife habitat

The Basin Plan divides the San Francisco Bay region into seven hydrologic planning areas, used to geographically organize the beneficial uses of each significant water body in the region. The City of Alameda and much of Alameda County are located in the South Bay Basin. The Basin Plan notes that protection of beneficial uses associated with the Estuary depends upon achieving water quality goals within each of the watersheds draining to the Bay.

The Basin Plan is intended to achieve the RWQCB's Water Quality Attainment Strategies (WQAS), including TMDLs where necessary, in order to ensure attainment and maintenance of water quality standards established under Section 303 of the Clean Water Act. TMDLs are established at the appropriate level (San Francisco Estuary, smaller segments within the Estuary, or individual watersheds) to effectively achieve the applicable water quality standard.

Alameda Countywide Clean Water Program (ACCWP)

The Alameda Countywide Clean Water Program (ACCWP) works with local agencies in the County to facilitate local compliance with the federal Clean Water Act, including the C.3 stormwater requirements of the NPDES MRP discussed above. The ACCWP also educates businesses and residents on how to prevent stormwater pollution and facilitates local compliance with pollution prevention programs pertaining to wastewater treatment plants, hazardous waste disposal, and water recycling. The ACCWP is responsible for monitoring pollutant levels in Alameda County creeks, lakes, and in San Francisco Bay in order to track and evaluate trends that impact water quality and initiate corrective measures, when necessary. The ACCWP also publishes a detailed handbook providing guidance for developers to follow in order to comply with the Provision C.3 requirements.

Alameda Climate Action and Resiliency Plan (CARP)

The *Alameda Climate Action and Resiliency Plan (CARP)* lays out the strategy for the City of Alameda to follow in reducing the City's greenhouse gas (GHG) emissions and assist the State in meeting the GHG reduction goals established by AB 32 and SB 32. It is also intended to help the City address the growing threats posed by climate change, such as sea level rise that has already increased by 8 inches in San Francisco Bay over the past century, and could rise 2 feet by 2050, and 6 feet or more by 2100. While much of the CARP is dedicated to GHG-reduction strategies, a significant portion of the document focuses on increasing the City's preparation for storm surges and anticipated sea level rise. It also includes measures to increase resiliency and capacity of the stormwater system to prevent flooding of assets during extreme precipitation events.

To address these hazards, the CARP includes three adaptation-focused components: 1) a summary of existing and future climate conditions 2) an assessment of the City's vulnerability to these hazards, including social vulnerability; and 3) a list of adaptation strategies and associated actions to address key vulnerabilities defined during the vulnerability assessment. The adaptation strategies are presented in detail for priority assets, such as the City's shoreline areas, and more generally for asset categories and sectors. The CARP focuses first on protecting assets that are likely to be compromised soonest and with greatest consequences, while accommodating longer-term

solutions. The adaptation strategies are presented for short- (<5 years), mid- (5 to 10 years), and long-term (>10 years) planning horizons. The CARP identifies 11 priority assets to be targeted by adaptation actions, including six shoreline assets, two utilities assets, and three transportation assets, including the Webster and Posey Tubes.

City of Alameda Local Hazard Mitigation Plan

The *City of Alameda Local Hazard Mitigation Plan* (LHMP) (June 2016) was prepared in accordance with the Disaster Mitigation Act of 2000, which required states, cities, and Indian tribes to prepare a hazard mitigation plan in order to be eligible for mitigation funding from the Federal Emergency Management Agency (FEMA). Coastal flooding, non-coastal flooding, and inundation by tsunami are among the hazards addressed in the City's LHMP. See Chapter 16, Hazards and Hazardous Materials, for a more detailed discussion of the LHMP.

City of Alameda Emergency Operations Plan

The *Emergency Operations Plan* (March 2019) (EOP) sets forth the City's responsibilities during emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the City in coordination and with local, State, and federal agencies. Similar to the LHMP, the EOP includes flooding and inundation by tsunami among the natural disasters it plans for. See Chapter 16, Hazards and Hazardous Materials, for a more detailed discussion of the EOP.

City of Alameda Green Infrastructure Plan

The *City of Alameda Green Infrastructure Plan* (September 2019) is intended to guide the identification, implementation, tracking, and reporting of green infrastructure projects within Alameda, in accordance with the Municipal Regional Stormwater Permit (MRP), Order No. R2-2015-0049, discussed above. It was developed in accordance with Provision C.3.j of the MRP, which requires Permittees to prepare a Green Infrastructure Plan (GIP) that guides, tracks, and reports on the inclusion of LID drainage design into storm drain infrastructure on public and private lands, including streets, roads, storm drains, parking lots, building roofs, and other storm drain infrastructure elements. A GIP must describe how the Permittee will shift their impervious surfaces and storm drain infrastructure from traditional storm drain infrastructure where runoff flows directly into the storm drain and then into the receiving water, to a more-resilient, sustainable system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other green infrastructure practices to clean stormwater runoff.

The GIP prioritizes green infrastructure (GI) projects in the City for the benchmark years of 2020, 2030, and 2040, including projections for private development projects. It targets GI retrofits of 237 acres of existing impervious surfaces by 2020. These benchmarks for 2030 and 2040 are an additional 245 acres and 243 acres, respectively, resulting in a cumulative total of 725 acres by 2040. THE GIP states that the City will continue to require Regulated Projects subject to MRP Provision C.3

to provide the necessary LID/GI stormwater treatment on project sites, rather than allowing them to participate in an alternative or in-lieu compliance program allowed under Provision C.3.e.

City of Alameda Storm Water Management and Discharge Control Ordinance

The City of Alameda Storm Water Management and Discharge Control Ordinance is set forth in Section 18-21 *et seq.* of the Alameda Municipal Code (AMC). The ordinance is intended to protect and enhance the water quality of the City's watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Clean Water Act. To accomplish this objective, it includes provisions for eliminating non-stormwater discharges to the municipal separate storm sewer; controlling the discharge to municipal separate storm sewers from spills, dumping, or disposal of materials other than stormwater; and reducing pollutants in stormwater discharges to the maximum extent practicable. It reinforces the requirements of the NPDES Construction General Permit previously discussed and establishes penalties for non-compliance. In addition, AMC Section 18-31 *et seq.* establishes a Water Quality and Flood Protection Fee to assist the City in maintaining its aging storm drainage infrastructure, making improvements to meet future challenges such as climatic and land use changes, and maintaining a sustainable environment in accordance with the CWA, US EPA regulations, and the City's NPDES permits. The fee is a recurring annual fee assessed to both residential and non-residential uses based on parcel size.

City of Alameda Floodplain Management Ordinance

In compliance with FEMA requirements, the City regulates new development within the 100-year floodplain designated by FEMA via its floodplain management ordinance (Alameda Municipal Code Chapter XX). It applies to any development located within a special flood hazard area delineated by FEMA or the Federal Insurance Administration on the official Flood insurance Rate Map (FIRM) or on the Flood Boundary and Floodway Map (FBFM), both produced by FEMA. The 100-year floodplain is shown on an FFBM or FIRM as zone A, AO, A1-A30, AE, A99, AH, V1-V30, VE or V.

The ordinance requires a development permit issued by the Director of Public Works prior to any construction or other development, including manufactured homes, within a designated flood hazard area. Issuance of the permit is contingent upon demonstration that new construction and substantial improvements of structures will be adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. The construction must be made from flood-resistant materials using methods that minimize potential flood damage. There must be adequate drainage paths around structures on slopes to guide flood waters around and away from proposed structures. All new residential construction or substantial improvements of residential structures must have the lowest floor, including basement, elevated to or above the base flood elevation in AE, AH, and A1-30 zones. In an AO zone, they must be elevated above the highest adjacent grade to a height equal to or exceeding the depth number specified in feet on the FIRM, or elevated at least 2 feet above the highest adjacent grade if no depth number is specified. In an A zone without the base flood elevation specified on the FIRM (unnumbered A zone), the lowest floor must be elevated to or

above the base flood elevation; as determined under *Section 20-3.2.C*. Separate requirements apply to non-residential construction.

There are numerous other provisions in the ordinance, including standards for utilities. In general, issuance of the development permit is contingent upon certification from a registered civil engineer or architect that the applicable floodproofing criteria in the floodplain management ordinance have been met.

EXISTING CONDITIONS

Regional Hydrology

Alameda lies within the San Francisco Bay Hydrologic Region (HR) surface watershed, which covers 4,603 square miles, and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties. It is one of ten hydrologic regions in the State. The California Department of Water Resources (DWR) divides each HR into Hydrologic Units (HU), which are further divided into smaller Hydrologic Areas (HA). Alameda is located in the South Bay HU, which includes the eastern half of the San Francisco peninsula and extends eastward to San Joaquin and Stanislaus counties and then southward in eastern Santa Clara County. Major creeks draining into this watershed include San Leandro, Alameda, Tassajara, San Antonio, Alamo, and Indian creeks as well as Arroyo Seco, Arroyo Mocho, Arroyo del Valle, and Arroyo Hondo. In the western portion of the South Bay Basin, shown on Figure WQ-1, creeks draining into the waters surrounding Alameda include Peralta Creek, Sausal Creek, Lion Creek, and Glen Echo Creek.

The dominant feature of the San Francisco Bay Region is the majority of the 1,600-square-mile San Francisco Bay Estuary, a system of streams, rivers, wetlands, and bays that form the largest estuary on the west coast of the United States. The Estuary conveys the waters of the Sacramento and San Joaquin rivers into the Pacific Ocean, which collect rainwater and snowmelt from the Sierra Nevada mountain range; these rivers contribute almost all the freshwater inflow to the Bay. San Francisco Bay creates a natural topographic separation between the northern and southern coastal mountain ranges, and also provides the only outlet for water draining from the Central Valley.

San Francisco Bay supports the largest extent of tidal marsh in California, though only an estimated 10 percent of historic wetlands remain.⁴ Wetlands have been lost to land reclamation, and have been further impacted by anthropogenic activities such as channel dredging, freshwater diversions, watershed modifications, urban run-off, ship traffic, and exotic species introductions. Following the 1850's Gold Rush, large amounts of sediment from upstream erosion and hydraulic mining flowed into the Bay, and surrounding tidal wetlands were diked for salt production, hay-fields, or filled in, reducing the Bay's size by as much as one-third.

⁴ San Francisco BayKeeper, <https://baykeeper.org/our-work/wetland-conservation-and-protection>.



Figure WQ-1

San Francisco Bay Hydrologic Basin

Source: East Bay Municipal Utility District, 2013

The diverse Bay ecosystem includes deep water areas adjacent to large expanses of very shallow water, where salinity levels range from hypersaline to fresh water. Water temperatures also vary throughout the system. This diverse ecosystem supports a large number of aquatic species that enhance its biological stability. The fringes of the Bay sustain rich communities of crabs, clams, fish, birds, and other aquatic life, and serve both as important wintering sites for migrating waterfowl and as spawning areas for anadromous fish.

Alameda is characterized by a typical Mediterranean climate, with mild, dry summers and mild, wet winters. The average high temperature in the summer is 72 degrees Fahrenheit and the average low temperature is 52° F. The average high and low winter temperatures are 57° F. and 44° F., respectively. The warmest month of the year is September, with an average maximum temperature of 74, while the coldest month is January, with an average minimum temperature of 43° F.⁵ Most rainfall occurs between November and March, with an average annual rainfall of 23.62 inches.⁶ The wettest month of the year is February, with an average rainfall of 3.7 inches.⁷

Local Surface Hydrology

As an island community, the City of Alameda is largely uninfluenced by the regional surface hydrology patterns of the greater Bay Area. Rather, it is principally influenced by tidal variations and storm surges from San Francisco Bay. The mixed semi-diurnal tide regime has a range of approximately 6 feet at the Golden Gate, the only inlet where ocean and estuarine water exchange occurs. Across the Bay, the typical tidal range is about 5 to 7 feet. Storm surges, which can occur several times a year, typically range from 0.5 feet to 4 feet.⁸

Alameda Island was prehistorically a sand dune that formed during the last ice age over 10,000 years ago on a low-lying peninsula. These sands were deposited when sea levels were low and San Francisco Bay was a wide river valley. When the sea level rose, the tops of the dunes remained. Areas of higher ground once harbored one of the largest coastal oak forests in the world. Due to the porous soils in Alameda, which allow rainwater to be absorbed, there are no natural creeks on the island. Groundwater in the area occurs at shallow depths and at the surface, taking on a brackish quality as it mixes with the saline waters from San Francisco Bay.

The size of Alameda Island was doubled in the 1850s when artificial bay fill from mining debris and dredging for shipping channels was used to fill many of the marshlands and tidal flats of the Bay. The fill was composed mainly of Merritt sand, Bay Mud, Temescal formation debris, broken rock, and miscellaneous refuse.

⁵ <http://climate-data.org>

⁶ <http://weather-and-climate.com>

⁷ <http://weatherspark.com>

⁸ San Francisco Bay Conservation and Development Commission (BCDC) and the Alameda County Flood Control and Water Conservation District, *Adapting to Rising Tides: Alameda County Shoreline Vulnerability Assessment*, Table 2-2: Factors That Influence Local Water Conditions in Addition to Sea Level Rise, May 2015.

As shown on Figures WQ-2 and WQ-3, Alameda is divided by the Alameda County Flood Control and Water Conservation District (ACFCWCD) into three surface watersheds: North Alameda, Southwest Alameda, and Bay Farm Island. Each is described below, based on information provided by ACFCWCD.

North Alameda Watershed

The North Alameda Watershed encompasses an area of 3.4 square miles in the northern portion of Alameda Island. It covers the majority of the island, including Alameda Point, the former Naval Air Station that supports wetlands and grasslands, as well as developed residential and commercial areas. A system of storm drains and underground culverts drains the northern side of Alameda Island into the Oakland Inner Harbor or estuary. The Oakland Estuary is a strait that separates the cities of Oakland and Alameda, its eastern end connecting to San Leandro Bay and its western end to San Francisco Bay. U.S. Coast Survey maps from the 1850s label this arm of the bay San Antonio Creek. Since that time, dredging and manufacturing industries have caused much sedimentation and contamination.

The west end of Alameda Point was originally tideland characterized by open water during high tide and mud flats during low tide. The land was filled to make the runways, roads, and a sea wall for the Naval Air Station Alameda. San Francisco Bay water that enters through the seawall, as well as precipitation and surface runoff, has created a shallow marsh with tidal marsh vegetation. This artificial wetland of shallow ponds and vegetated salt marsh is dominated by pickleweed and saltgrass, while higher areas are susceptible to invasive plant species such as iceplant, cranesbill, ox-tongue, and coyote brush.

Southwest Alameda Watershed

Central Avenue roughly divides the North Alameda Watershed from the Southwest Alameda Watershed. The Southwest Alameda Watershed covers 1.03 square miles and includes the Southshore area, which is separated from the main section of the island by Alameda Lagoon. Similar to the North Alameda Watershed, municipal storm drains carry surface runoff into a system of underground culverts that empty into the adjacent Bay waters. The artificial Alameda Lagoon separates the natural land of Alameda from areas of artificial fill created in the 1950s and thus marks the original shoreline. The 4-mile-long lagoon is subdivided into five separate but interconnected lagoons that are filled with salt water from San Francisco Bay. The lagoon supports a variety of wildlife including egrets, cranes, night herons, blue herons, terns, coots, cormorants, many varieties of resident and migratory ducks, and visiting geese. The lagoon waters are owned by the Alameda West Lagoon Home Owner's Association (AWLHOA), and maintenance is shared equally with the City of Alameda through its Public Works Department. Most of the watershed drains through Alameda Lagoon, but areas near Crab Cove drain directly into the Bay.



Figure WQ-2

North Alameda and Southwest Alameda Watershed

Source: Fugro Consultants, Inc., 2014



Figure WQ-3

Bay Farm Island and San Leandro Watersheds

Source: Fugro Consultants, Inc., 2014

Bay Farm Island Watershed

The Bay Farm Island Watershed encompasses 2.8 square miles of land area that drains into Airport Channel, San Leandro Bay, San Francisco Bay, and the Oakland Estuary. Bay Farm Island, which today is actually a peninsula connected to the City of Oakland, was once a large sand dune bordered by a wide swath of tidal marsh along the inner bar in San Leandro Bay. Artificial fill was used to extend the island further into San Francisco Bay and cover the marsh on the inland side of the island, eventually connecting the island to the mainland. As with Alameda Island, there are no creeks on Bay Farm Island. The western side of Bay Farm Island is part of the City of Alameda, while the southern and eastern portions are occupied by Oakland International Airport.

This watershed includes 2.1 miles of open channel, consisting of engineered channels in artificial fill over the former tidal marsh. The watershed drains through engineered structures to San Francisco and San Leandro bays. San Leandro Bay is an arm of San Francisco Bay, located along the east side of the Oakland International Airport and Bay Farm Island. Once a rich habitat for wildlife, most its original marshland and habitat have been filled or dredged, with the exception of Doolittle Pond and Arrowhead Marsh, which is part of the Martin Luther King, Jr. Regional Shoreline. Arrowhead Marsh is the last remaining tidal marsh in San Leandro Bay; all others have been filled in for development. This 50-acre marsh is a stopover on the Pacific Flyway and is part of the Western Hemisphere Shorebird Reserve Network. It is assumed to be ecologically linked with the wetlands of the Elsie Roemer Bird Sanctuary on the south shore of Alameda Island. Doolittle Pond is a wildlife sanctuary located on the north shore of Bay Farm Island, immediately to the east of Shoreline Park (the Model Airplane Field).

In 1998, at the “handle” of Arrowhead Marsh, fill was removed, artificial levees were breached, and tidal channels were constructed to restore tidal action to 71 acres of tidal and seasonal wetlands that had been filled in the mid-1980s. Plant and animal colonization began shortly thereafter and continues today. The project was a cooperative effort of the East Bay Regional Park District (EBRPD), the Port of Oakland, the Golden Gate Audubon Society, the U.S. Army Corps of Engineers, and San Francisco Bay RWQCB, all in partnership with Save San Francisco Bay Association, the Sierra Club, and Citizens for Alameda’s Last Marshlands. There is also a wildlife sanctuary at Damon Slough, on the north shore of San Leandro Bay, where the EBRPD and Save the Bay work to replace nonnative plants with natives and maintain a native plant nursery for that purpose.

San Leandro Bay is the catchment for several different watersheds, including Sausal Creek, Peralta Creek via East Creek Slough, Lion Creek via Damon Slough, Elmhurst Creek, and San Leandro Creek. San Leandro Bay sediments contain higher levels of contamination than the rest of San Francisco Bay. Like the greater south San Francisco Bay, San Leandro Bay is on California’s 303(d) list of impaired water bodies, as determined by the San Francisco Bay RWQCB. San Leandro Bay is also on California’s list of Toxic Hot Spots due to excessive levels of dichlorodiphenyltrichloroethane (DDT), lead, mercury, pesticides, polychlorinated biphenyls (PCBs), polycyclic aromatic compounds (PACs), selenium, and zinc in its sediment. In sediment tests, the highest concentrations of contamination were found near creek channels, indicating that the sources are from point and nonpoint inputs.

The one exception was mercury, which had higher concentrations in open water areas compared to tributaries.

Groundwater

The San Francisco Bay Hydrologic Region in which the City of Alameda is situated has 28 identified groundwater basins. Two of those, the Napa-Sonoma Valley and Santa Clara Valley groundwater basins are further divided into three and four subbasins, respectively. Groundwater use accounted for about 21 percent (260,000 acre-feet)⁹ of the region's estimated average water supply for agricultural and urban uses during the 2005-2010 planning period.¹⁰ In general, the freshwater-bearing aquifers are relatively thin in the smaller basins and moderately thick in the more heavily utilized basins. The more heavily utilized basins in this region include the Santa Clara Valley, Napa-Sonoma Valley, and Petaluma Valley groundwater basins. In general, groundwater quality throughout most of the region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are high total dissolved solids (TDS), nitrate, boron, and organic compounds.¹¹

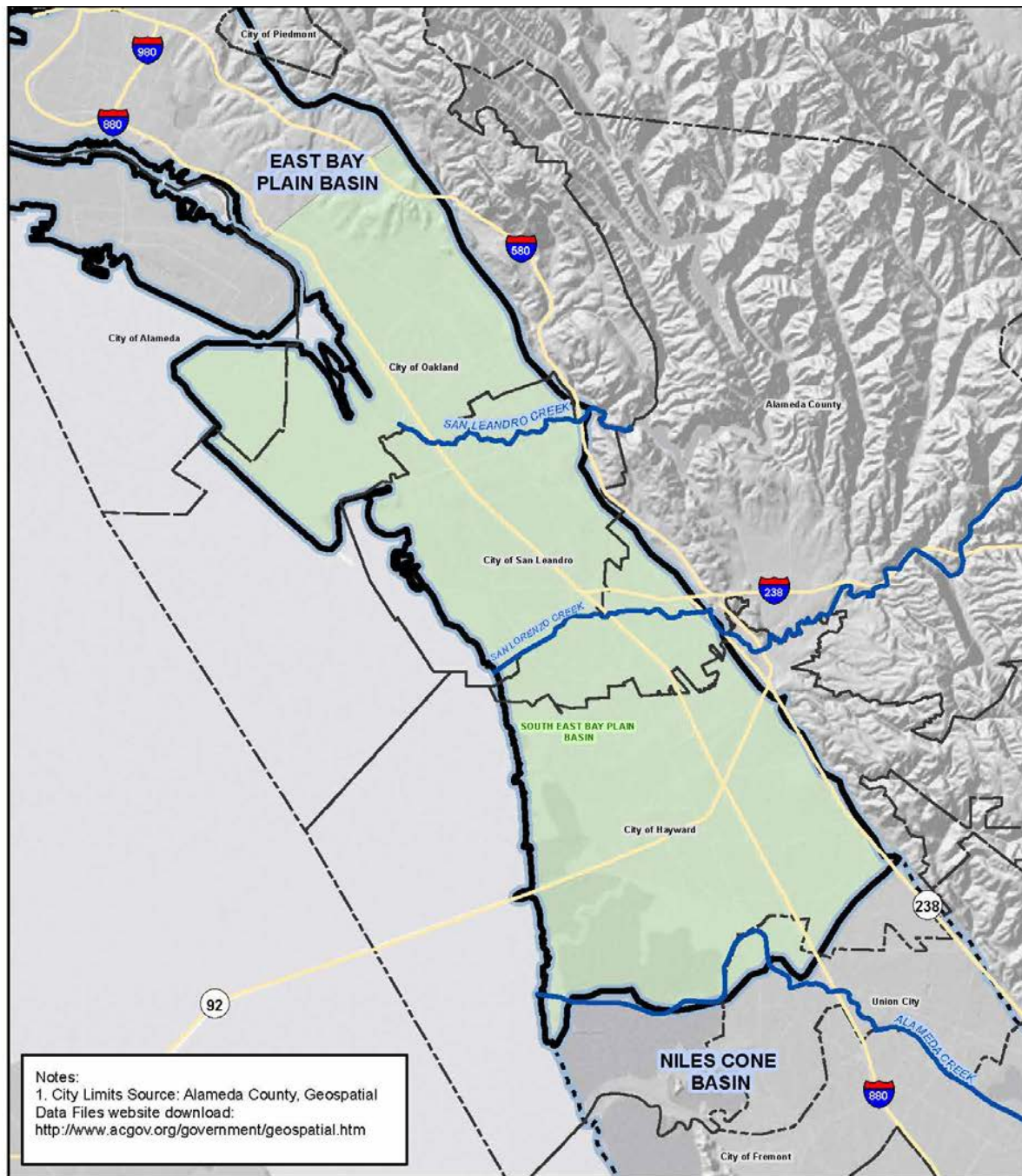
As shown on Figure WQ-4, Alameda is located in the western side of the East Bay Plain Subbasin (part of the Santa Clara Valley Groundwater Basin), a northwesterly-trending alluvial plain that is bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Subbasin. The East Bay Plain Subbasin extends beneath San Francisco Bay to the west. The East Bay Plain Subbasin aquifer system consists of unconsolidated sediments of Quaternary age that include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. Historic water levels in the deep aquifer in the subbasin have varied between -10 and -140 feet (below mean sea level) since the early 1950s. Water levels have been rising continuously since the 1950s and, as of 2000, water levels are very near the surface in all aquifers.¹² The southern half of the subbasin is a deep aquifer extending more than 400 feet below the ground surface (bgs) that historically served as a regional water source during the 1860s through the 1920s. It is thickest in the south, and thins and feathers out to the north, and is not substantially productive north of San Leandro. The use of groundwater in the region is limited by the effects of saltwater intrusion and contamination in shallow aquifers on groundwater quality. However, the East Bay Municipal Utility District (EBMUD) has begun utilizing groundwater in its service area in recent years as a

⁹ An acre-foot is the amount of water necessary to cover 1 acre of land to a depth of 1 foot, and is equivalent to 325,851.43 gallons, or 43,560 cubic feet.

¹⁰ California Department of Water Resources, *California's Groundwater Update 2013: A Compilation of Enhanced Content for California Water Plan Update 2013*, Chapter 4: San Francisco Bay Hydrologic Region Groundwater Update, April 2015.

¹¹ *Ibid.*

¹² *Ibid.*



LEGEND

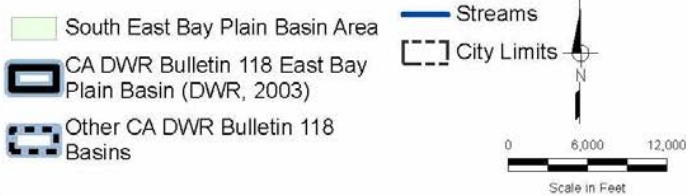


Figure WQ-4

South East Bay Plain Basin

Source: East Bay Municipal Utility District, 2013

supplemental domestic water supply, injecting water into the South East Bay Plain Subbasin during wet years for storage for later recovery and use during a drought.

Emergent Groundwater

The City of Alameda's *Climate Action and Resiliency Plan (CARP)* identified emergent groundwater as a potential future hazard and recommended additional analysis to better characterize the shallow groundwater layer and the response of this layer to sea level rise. An assessment of the City's shallow groundwater was subsequently performed by Silvestrum Climate Associates that assessed the associated risks and recommended a suite of potential adaptation strategies to address the combined threat of rising groundwater and rising sea levels.¹³ The study analyzed 20 years (2000-2020) of monitoring well data collected by the California State Water Resources Control Board (SWRCB) in order to develop an estimate of the existing shallow groundwater surface levels in Alameda and to evaluate contaminants with potential concentrations above human health benchmarks. The data were supplemented by soil boring logs presented in geotechnical reports completed for various properties in Alameda and for Oakland International Airport on Bay Farm Island. Analysis of long-term groundwater trends highlighted the response of the shallow groundwater surface to large precipitation events, finding that the surface level rises by 5 feet or more during wet winters.

The response of the existing shallow groundwater surface to seven sea level rise scenarios (i.e., 12, 24, 36, 48, 52, 66, and 108 inches) was evaluated, and areas with emergent groundwater were mapped. The areas at risk of flooding increased by up to 25 percent when considering both threats, and some areas were flooded by emergent groundwater long before coastal floodwaters overtopped the shoreline, highlighting the importance of considering groundwater hazards in adaptation planning. Across much of the City the current depth to groundwater is 10 feet or less, and is less than 6 feet in many areas. With 48 inches of sea level rise, nearly half of the City could experience emergent groundwater sporadically during wet winters. As sea level rises and extreme storms become more intense, this hazard could occur with higher frequency and longer durations. Under the 48-inch sea level rise scenario, close to half of Alameda would at times experience emergent groundwater, as shown on Figure WQ-5. Under the 66-inch sea level rise scenario, the majority of the City would be exposed to this hazard, as shown on Figure WQ-6.

The shallow groundwater layer contains various contaminants from the city's industrial past and from more recent commercial and industrial land use (e.g., gas stations, dry cleaners, machine shops, etc.). These contaminants could pose future health risks to humans, pets, and wildlife once the groundwater becomes emergent, either above ground or within subterranean structures such as basements and below ground living or working spaces. Silvestrum assessed the potential for contaminants to become emergent, drawing on groundwater contaminant data collected from

¹³ Silvestrum Climate Associates, *City of Alameda: The Response of the Shallow Groundwater Layer and Contaminants to Sea Level Rise*, September 2020.

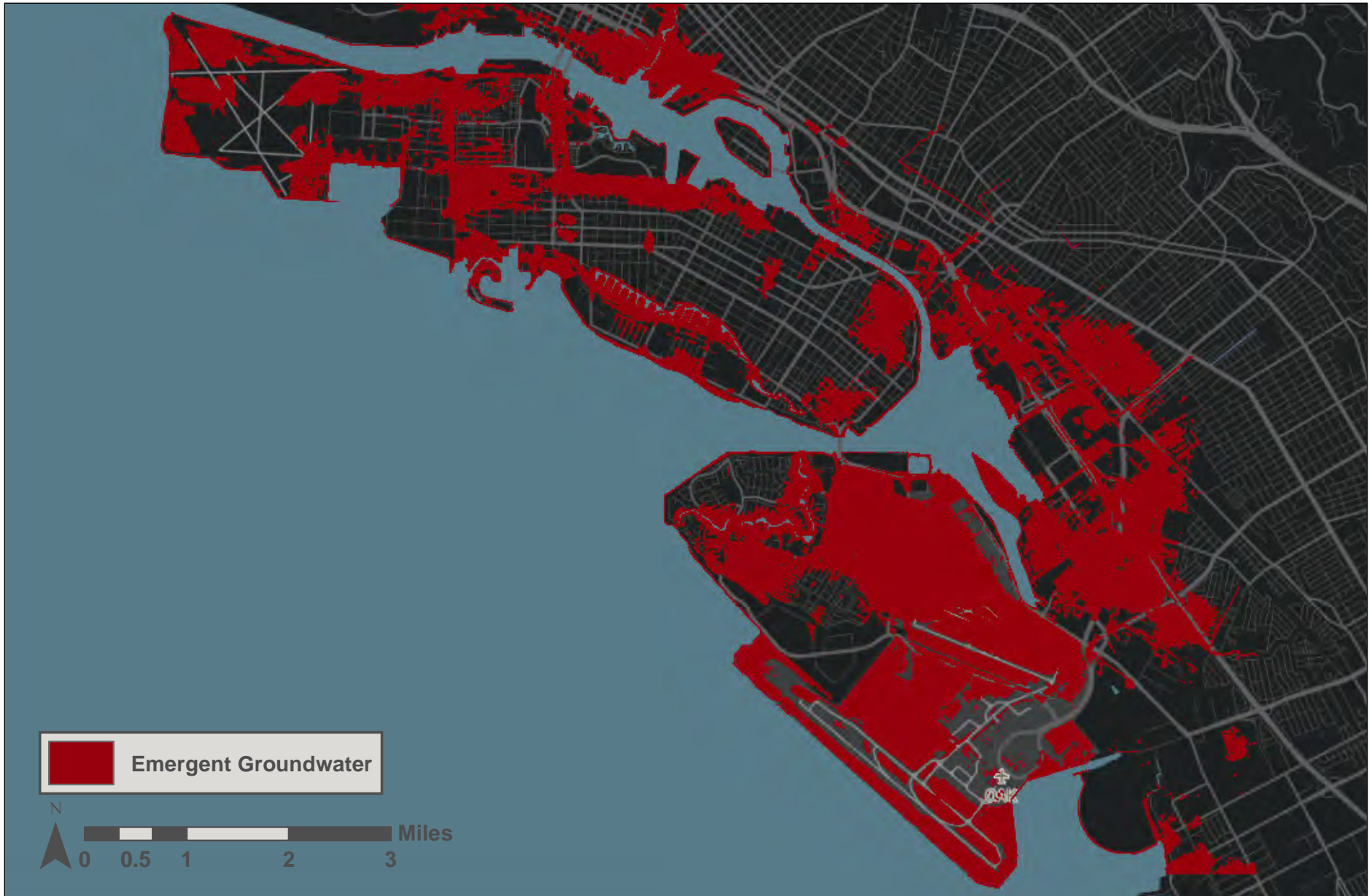


Figure WQ-5

Emergent Groundwater with 48 Inches of Sea Level Rise

Source: Silvestrum



Figure WQ-6

Emergent Groundwater with 66 Inches of Sea Level Rise

Source: Silvestrum

monitoring wells in the SWRCB GAMA database previously discussed. They utilized two methodologies, one a conservative approach assuming the contaminant concentration when the groundwater first becomes emergent would be equal to the most recent measured concentration, and an alternative approach where contaminant levels are assumed to attenuate over time in accordance with trends observed in monitoring data for the period 2000 to 2019.

Groundwater areas of potential concern were identified at the following locations in Alameda:

- **Gibbons Drive, Fernside Boulevard, and High Street near the High Street Bridge**, where a former commercial petroleum fueling facility was once located. Contaminants of concern at this location include benzene, diesel, gasoline, lead, methane, other petroleum, toluene, xylene, ethylbenzene, and naphthalene.
- **Clement Avenue and Chestnut Street**, where elevated levels of trichloroethene (TCE) and tetrachloroethene (PERC/PCE) were detected in soil vapor and groundwater.¹⁴
- **2900 Main Street**, where elevated levels of petroleum hydrocarbon contamination were detected in the soil and groundwater during the removal of four underground storage tanks (USTs) in 1990.
- **Park Street and Blanding Avenue**, the site of a petroleum bulk plant from 1930 until approximately 1961. The primary contaminants of concern at this location include benzene, diesel, ethylbenzene, gasoline, toluene, and xylene.
- **Webster Street and Buena Vista Avenue**, the site of a commercial gasoline station since 1948. Contaminants of concern at this location include acetone, benzene, ethylbenzene, gasoline, methyl tert-butyl ether (MTBE), naphthalene, xylene, tert-butyl alcohol (TBA), and other contaminants.
- **Park Street and Buena Vista Avenue**, where four USTs containing gasoline and diesel were removed from the parcel at 1701 Park Street in April 1994, and a fifth underground storage tank containing heating oil was removed from the adjacent parcel at 2329 Buena Vista Avenue. Contaminants of concern are present at this location include iron, benzene, diesel, MTBE, TBA, PERC/PCE, TCE, gasoline, heating oil, toluene, xylene, ethylbenzene, and naphthalene.

The assessment by Silvestrum also addressed contaminated lands at the former Alameda Naval Air Station (Alameda Point), Jean Sweeney Open Space Park, Fleet and Industrial Supply Center and Alameda Navy Supply Center Annex (FISCA), Pennzoil Company, Kern Mil Company, Alameda Naval Operational Support Center, 2100 Clement Avenue, the former J.H. Baxter Facility, Lincoln Avenue Housing, and Doolittle Landfill. Most of these contaminated lands have either had clean-up efforts completed, or are in the process of having the contaminants found in the soil and groundwater

¹⁴ TCE can refer to both trichloroethene and trichloroethylene, and PERC/PCE can refer to both trichloroethene and trichloroethylene.

cleaned-up. However, residual (i.e., legacy) contaminants often remain on sites after remediation efforts are complete.

The CARP identified eleven high priority areas for adaptation to rising groundwater levels, based on future exposure to sea level rise inundation and coastal flooding, as well as exposure to urban flooding that can occur today during a 25-year rainfall event.¹⁵ They are concentrated on or near the southeast shoreline of Alameda Island and along the northern shoreline of Bay Farm Island, but they also include the Posey and Webster Tubes and the nearby shoreline as well as high-use roadways in the West End (Webster Street, Main Street, and Lincoln Avenue). Half of the high priority areas could experience emergent groundwater surface flooding before sea level rise inundation occurs. For example, the area near Posey and Webster Tube entrances could exhibit emergent groundwater with 12 inches of sea level rise, although sea level rise is not projected to inundate the site until 36 inches of sea level rise.

Alameda's underground infrastructure is also vulnerable to adverse effects from emergent groundwater, including the stormwater and wastewater collection systems and underground electrical lines and equipment.

The emergent groundwater assessment by Silvestrum identifies adaptation strategies to address the hazards, while noting that adaptation strategies addressing this issue are still in their infancy when compared to sea level rise adaptation, and development of new strategies will require innovation and collaboration with other communities dealing with the problem. The strategies identified by Silvestrum included the following:

- grouting leaks in stormwater and wastewater pipelines and/or replacing or lining problematic pipelines;
- regular inspection and maintenance of stormwater and wastewater drainage infrastructure;
- over-excavating utility trenches when stormwater and wastewater pipelines are replaced, filling them with crushed rock below the elevation of the pipelines;
- replacing old, cracked sewer pipes to decrease the amount of groundwater and rainwater infiltration entering the sanitary sewer system, which burdens the wastewater treatment plant;
- replacing electrical pull boxes¹⁶ located at or near grade with waterproof alternatives;
- elevating electrical transformers, switches, and other electrical control panels above new effective FEMA base flood elevations;

¹⁵ Alameda's storm sewer pipelines are designed to carry the stormwater runoff from a 10-year rainfall event, and a 25-year rainfall event should be contained within the streets without exceeding the curb height (Schaaf & Wheeler 2017). However, several areas within the city currently experience flooding during a 25-year rainfall event (City of Alameda 2019).

¹⁶ A pull box is a metal box with a removeable cover that is installed in an accessible place along a run of electrical conduit to facilitate the pulling in of wires and cables.

- waterproofing below-grade areas of buildings and all building areas below the FEMA base flood elevation (adding 2 to 3 feet above the FEMA base flood elevation is recommended to account for larger storms, sea level rise, and uncertainties in the calculation of the FEMA base flood elevations);
- installing drain tile or French drains to relieve water pressure against below-grade walls and floors of structures, which can reduce groundwater infiltration and risk of building instabilities;
- prohibiting new below-grade basements and living spaces in residential structures;
- maintaining lower water levels in Alameda’s lagoon systems to help depress the shallow groundwater table near the lagoons and prevent or reduce the likelihood of emergent groundwater in the early sea level rise scenarios (12 to 36 inches). Because it is unknown how far from the lagoon the groundwater levels would remain depressed in response to modified lagoon operations, monitoring for the effectiveness of this strategy is recommended;
- installing a series of distributed groundwater pumping wells and monitoring wells to maintain a lower groundwater table and support the interior drainage system behind levees and floodwalls. The groundwater pumps should be set to activate when a threshold groundwater table level is exceeded, and to de-activate when the groundwater table is sufficiently lowered;
- utilizing deep soil mixing¹⁷—which is being used along the Alameda Point shoreline to stabilize the soils and reduce seismic and liquefaction risks—for groundwater control, and possibly prevent an inland rise in the groundwater table by severing the connection between the Bay and the inland shallow groundwater layer;
- installing a system of trench drains (i.e., an excavated trench that allows groundwater to seep in and collect) in areas without cutoff walls in order to collect and convey groundwater to a more central location for pumping, reducing the number of pumps required and reducing the risk of subsidence caused by groundwater pumping;
- pumping groundwater to lower groundwater levels locally (however, strategies involving pumping may require treatment prior to discharge, if contaminated); and
- updating existing plans, policies, ordinances, and building codes to help increase the resilience of new, remodeled, and rehabilitated infrastructure and new development.

Additional strategies for increasing the resilience of buildings to sea level rise and surface flooding are presented in the CARP that can also help mitigate adverse effects from emergent groundwater.

¹⁷ Deep soil mixing is an in-situ soil treatment in which native soils are blended with cementitious and/or other materials, typically referred to as binders. Compared to native soils or fills, the soil-binder composite material that is created has enhanced engineering properties such as increased strength, lower permeability, and reduced compressibility. Deep soil mixing has been used all over the world, and locally for the Oakland International Airport and Port of Oakland shoreline projects (Yang et al. 2004) and Treasure Island (CMG 2015).

Flood Hazards

The Federal Emergency Management Agency (FEMA) maps flood hazards throughout the country, including the City of Alameda and the surrounding areas. These flood hazard maps, known as Flood Insurance Rate Maps, or FIRMS, are used to identify flood-prone areas, with the most susceptible areas designated as special flood hazard zones. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have a 10-percent, 2-percent, 1-percent, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. The 100-year flood (1-percent annual chance) has been adopted by FEMA as the base flood for floodplain management purposes. The 500-year flood (0.2-percent annual chance) is used to indicate additional areas of flood risk in a community.

As shown on Figure WQ-7, many of Alameda's shoreline areas are within the 100-year flood plain. The areas most subject to inundation are the former NAS Alameda runway areas at Alameda Point and the Chuck Corica Golf Course on Bay Farm Island, two areas that have few buildings. Developed areas within the 100-year flood zone on Alameda Island include the eastern end of the island in the vicinity of Fernside Boulevard; areas along the Northern Waterfront west of Main Street, west of Webster Street, and in the vicinity of Constitution Way; and the southern portion of Alameda Point west of Seaplane Lagoon. Most of these potential flood zones are adjoined by further areas that are potentially subject to the lower-risk 500-year flood.

On Bay Farm Island, in addition to the golf course, residential areas to the south and southwest of the golf course are located within the 100-year flood zone, as are some residential properties located along the lagoon the meanders across the area. Much of the southern half of Bay Farm Island is within the 500-year flood zone.

Tsunamis Hazards

In the San Francisco Bay Area, any potential tsunami would originate in the Pacific Ocean, and to reach the City of Alameda, would need to pass through the relatively narrow Golden Gate and into San Francisco Bay, where it would lose much of its energy. Although the City is more than 8 miles from the Golden Gate, much of the City would be subject to inundation if a large tsunami were to strike the California coast in the vicinity of San Francisco. As shown on Figure WQ-8, the entirety of Bay Farm Island and much of Alameda Island are mapped by the California Emergency Management Agency as being within a potential tsunami runup zone. All of Alameda Point and all of the inland areas within a few blocks of the shoreline on Alameda Island are subject to inundation by tsunami runup.



Figure WQ-7

Flood Zones in Alameda, as Mapped by FEMA

Source: FEMA

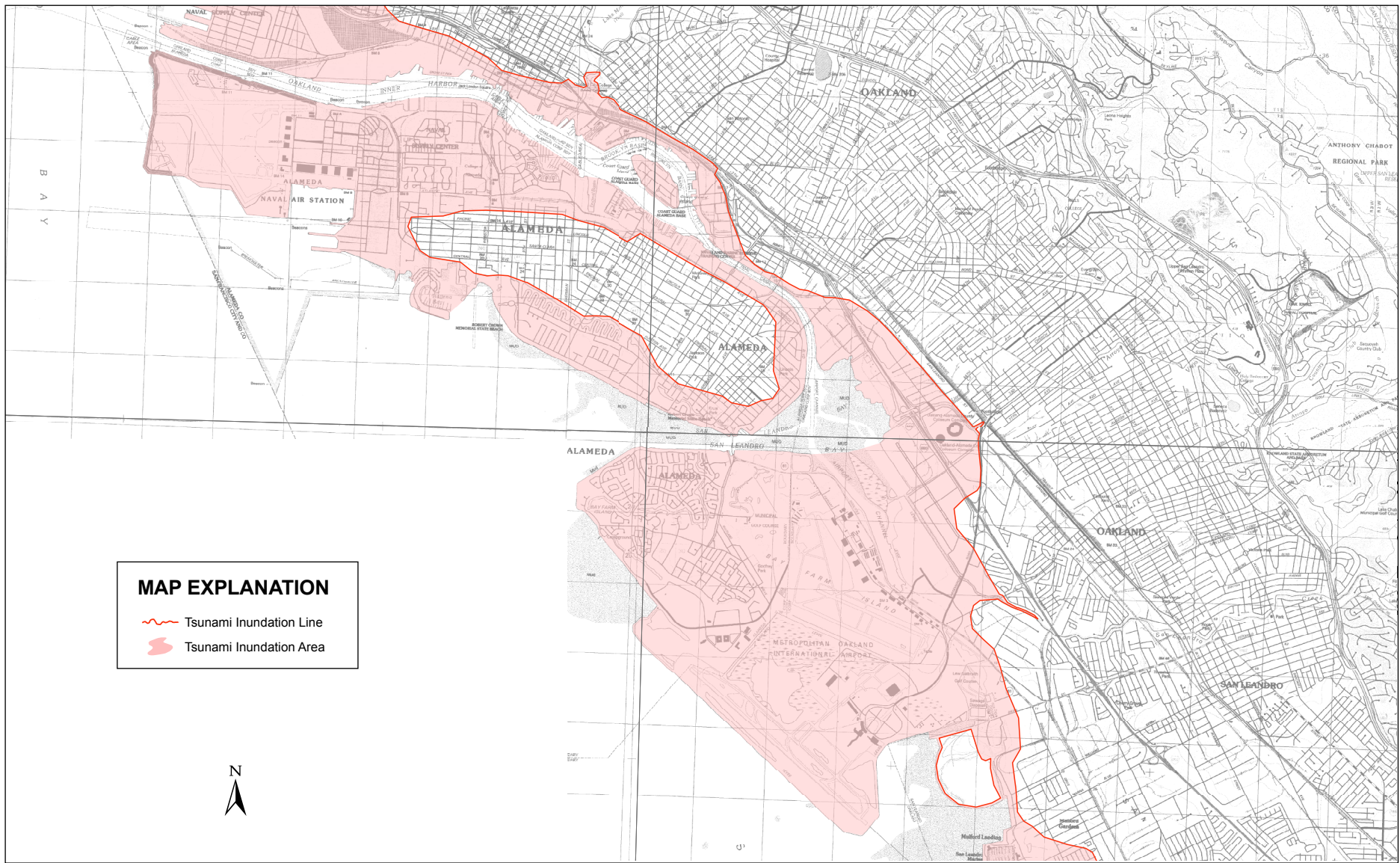


Figure WQ-8

Tsunami Inundation Zones in Alameda

Source: California Emergency Management Agency, California Geological Survey, and University of Southern California, 2009

Dam Failure Inundation

Although there are a number of reservoir dams and waterway dams located in Alameda County, the City of Alameda is not located within any of the potential inundation zones mapped by the California Office of Emergency Services that could be impacted by the failure of one of the dams.¹⁸

Sea Level Rise

Coastal California is already experiencing the early impacts of a rising sea level resulting from climate change due to increased emissions of greenhouse gases, including more extensive coastal flooding during storms, periodic tidal flooding, and increased coastal erosion. The California Coastal Commission reports that tide gauges and satellite observations show that in the past century, mean sea level in California has risen 8 inches, and it is projected to continue rising for the foreseeable future.¹⁹

Projected sea-level rise has a significant range of variation as a result of uncertainty in future greenhouse gas emissions and their geophysical effects, such as the rate of land ice melt. A variety of different scenarios have been modeled by State and regional organizations.

Adapting to Rising Tides Bay Area (ART Bay Area) is a partnership between Caltrans District 4, the Metropolitan Transportation Commission/Association of Bay Area Governments (MTC/ABAG), Bay Area Regional Collaborative (BARC), the San Francisco Bay Conservation and Development Commission (BCDC) and many public, private, and nonprofit partners. ART Bay Area is the first ever region-wide, cross-sector, asset-based vulnerability analysis of the Bay shoreline to sea level rise. The product of a multi-agency collaboration, the project illuminates shared vulnerability to sea level rise across the Bay Area. ART Bay Area projects a likely sea level rise of 48 inches above the Mean Higher High Water (MHHW) tide by 2030, in combination with a 100-year storm. It projects an increase of 52 inches by 2040 and 2050, with the same assumptions.²⁰ These likely levels of increase have a 66 percent probability, based on modeling by the California Ocean Protection Council. Under an extreme risk scenario, the projected sea level rise during MHHW in combination with the 100-year storm increase to 52 inches by 2030, 66 inches by 2040, and 77 inches by 2050. The maximum modeled increase would be 108 inches by 2070.²¹ Although sea level rise will affect all shoreline areas in San Francisco Bay, the western end of Alameda Point is identified by ART Bay Area as one of several regional hotspots in the Bay.

The City's *Climate Action and Resiliency Plan (CARP)* plans adaptation strategies for a scenario of 36 inches higher than the current MHHW level, which is roughly equivalent to the storm surge caused

¹⁸ County of Alameda, *2016 Local Hazard Mitigation Plan*, Map Figure 1: Dam Inundation Zones, January 2016.

¹⁹ California Coastal Commission, *Sea Level Rise Science & Consequences*, Accessed October 26, 2020 at: <https://www.coastal.ca.gov/climate/slr/science/>.

²⁰ San Francisco Bay Conservation and Development Commission, *Adapting to Rising Tides Bay Area: Regional Sea Level Rise Vulnerability and Adaptation Study*, Table 1-1: Comparing California State Guidance on Sea Level Rise to ART Total Water Levels, March 2020.

²¹ *Ibid.*

by a 50-year storm today. However, the CARP is also intended to guide the City in addressing future scenarios entailing 77 inches and 108 inches of Total Water Levels (TWLs) that include sea level rise in conjunction with storm surge and MHHW tides. With almost half of the land area in Alameda being within 6 feet of current sea level, and with groundwater being just a few feet below the ground surface, rising sea levels and rising groundwater levels threaten to overwhelm the City's waterfront open spaces and habitat areas, roadways, stormwater and sewer systems, and the seawalls, embankments, and shoreline barriers that made it possible to develop the City. Figure WQ-9 shows the areas of the City that would become inundated by flood waters under scenarios entailing TWLs of 24, 36, 77, and 108 inches.

During preparation of the CARP, the City conducted a social vulnerability assessment (SVA) to identify the neighborhoods in Alameda with the highest concentrations of vulnerable populations, such as transit-dependent residents, children, elderly persons, disabled persons, and very low-income residents, because these populations are often more likely to experience these climate change impacts and are least able to protect themselves against them. The City used the results of the SVA to inform the development of inclusive resiliency actions found in the CARP. For example, the assessment led to prioritizing adaptation strategies to protect bus lines serving transit-dependent neighborhoods from overland flood risk.

15.3 Standards of Significance

Appendix G of the *CEQA Guidelines* identifies a number of significant environmental impacts related to hydrology and water quality. A project may have a significant hydrology and water quality impact if it would include any of the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern on 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:
 - i) result in substantial erosion or siltation on-or off-site;
 - ii) substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-or off-site;
 - iii) 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
 - iv) impede or redirect flood flows;

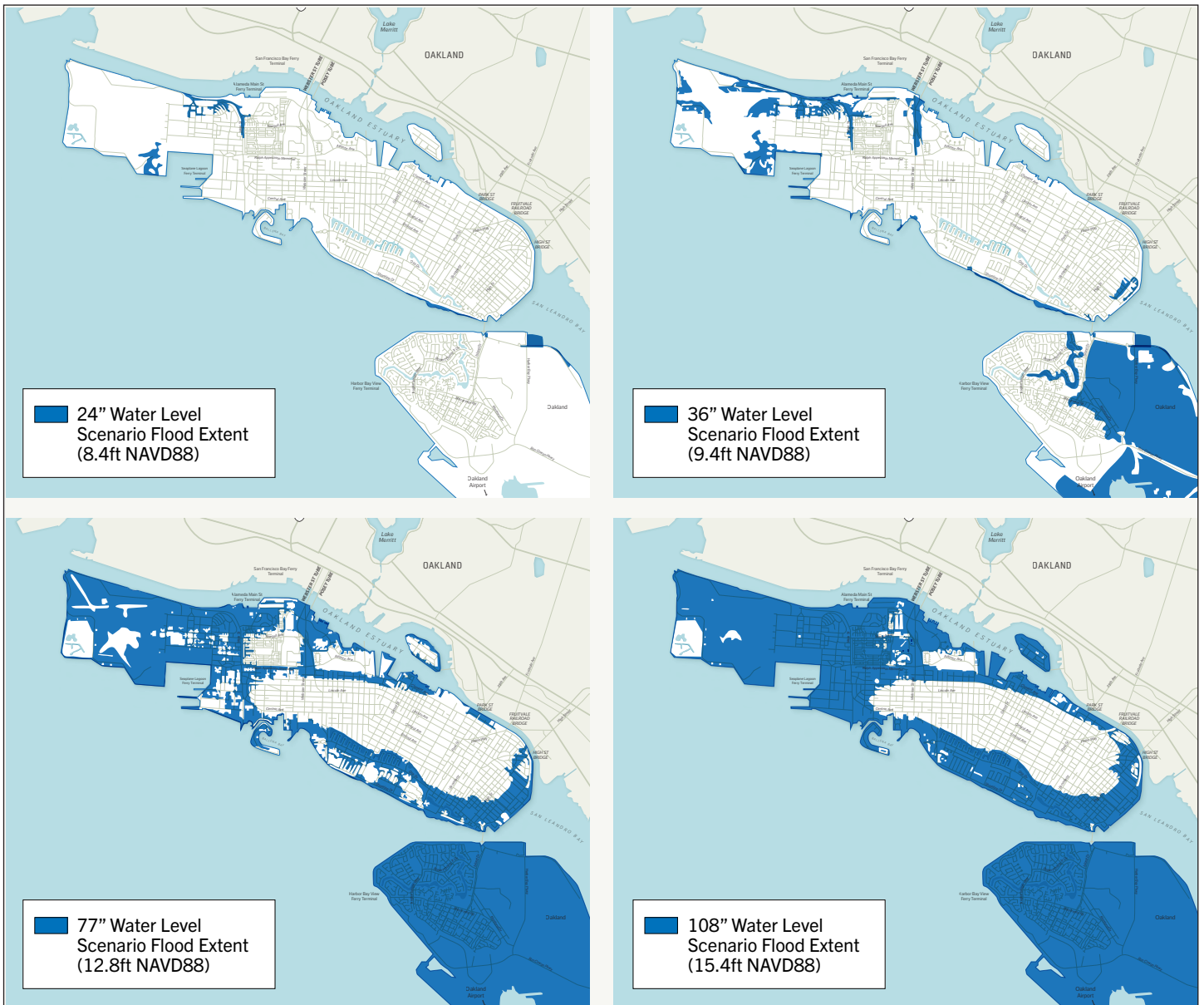


Figure WQ-9

Sea Level Rise Scenarios

Source: City of Alameda

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

These standards of significance are adopted for use in this EIR.

15.4 Impacts and Mitigation Measures

The assessment of hydrology and water quality impacts identified in this chapter is based on the standards of significance listed in Section 15.3. This section identifies flooding or water quality impacts that could result from the construction and/or operation of new land use developments that would be allowed under the proposed General Plan.

The proposed Conservation and Climate Action Element of the *Alameda General Plan 2040* identifies the policies and strategies necessary to conserve and protect Alameda’s natural resources, reduce the community’s greenhouse gas emissions and energy use, and to prepare for and address the impacts of climate change. Specific to issues relevant to this chapter, one of the goals of the Conservation and Climate Action Element is to prepare the community to adapt to rising sea and groundwater levels, and to increasingly severe storms and flooding.

Specific policies of the Conservation and Climate Action Element that would reduce potential impacts from sea level rise due to climate change include the following (most supporting actions not listed):

- Goal 1 Empower community action, partnership and leadership to address local and global environmental and climatic emergencies.**
- Policy CC-1 Community Action.** Empower local community members and leaders to participate, plan, and implement the changes in both individual and collective behavior and actions that are needed to address the climate crisis.
- Policy CC-2 Social Vulnerability.** Prioritize the needs of the most vulnerable communities when prioritizing public investments and improvements to address climate change.
- Policy CC-3 Coordinated Regional and Local Planning.** Maintain consistency between local and regional plans to reduce greenhouse gas emissions regionally and locally.
- Policy CC-4 Net Zero Green House Gas Emissions.** Take actions to make Alameda a net zero GHG community.

Actions:

- **Partnerships.** Continue to partner on greenhouse gas emission reduction and adaptation strategies with other agencies, including, but not limited to, Caltrans, AC Transit, Bay Conservation and Development Commission, Water Emergency Transit Agency, East Bay Regional Park District, Port of Oakland, East Bay Municipal Utility District, Pacific Gas & Electric, and the US Department of Veterans Affairs.

- **Alameda Climate Action and Resiliency Plan Annual Review and Funding Priorities.** Implement and update as necessary Alameda’s Climate Action and Resiliency Plan (CARP) to reduce GHG emissions to 50 percent below 2005 levels by 2030 and achieve net zero GHG emissions as soon as possible. Implement adaptation strategies to address sea level and ground water rise, storm surges, inland stormwater system flooding, drought, extreme heat, and unhealthy wildfire smoke.
- **100% Renewable Energy Goal.** Support powering Alameda with 100% renewable energy by promoting the generation, transmission and use of a range of renewable energy sources such as solar, wind power and waste to meet current and future demand. Support Alameda Municipal Power’s efforts to provide power from 100% clean, non-fossil fuel sources to all residential and commercial users in Alameda.
- **On-Island Generation.** Support development of on-island solar power generation and on-island wind power with appropriately sized generation, storage, and microgrid distribution infrastructure to be able to provide power for a range of uses, including essential functions. Permit renewable energy generation facilities by right in zones with compatible uses and remove financial disincentives associated with the installation of clean energy generation and storage equipment.
- **Local Climate Impact Mitigations.** Require any carbon neutral goals and initiatives to reduce or sequester greenhouse gas emissions locally and not use taxpayer money to purchase carbon credits from outside the City of Alameda.

Goal 2: Reduce the community’s greenhouse gas emissions, which are contributing to global warming, climate change, and environmental and social impacts.

Policy CC-6 **Climate-Friendly Vehicles and Equipment.** Reduce transportation greenhouse gas emissions by promoting, and when appropriate, requiring the use of low and zero emission vehicles and equipment and taking action to support use of micro-mobility devices to reduce energy use and carbon emissions from personal vehicles.

Actions:

- **EV Charging.** Support the increase in supply of publicly accessible electric vehicle charging stations in Alameda.
- **New Development.** Require electric vehicle charging stations in all new development.
- **Permitting.** Streamline local permitting for hydrogen fueling and electric vehicle charging infrastructure.
- **City Fleet Vehicles.** Replace public fleet vehicles with zero emission vehicles.
- **Buses.** Encourage AC Transit to continue its efforts to replace diesel buses with clean zero emission buses.

- **Ferries.** Encourage WETA to replace diesel ferries with low or zero emission ferries.
- **EV Action Plan.** Prepare and adopt an Electric Vehicle Adoption Plan that provides a path forward for increased EV adoption in Alameda, including:
 - Bolstering charging infrastructure availability,
 - Driving community awareness,
 - Facilitating EV adoption, and
 - Supporting EV services and innovation.

Policy CC-7 Climate-Friendly Active Modes of Transportation. Reduce greenhouse gas emissions from transportation by improving the local roadway network to support all mobility choices while specifically encourage walking and bicycling.

Policy CC-8 Transit Use. Reduce automobile pollution and greenhouse gas emissions by increasing transit use.

Actions:

- **Partnerships.** Collaborate and partner with AC Transit, Water Emergency Transit Agency (WETA), BART, community groups, and employers to provide expanded and more convenient transit services throughout the community as well as to downtown Oakland, San Francisco, and the BART system.
- **Convenience and Frequency.** Work with AC Transit to provide convenient and frequent bus service within a quarter mile of every Alameda resident and business during normal commute hours.
- **Alameda Easy Pass.** Work with AC Transit and WETA to develop and fund an “Alameda EasyPass” program that would provide every Alameda resident with a pass for use on any bus or ferry.
- **Transit Connections.** Improve connections between bus transit and water transit facilities and services, such as a cross-town bus service connecting east and west Alameda to the Ferry Terminal services at Alameda Point.
- **Transit Connections.** Improve connections between bus transit and water transit facilities and services, such as a cross-town bus service connecting east and west Alameda to the Ferry Terminal services at Alameda Point.
- **Oakland Connections.** Establish water shuttle service to connect commuters, pedestrians and bicyclists to Oakland and reduce the need to use automobiles to cross the estuary.
- **Transit Priority.** Evaluate the creation of signal priority lanes, transit-only lanes, and queue jump lanes to make transit corridors more efficient and effective.

- **First and Last Mile Connections.** Improve safety and access for shared and active transportation around major transportation nodes.
- **Alameda BART.** Continue to work with BART to include an Alameda BART station in the design of BART's plan for a second San Francisco Bay crossing connecting Oakland and San Francisco.

Policy CC-9 Vehicle Sharing. Support and encourage vehicle sharing to reduce the demand for vehicle parking and increase access to mobility.

Actions:

- **Alternative Vehicle Share Programs.** Support alternative vehicle share programs, such as bike share, car share, and scooter share programs.
- **Carpooling.** Consider transit and carpool lanes and other methods to support and incent the use of shared vehicles.
- **Carpool Parking.** Support the provision of preferential parking spaces for carpool vehicles in public parking lots and within private commercial development that are providing shared vehicle parking. Increase mobility and equitable access for all residents, especially low-income, youth, seniors, disabled, and other vulnerable residents.
- **Connectivity and Inclusiveness.** Connect neighborhoods and major destinations such as parks, open spaces, civic facilities, employment centers, retail and recreation areas with pedestrian and bicycle infrastructure. Prohibit sound walls, gates and other barriers that separate neighborhoods and decrease physical and visual connectivity throughout the City.

Policy CC-10 Climate-Friendly, Walkable and Transit-Oriented Development. Reduce reliance on automobile use and reduce vehicle miles traveled by prioritizing walkable, transit oriented, medium and high density mixed-use development in transit-oriented areas and commercial corridors.

Policy CC-11 Climate-Friendly Employment Commute Behavior. Encourage residents to telecommute or work from home to reduce vehicle miles traveled, greenhouse gas emissions, and commute hour congestion.

Policy CC-12 User Fees and Congestion Pricing. Advocate for changes to State law that would allow local jurisdictions to implement programs such as congestion pricing or tolling to actively manage roadway use to reduce vehicle miles travelled and greenhouse gas emissions.

Policy CC-13 Alameda's Building Stock. Reduce greenhouse gas emissions from natural gas combustion and natural gas leaks.

Actions:

- **Construction Regulations.** Prepare and adopt citywide regulations limiting use of natural gas and encouraging the use of clean energy electricity.

- **New Construction Reach Codes.** Adopt reach codes that ban the use of fossil-fuels in all new buildings constructed in Alameda.
- **Renovation to Clean Energy.** Develop regulations and incentives to facilitate the conversion of existing buildings with natural gas infrastructure to clean energy alternatives.
- **Development on City Land.** Limit the use and expansion of natural gas infrastructure on city land to the extent feasible and practicable.
- **Rebate Programs.** Support programs that encourage homeowners/commercial building owners to implement electrification retrofits, with an emphasis on Alameda’s most vulnerable residents.
- **Partners.** Partner with PG&E and other utility companies to plan for the safe transition from natural gas to clean energy alternatives, including removal of infrastructure that pose hazards when not in use.

Policy CC-14 Energy Efficiency and Conservation. Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.

Actions:

- **Weatherization and Energy Efficient Building Renovations.** Streamline permitting requirements for energy-efficient building renovations such as weatherization.
- **Public Facilities.** Incorporate renewable energy and energy efficiency into public facility capital improvements.
- **Low Carbon Materials.** Require or promote the use of low-carbon building materials where available.
- **Energy Audits.** Consider requirements for energy audits or updates at major renovations or time of sale.
- **Incentives.** Incent the use of the Living Community Challenge, LEED for Neighborhood Development, or similar third-party certification system to certify climate friendly construction.
- **Solar Panels.** Encourage installation of solar panels and energy storage equipment in new development.
- **Low Carbon Materials.** Seek low-carbon alternatives to conventional construction materials.

Policy CC-15 Neighborhood Resilience Coordination. Consider piloting building electrification, water conservation and other climate initiatives at a block or neighborhood level to more cost effectively transition to climate friendly energy, water, and resource use similar to the EcoBlocks model in Oakland.

Policy CC-16 Water Efficiency and Conservation. Minimize water use in new construction and landscaped areas to make Alameda more resilient to drought and generate less wastewater.

Actions:

- **Water Efficient Landscape Requirements.** Maintain up-to-date water-efficient landscaping regulations and ordinances to reduce water use in both private and public landscapes.
- **Bay-Friendly Landscapes.** Require new developments to include native plant species, and non-invasive drought tolerant/low water use plants in landscaping.
- **Water-Efficient Buildings.** Require low-flow fixtures, such as low-flow toilets and faucets in new construction.
- **Recycled and Reclaimed Water.** Coordinate the production and usage of recycled and reclaimed water for potable and non-potable uses.

Policy CC-17 Zero Waste Culture. Create a zero waste culture by implementing the City of Alameda 2018 Zero Waste Implementation Plan (ZWIP).

Policy CC-18 Building Renovation and Reuse. To reduce construction waste and GHG emissions associated with construction material manufacture and transportation, encourage and facilitate renovation and rehabilitation of existing buildings instead of demolition and new construction.

Goal 3 Prepare the community to adapt to the disruptions and impacts of climate change, including but not limited to rising sea and groundwater levels, increasingly severe storms and flooding, more frequent heat events, hazardous air quality days, and power outages.

Policy CC-19 Sea Level Rise Protection. Reduce the potential for injury, property damage, and loss of natural habitat resulting from sea level rise.

Actions:

- **Flood Protection Maps.** Work independently or in cooperation with county and regional agencies to delineate projected inundation zones for years 2070 and 2100 representing sea level as the sea level rise allowance plus mean higher high water consistent with the most up to date guidance from the Ocean Protection Council (OPC) for sea level rise in California.
- **Contaminated Lands.** Identify and map lands at risk of inundation from rising ground water and flood inundation.
- **Land Planning.** Prioritize areas of little or no flood risk for new flood-incompatible development (i.e. housing and commercial development) in new plans or zoning decisions.
- **Shoreline Habitat and Buffer Lands.** Identify, preserve and restore existing undeveloped areas susceptible to sea level rise to increase flood water storage which can reduce flood risk, enhance biodiversity, and improve water quality. Maintain and restore existing natural features (i.e. marsh, vegetation, sills, etc.) between new development and the shore to allow for marsh or beach migration.

- **Conservation Easements.** Consider use of conservation easements to maintain private lands for shoreline and beach migration.
- **Nature Based Flood Control Systems.** When designing new flood control systems where none currently exist, prioritize use of nature based flood control systems, such as horizontal levees, marsh lands, or beach restoration.

Policy CC-20 Land Development. Require new development to reduce the potential for injury, property damage, and loss of natural habitat resulting from groundwater and sea level rise.

Actions:

- **Assessment.** Require new development proposed in areas of flood risk to assess flood risk and incorporate specific groundwater and sea level rise mitigation strategies.
- **Mitigation.** Require new development to incorporate design features to mitigate 36 inches of sea level rise in the initial design and funding mechanisms to pay for later adaptation improvements to address future groundwater increases from sea levels above 36 inches. Projects that include new seawalls where none currently exist shall evaluate the off-site impact of the new walls on adjacent and nearby communities.

Policy CC-21 Sea Level Rise Plans. Develop neighborhood shoreline sea level rise protection and funding plans to address increasing sea and groundwater level rise and storm events.

Policy CC-22 Critical Public Assets. Implement improvements to move or protect critical public assets threatened by sea-level rise or rising groundwater.

Actions:

- **Stormwater.** Identify funding sources to improve the public stormwater infrastructure and ensure it meets current needs and is prepared for the effects of sea level rise and climate change.

Policy CC-23 Rising Groundwater. Prepare for the impacts of rising groundwater levels on private and public property.

Actions:

- **Infrastructure and Access.** Develop plans and strategies to protect and/or relocate critical infrastructure and maintain access to impacted property.
- **Building Codes.** Prepare and adopt revised zoning and building codes to increase resiliency of new buildings against the impacts of rising groundwater.
- **Annual Review.** Annually monitor groundwater levels and progress on specific strategies to mitigate impacts.

Policy CC-24 Water Retention. Develop and maintain large and small areas to retain water within the City that may serve as areas of “retreat” during large storm events.

- Policy CC-25 Heat and Wildfire Smoke Emergencies.** Create a network of smoke and heat emergency shelters throughout Alameda.
- Goal 4 Protect and conserve Alameda’s natural resources and recognize their intrinsic importance in responding to climate change and fostering a healthy environment that sustains people, neighborhoods and the unique natural resources of the island.**
- Policy CC-26 Urban Forest.** Take actions to maintain and expand the number of trees in Alameda on public and private property to improve public health, reduce pollution, and reduce heat island effects.
- Policy CC-27 Habitat and Biological Resource Protection and Restoration.** Protect and restore natural habitat in support of biodiversity and protect sensitive biological resources and to prepare for climate change.
- Policy CC-32 Lagoons.** Continue to preserve and maintain all lagoons as natural habitat as well as an integral component of the City’s green infrastructure network and flood control system.
- Policy CC-33 Green Infrastructure.** Protect San Francisco Bay, San Leandro Bay, and the Alameda Oakland Estuary by promoting, requiring, and constructing green infrastructure that improves stormwater runoff quality, minimizes stormwater impacts on stormwater infrastructure, improves flood management, and increases groundwater recharge.

In addition, the following policies from the Land Use and City Design, Mobility, Open Space and Parks, and Health and Safety elements are also supportive of reducing impacts of increased flooding due to climate change or other causes:

- Policy LU-14 Planning for Climate Change.** Prepare for climate change and reduce greenhouse gas emissions regionally and locally.
- Policy ME-14 Active Transportation.** Reduce traffic, improve public health, increase transportation equity, reduce greenhouse gas emissions, air and noise pollution, increase access to transit, enhance quality of life, and improve the efficiency of the transportation system by making Alameda a city where people of all ages and abilities can safely, conveniently, and comfortably walk, bike, and roll to their destinations.
- Policy ME-21 Parking and Curbside Management.** Manage parking and allocate curb space to reduce congestion, reduce vehicle miles traveled, and increase safety.
- Policy ME-22 Environmentally Friendly Transportation.** Reduce traffic, pollution, and greenhouse gas emissions by reducing reliance on the single occupancy vehicle and reducing vehicle miles traveled (VMT).
- Policy ME-24 Regional Partners.** Work with Caltrans, the East Bay Regional Park District (EBRPD), the Alameda County Transportation Commission and the City and Port of Oakland to prepare regional facilities for the impacts of climate change and identify funding to adapt the regional and local roadways in Alameda.

Actions:

- **Webster and Posey Tubes and the Northern Waterfront.** Work with Caltrans and northern waterfront property owners to develop sea level rise protection for the Webster and Posey Tubes and the connecting on-island roadway network along the northern waterfront.
- **State Route 61 and Bay Farm Island.** Work with Caltrans, the EBRPD and the City and Port of Oakland to develop sea-level rise protections for Doolittle Drive, State Route 61, the east end of Alameda, the San Francisco Bay Trail access including East Bay Regional Park District's (EBRPD) bike/pedestrian wooden bridge on Bay Farm Island, Packet Landing Road Lagoon Outfall, and the Veterans Court area.
- **Shoreline Drive and the Southshore.** Work with the EBRPD and south shore residential and commercial property owners to prepare Shoreline Drive and the adjacent roadway network for sea-level rise.
- **Fernside Drive and the Eastern Shoreline.** Work with Fernside Drive and eastern shoreline homeowners to prepare Shoreline Drive and the adjacent roadway network for sea-level rise.

Policy OS-1 Parks and Open Space Funding. Secure adequate and reliable funding for the development, rehabilitation, programming and maintenance of parks, community and recreation facilities, trails, greenways, and open space areas.

Action:

- **Natural Areas.** Annually consider restoring and preserving natural areas for habitat protection, climate adaptation and passive recreation use such as walking, hiking, and nature study.

Goal 2 Expand and improve the parks and open space system to address the evolving needs of a growing community, serve all residents and neighborhoods equitably throughout the city, and adapt to the climate crisis.

Policy OS-9 San Francisco Bay Trail. Support the completion of a continuous shoreline Bay Trail along the entire perimeter of the City of Alameda. See Figure 6.3.

Action:

- **Resilience.** Utilize current sea level rise projections when planning trail expansion and maintenance and design trail upgrades to ensure long-term resilience.

Policy OS-11 Climate Adaptation. Adapt the existing park and open space network to rising sea levels, more severe storm events and wave energy, and rising ground water.

Actions:

- **Green Infrastructure.** Utilize natural, green or 'soft infrastructure' such as sand dunes and wetlands over 'hard infrastructure' (concrete seawalls and/or levees) wherever possible.

- **Hidden Benefits.** Recognize and promote the open space network as an expanding asset that contributes to community character, reduces stormwater runoff and increases citywide resiliency.

Policy OS-12 Wildlife Habitat. Promote the preservation, protection and expansion of wildlife habitat areas, open space corridors, and ecosystems as essential pieces of the overall network and an important contributors to citywide resiliency.

Policy OS-17 Alameda Point Wildlife Refuge and Bay Trail Extension. Partner with the Bureau of Veterans Affairs and the Department of Fish and Wildlife to create a seasonal bay trail along the shoreline of the Wildlife Refuge.

Action:

- **Wetlands.** Support actions by the federal government that improve and manage wetlands, increase carbon sequestration, and support long-term climate resiliency for Alameda.

Policy HS-1 Emergency Preparedness. Maintain emergency management and disaster preparedness as a top City priority.

Policy HS-4 Public Communication. Maintain and promote community programs to train volunteers, support groups for senior and individuals with disabilities, food banks, and other local aid organizations to assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood.

Objective 3 Minimize risks of loss of life, personal injury, property damage and environmental degradation posed by sea level rise, flooding and storm water runoff.

Policy HS-14 Flood Insurance. Continue the City's participation in the National Flood Insurance Program.

Policy HS-15 Flood Hazard Maps. Continue to review and publish for public discussion the latest and most up to date flood hazard and sea level rise forecasts from all trusted sources.

Policy HS-16 Regional Partnerships. Actively participate in regional discussions on drought, groundwater and sea level rise mitigation, infrastructure improvements and adaptation strategies.

Policy HS-17 Public Infrastructure Priorities. Identify public transportation, open space, and stormwater and wastewater facilities, shoreline assets, and other public assets vulnerable to sea level and groundwater rise and flooding hazards, and prioritize projects for adaptation funding.

Action:

- **Shoreline Facilities Program.** Implement a program for Resilient Shoreline Facilities, including performing appropriate seismic, storm, flooding and other safety analyses based on current and future use for all City-owned shoreline facilities, including dikes, shore protection (rip rap), lagoon sea walls, storm water outfalls, marinas and protective marshlands.

Policy HS-18 Preferred Strategies. Develop sea level and groundwater rise adaptive strategies for different areas of the City for public discussion and evaluation, including but not

limited to: avoidance/planned retreat, enhanced levees, setback levees to accommodate habitat transition zones, buffer zones, beaches, expanded tidal prisms for enhanced natural scouring of channel sediments, raising and flood-proofing structures, and/or provisions for additional floodwater pumping stations, and inland detention basins to reduce peak discharges.

Policy HS-19 Public Infrastructure. Protect and upgrade public infrastructure, including but not limited to streets, wastewater systems and pump stations, storm water systems and pump stations and electric systems and facilities to ensure capacity and resilience during storm events, high tides, and groundwater and sea level rise, to decrease the chance of flooding of nearby streets, utilities, and private property.

Policy HS-20 Tsunami Awareness. Reduce the risk of tsunami inundation through public tsunami education, with special emphasis on evacuation protocols and procedures.

Policy HS-21 Resilient Rights-of-Way and Open Spaces. Design street rights-of-way, parks, other public spaces, street trees and landscaping to be resilient to temporary flooding.

Policy HS-22 New Development. Require all new development to design for sea level and associated ground water rise based upon the most current regional projections.

Actions:

- **Waterfront Setbacks.** *Require new development to provide adequate setbacks along waterfront areas for the future expansion of seawalls and levees to adapt to sea level rise.*
- **Data.** *Update maps and publish open data that display these risks clearly as soon as new data or guidelines are created, such as a Digital Elevation Model, sea and groundwater risks, or the latest risk tolerance guidance provided by the State of California.*

Policy HS-23 Easements. Require the creation and maintenance of easements along drainage ways necessary for adequate drainage of normal or increased surface runoff due to storms.

Policy HS-24 Groundwater Management. Require and enforce stringent groundwater management programs to prevent subsidence.

Policy HS-25 Green Infrastructure. Require the use of “green infrastructure”, landscaping, pervious surfaces, green roofs, and on-site stormwater retention facilities to reduce surface runoff and storm drain flooding during storm events.

IMPACTS

Impact 15-1

Construction and operation of new buildings and facilities allowed under the *Alameda General Plan 2040* would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (LTS)

Construction Impacts

Construction activities associated with new development allowed under the proposed General Plan could potentially affect water quality as a result of erosion of sediment. Once construction sites become disturbed by clearing, grading, excavation, and other site preparation activities, site soils become particularly susceptible to erosion from wind and rain water. Wind-blown soils adversely affect air quality, as discussed in more detail in Chapter 11, Air Quality, while soil entrained by flowing stormwater becomes transported off site, flowing into downstream receiving waters, such as storm drains and flood control channels. In addition, leaks from construction equipment; accidental spills of fuel, oil, or hazardous liquids used for equipment maintenance; and accidental spills of construction materials are all potential sources of pollutants that could degrade water quality during construction. Improper use, storage, or disposal of fuels, lubricants, and other chemicals used in construction could also result in the conveyance of contaminants to the receiving waters via stormwater runoff.

Stormwater runoff in Alameda is ultimately discharged to San Francisco Bay, which is on the list of impaired water bodies compiled by the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to the federal Clean Water Act. Because the State is required to develop action plans and establish Total Maximum Daily Loads (TMDLs) to improve water quality within these water bodies, uncontrolled discharge of pollutants into them is considered particularly detrimental.

Any new development that entails “land disturbance” of 1 acre or more would be required to obtain coverage under Construction General Permit (CGP) Order 2009-0009-DWQ, administered by the RWQCB. Order 2009-0009-DWQ requires project sponsors to implement construction Best Management Practices (BMPs) at the project site and comply with numeric action levels (NALs) in order to achieve minimum federal water quality standards. The CGP requires control of non-stormwater discharges as well as stormwater discharges during project construction. Measures to control non-stormwater discharges such as spills, leakage, and dumping must be addressed through structural as well as administrative BMPs. Precautions to address such discharges must be addressed using standard practice and/or as detailed in the Stormwater Pollution Prevention Plan (SWPPP) that is required as a condition of the CGP. The SWPPP must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the RWQCB’s Stormwater Multi-Application Report Tracking System (SMARTS).

Construction stormwater BMPs are intended to minimize the migration of sediments off-site. They can include covering soil stockpiles, sweeping soil from streets or other paved areas, performing site-disturbing activities in dry periods, and planting vegetation or landscaping quickly after disturbance to stabilize soils. Other typical stormwater BMPs include erosion-reduction controls such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), vehicle mats in wet areas, and retention/settlement ponds.

Compliance with the provisions of the CGP would minimize the potential for construction activities to adversely affect water quality and ensure that waste discharge requirements would not be violated. Therefore, construction allowed under the proposed General Plan would have a ***less-than-significant impact*** on water quality.

Operational Impacts

Following completion of construction, new land use developments facilitated by the *Alameda General Plan 2040* would have the potential to generate pollutants that could be entrained in stormwater, which could degrade water quality in storm runoff and contribute to pollutant loading in San Francisco Bay. The primary source of water pollutants from residential and commercial development is from automotive vehicles traveling on site roadways, while industrial developments may also include processes with hazardous materials that could potentially affect water quality, either through direct discharge or accidental release. Industrial land uses may also include outdoor storage of equipment and materials that can be a source of water pollutants.

Moving vehicles deposit oil and grease, fuel residues, heavy metals (e.g. lead, copper, cadmium, and zinc), tire particles, and other pollutants. They emit polycyclic aromatic hydrocarbons (PAHs) from their exhaust, resulting from incomplete combustion of gasoline, which settles to the ground. Parked vehicles can also deposit oil, metals, and other pollutants that can be washed into the storm drain system by rain water.

Construction of new residential, commercial, office, light industrial, and other development projects allowed under the proposed General Plan would typically require excavation into surface soils underlying a given site, and possibly into deeper soil levels, depending on the nature of the project, the type of building foundation required, and the geologic structure of the subsurface. Deeper excavations could also encounter and expose groundwater. On sites where the soil and/or groundwater are contaminated with hazardous materials, such as petroleum hydrocarbons or volatile organic compounds (VOCs), exposure of the contaminated soil or groundwater could expose construction workers to health hazards and could release the contaminants into the air or allow them to migrate offsite, potentially contributing harmful pollutants to surface waterways.

All of the pollutants described above collect on roofs, pavements, and other impervious surfaces, where they can be washed by stormwater into downstream surface waters, thereby degrading water quality. Pesticides that may be used on landscaping or around buildings can potentially contribute to the depletion of dissolved oxygen and/or toxic concentrations of dissolved ammonia

in downstream receiving waters, creating acute toxicity for aquatic wildlife. Fertilizers can similarly degrade water quality.

Buildings and equipment enclosures also provide potential sources of water pollutants because weathered paint and eroded metals from painted and unpainted surfaces can be washed away by stormwater. In addition, mercury and polychlorinated biphenyls (PCBs) that get deposited on roofs and other impervious surfaces as airborne pollutants can be washed into surface waters during storm events. Microbial pathogens are yet another pollutant that can be entrained in stormwater coming in contact with poorly protected outdoor trash collection areas.

The development that will occur over the next 20 years in Alameda will be redevelopment of existing developed sites. There is little to no vacant land in Alameda that is not already developed with impervious surfaces, existing buildings, and existing drainage systems. Redevelopment of these sites will improve water quality as the result of compliance with the C.3 NPDES stormwater requirements administered by the City of Alameda and the RWQCB. All private or public development projects that would create or modify 10,000 square feet or more of impervious surfaces are required by Provision C.3 of the Municipal Regional Permit to take measures to improve water quality of stormwater discharges from the project site by providing on-site treatment of 100 percent of the stormwater runoff from the site, including rainwater falling on building rooftops. The size threshold is reduced to 5,000 square feet for certain special land use categories, which include auto service facilities, retail gasoline outlets, restaurants, and uncovered parking lots. Where a redevelopment project would alter 50 percent or more of the impervious surfaces of a previously existing project that was not subject to Provision C.3 requirements, the entire project must be designed and operated in compliance with Provision C.3. The Provision C.3 requirements also pertain to construction or widening of roads, trails, and sidewalks. Projects subject to Provision C.3 are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable* (MEP) using low-impact development (LID) measures. The MRP states that permittees (i.e., the cities and counties) should encourage projects that do not meet the Provision C.3 size thresholds to still implement these source control measures to the extent feasible.

New industrial development would be subject to a separate NPDES program. On April 1, 2014 the SWRCB adopted the NPDES General Permit for Stormwater Discharges Associated with Industrial Activities (NPDES Permit No. CAS000001), which became effective on July 1, 2015. In the San Francisco Bay Area, the permit is enforced by the RWQCB. The permit requires dischargers to implement a set of minimum BMPs intended to prevent or reduce pollutants in industrial stormwater discharges. The minimum BMPs are primarily non-structural BMPs, but they also include advanced structural BMPs, consisting of treatment controls, exposure reduction, and stormwater containment BMPs. The minimum and advanced BMPs required in the Industrial General Permit are consistent with the EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008 MSGP), guidance developed by the California Stormwater Quality Association, and recommendations by RWQCB inspectors.

The required BMPs include: Minimization of Exposure to Storm Water; Good Housekeeping; Preventive Maintenance; Spill and Leak Prevention and Response; Erosion and Sediments Controls; Management of Runoff; Salt Storage Piles or Piles Containing Salt; Sector Specific Non-Numeric Effluent Limits; Employee Training Program; Non-Stormwater Waste Discharges (NSWDs); Material Handling and Waste Management; Waste, Garbage and Floatable Debris; Dust Generation and Vehicle Tracking of Industrial Materials; and more. All of these BMPs are described/defined in the permit.

The NPDES Industrial General Permit (IGP) also requires implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate pollutants in stormwater discharges and authorized NSWDs. Section 402(p)(3)(A) of the CWA also requires discharges covered by the IGP to include requirements necessary to meet water quality standards. The IGP does not cover discharges from construction and land disturbance activities, which require separate application for and coverage under the RWQCB's NPDES Construction General Permit.

The IGP requires that all Dischargers to develop, implement, and retain onsite a site-specific SWPPP that is targeted to the relevant industrial activities and pollutant sources. The SWPPP must include a site map, authorized non-stormwater discharges (NSWDs) at the facility, and an identification and assessment of potential pollutant sources resulting from exposure of industrial activities to stormwater. The SWPPP must clearly describe the BMPs that are being implemented, who is responsible for the BMPs, where the BMPs will be installed, and when and how often the BMPs will be implemented.

Compliance with the provisions of the MRP or IGP, as applicable, would minimize the potential for new development allowed under the General Plan to adversely affect water quality and ensure that waste discharge requirements would not be violated. Additionally, new development would be subject to the City's Water Quality and Flood Protection Fee, established by the City's Storm Water Management and Discharge Control Ordinance. These fees assist the City in maintaining its storm drainage infrastructure in accordance with the City's NPDES permits, providing further benefits to stormwater quality. The following proposed General Plan policies would also reduce potential impacts to water quality: CC-22, CC-24, CC-27, CC-32, CC-33, and HS-19. Therefore, the operation of new development allowed under the proposed General Plan would have a ***less-than-significant impact*** on water quality.

New development allowed under the proposed General Plan could be exposed to the adverse effects of emergent groundwater discussed in Section 15.2, including exposure to contaminants that could be present in emerging groundwater. This would be an impact of the existing environment on the project, as opposed to an impact of the project on the environment. Recent court rulings have clarified that impacts of the environment on a project are not environmental impacts under CEQA. However, the General Plan does address the need to protect future residents and businesses from rising ground water. General Plan policy CC-23 states:

Policy CC-23 Rising Groundwater. Prepare for the impacts of rising groundwater levels on private and public property.

Actions:

- **Infrastructure and Access.** *Develop plans and strategies to protect and/or relocate critical infrastructure and maintain access to impacted property.*
- **Building Codes.** *Prepare and adopt revised zoning and building codes to increase resiliency of new buildings against the impacts of rising groundwater.*
- **Annual Review.** *Annually monitor groundwater levels and progress on specific strategies to mitigate impacts.*

In addition, the following proposed General Plan policies would reduce potential impacts from rising groundwater levels: CC-21 through CC-24, CC-32, CC-33, ME-24, OS-11, HS-14 through HS-19, HS-21, HS-22, and HS-24.

Mitigation Measure 15-1

None required.

Impact 15-2

New land uses allowed under the *Alameda General Plan 2040* would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. (LTS)

Although Alameda is underlain by the East Bay Plain Groundwater Basin, neither the City nor the East Bay Municipal Utility District draw on this groundwater for domestic water supply. EBMUD, the water provider to the City of Alameda, currently only uses groundwater during drought conditions. The water agency injects potable drinking water during wet years into the South East Bay Plain Basin for storage at an injection site located about 7 miles south of Alameda, extracting it later during a drought.²²

The East Bay Plain Groundwater Basin extends north to San Pablo Bay and south to the adjacent Niles Cone Subbasin in the vicinity of Union City. It is defined on the east by the Hayward Fault and extends westward under San Francisco Bay. However, only the southern portion of the basin, the South East Bay Plain Subbasin (SEBP), has significant storage capacity. EBMUD and the City of Hayward are in the process of jointly preparing a groundwater sustainability plan (GSP) for the South East Bay Plain Subbasin in compliance with the Sustainable Groundwater Management Act

²² East Bay Municipal Utility District, *Water Supply Management Program 2040 Plan*, Section 3.2: Summary of EBMUD's Water Supply and System, April 2012.

(SGMA). Once adopted, the GSP will replace EBMUD's *South East Bay Plain Basin Groundwater Management Plan* (GMP), adopted on March 26, 2013.

Alameda Island is not located within the SEBP, and because EBMUD's groundwater sustainability planning is focused on the SEBP, it is assumed that Alameda Island does not provide substantial groundwater recharge in the basin. This is reinforced by the percolation rates reported by EBMUD for the area. The net percolation for Alameda Island is 404 acre-feet per year (AFY), while for the adjacent San Leandro subregion, the annual rate is 4,104 AFY.²³

Although Bay Farm Island is part of the SEBP, the underlying geology of this portion of the City is also not conducive to groundwater recharge. The GMP shows Bay Farm Island to be underlain by Holocene Bay Mud (Qhbm), with poorly drained to very poorly drained soils, including clays, hardpan, and floodplain deposits, which do not allow effective groundwater recharge. The GMP states that the significant recharge areas in the SEBP are in the southern and eastern portions of the basin, and do not include Bay Farm Island, and the soils underlying this portion of Alameda are not conducive to groundwater recharge.

With the exception of some vacant or underutilized parcels in the southern portion, Bay Farm Island is functionally built out, and it is not anticipated that new development would be constructed except in the southern portion designated on the proposed Land Use Diagram as Business and Employment. While future development in this area would increase the amount of impermeable surfaces that would preclude groundwater recharge, for the reasons set forth above, this area is not expected to provide substantial groundwater recharge under existing conditions. Therefore, implementation of the proposed General Plan would not impede sustainable groundwater management of the basin. This would be a *less-than-significant* impact.

Mitigation Measure 15-2

None required.

Impact 15-3

New land uses allowed under the *Alameda General Plan 2040* would not substantially alter the existing drainage pattern on 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 that would result in substantial erosion or siltation on-or off-site. (LTS)

New development allowed under the proposed General Plan would increase the amount of impervious surfaces throughout the City, which would alter existing drainage patterns and potentially increase the rate and volume of stormwater discharge from project sites. These

²³ East Bay Municipal Utility District, *South East Bay Plain Basin Groundwater Management Plan*, Figure 2-23: Net Percolation, March 2013.

increased flows could result in substantial erosion that could entrain sediment that could be deposited in downstream receiving waters, resulting in increased siltation.

During construction of such projects, existing impervious surfaces and/or vegetation could be removed, exposing soils to increased erosion potential. However, as discussed further in Impact 15-1, projects disturbing more than 1 acre of land would be required to obtain coverage under the NPDES Construction General Permit, which requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that would identify construction best management practices (BMPs) that would effectively result in the elimination of sediment and other pollutants in stormwater discharges throughout the construction period.

The creation of new impervious surfaces would be a permanent change that would modify drainage patterns and also create the potential for downstream erosion and siltation. All projects creating or replacing 10,000 square feet or more of impervious surfaces, and certain higher-impact projects creating or replacing 5,000 square feet or more of impervious surfaces, would be required to comply with Provision C.3 of the MRP, providing biotreatment facilities intended to remove pollutants from a project's stormwater runoff, but which typically also provide bioretention benefits, such that the rate and volume of storm discharge is reduced. In addition, projects disturbing 1 acre or more of land must also implement hydromodification management (HM) controls specifically intended to ensure that discharge rates and durations do not exceed pre-project discharge rates and durations under 10-year storm conditions.

The mandatory compliance with these existing regulations would ensure that erosion and siltation impacts from construction and operation of new development allowed under the proposed General Plan would have a *less-than-significant impact* on water quality.

Mitigation Measure 15-3

None required.

Impact 15-4

New land uses allowed under the *Alameda General Plan 2040* would not substantially alter the existing drainage pattern on 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 that would substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-or off-site, or 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. (LTS)

Similar to Impact 15-3, new development allowed under the proposed General Plan would increase the amount of impervious surfaces throughout the City, which would alter existing drainage patterns and potentially increase the rate and volume of stormwater discharge from project sites. Uncontrolled, these increased flows could result in flooding, particularly downstream of the sites. The potential adverse impacts on water quality are addressed in Impact 15-1.

As noted in the discussion of Impact 15-3, the biotreatment facilities required by Provision C.3 of the MRP of all projects creating or replacing 10,000 square feet or more of impervious surfaces, and certain higher-impact projects creating or replacing 5,000 square feet or more of impervious surfaces, would provide some bioretention, which in addition to the water quality benefits, would reduce peak water discharge rates and volumes during storm events. Projects disturbing 1 acre or more of land must also implement hydromodification management (HM) controls specifically intended to ensure that discharge rates and durations do not exceed pre-project discharge rates and durations under 10-year storm conditions. Projects subject to the HM controls would not cause increased flooding impacts.

All projects subject to C.3 stormwater requirements must include low-impact development (LID) site design features that reduce the amount of stormwater requiring treatment, such as self-treating and self-retaining areas, reductions in impervious areas, use of permeable pavements, planting and/or preservation of interceptor trees, and reduced parking areas, among others. These are features that further reduce potential flooding effects. Individual development projects will be subject to site- and project-specific environmental review that will evaluate the adequacy of the proposed stormwater drainage systems and the capacity of the existing offsite stormwater drainage systems, ensuring that any incremental increase in peak storm discharge does not exceed the capacity of the existing and proposed systems.

Compliance with the C.3 stormwater requirements would ensure that flooding and water quality impacts from new development would not be significant. The following proposed General Plan policies, set forth above, would further reduce potential flooding impacts from new development: CC-20 through CC-24, CC-26, CC-32, OS-11, HS-14 through HS-23, and HS-25. This would be a ***less-than-significant impact***.

Mitigation Measure 15-4

None required.

Impact 15-5

New land uses allowed under the *Alameda General Plan 2040* would not substantially alter the existing drainage pattern on 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 that would impede or redirect flood flows. (LTS)

Some of the areas where future residential, commercial, and industrial growth is anticipated to occur under the proposed General Plan are located within the 100-year flood zone, as shown on Figure WQ-5. In addition to being exposed to impacts from flood inundation, new development within a flood zone has the potential to exacerbate flooding at other locations because buildings and other structures displace water that would otherwise occupy their footprints.

Under the City of Alameda Floodplain Management Ordinance, new development located within a special flood hazard area delineated by FEMA must be designed to minimize potential flood damage

through the use of flood-resistant materials, drainage paths around structures on slopes to guide flood waters around and away from structures, and elevation of the lowest floor to specified heights above the base flood elevation, depending on the type of structure and category of flood zone in which it is located. Enclosed parking garages and storage areas in non-residential structures subject to flooding must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater, typically by providing openings on at least two sides of the structure. The Floodplain Management Ordinance also requires water supply and sanitary sewage systems to be designed to minimize or eliminate infiltration of flood waters into the systems, and prevent discharge from the systems into flood waters.

Proposed General Plan Policy CC-19 includes numerous provisions for reducing the risk of flooding and the personal injury, property damage, and loss of natural habitat that can result from flooding, whether it's due to sea level rise or other factors. The supporting actions for proposed Policy CC-20 require new and improved development in flood zones to be elevated above the flood level or to be otherwise flood-proofed, and to incorporate design features to mitigate 36 inches of sea level rise in the initial design, while providing funding for future improvements to address future increases in sea levels above 36 inches. Policy CC-33 requires construction of green infrastructure that improves flood management, among other hydrology and water quality benefits. Policy CC-32 requires the preservation and maintenance of the City's lagoons located on both Alameda Island and Bay Farm Island as integral components of the City's green infrastructure network and flood control system. Policy CC-24 calls for the development of large and small areas within the City to retain water and thereby prevent or reduce flooding in other parts of the City during large storm events. Other proposed General Plan policies that would reduce potential impacts due to flooding include policies HS-14, HS-15, HS-17 through HS-23, and HS-25.

Although the *CEQA Guidelines* do not currently require an evaluation of potential impacts from sea level rise, this would be a potential flooding-related impact of new development allowed under the proposed General Plan. While CEQA no longer considers impacts of the environment on a project to be significant except under certain specified conditions, new development allowed under the General Plan could exacerbate the effects of sea level rise, which could be a potentially significant impact under CEQA. The development of new residential, commercial, and industrial buildings in areas that may be exposed to future flooding events caused by sea level rise in conjunction with peak storm surges and/or peak tides could be adversely affected by these flood waters and could exacerbate flooding elsewhere by the displacement of flood waters onto other areas. The areas where future land use growth may occur that are subject to the most likely sea level rise scenario of 36 inches are limited, as shown on Figure WQ-7. The most impacted areas would be the golf course and lagoon areas on Bay Farm Island and portions of Alameda Point where new land use development is not proposed or anticipated. However, part of the northeast portion of Alameda Point is shown as susceptible to sea level rise, where residential and mixed-use development is anticipated. Development in this area could cause a displacement of flood waters resulting from sea level rise, and expand the areas subject to inundation.

The City's *Climate Action and Resiliency Plan (CARP)* identifies strategies for addressing the threat of sea level rise caused by climate change, including measures to increase resiliency and capacity of the stormwater system to prevent flooding of assets during extreme precipitation events. In addition to the proposed General Plan policies that would reduce impacts from flooding, cited above, policies CC-4, CC-19 through CC-22, OS-11, HS-15 through HS-19, and HS-22 are all explicitly intended to help reduce impacts related to climate change-induced sea level rise.

Compliance with the Alameda Floodplain Management Ordinance and implementation of all of the proposed General Plan policies listed above would reduce potential flooding impacts from future development facilitated by the General Plan, including impacts related to sea level rise, to a ***less-than-significant level***.

Mitigation Measure 15-5

None required.

Impact 15-6

Future development allowed under the *Alameda General Plan 2040* that is located within a flood hazard, tsunami, or seiche zone could risk the release of pollutants due to project inundation. (LTS)

As shown on Figure WQ-6, most of the City of Alameda is located within the potential inundation zone from a large tsunami wave striking the northern California coast and washing into San Francisco Bay. A tsunami would be triggered by a strong earthquake, which could also initiate a seiche, which is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin, typically triggered by a seismic event, though strong winds can also precipitate a seiche. Given the size and configuration of San Francisco Bay, the potential for a seiche to affect Alameda is low, and the greater inundation risk is due to tsunami.

The City recognizes the threat of inundation from tsunami and has taken a variety of steps to address the risk. The City's Emergency Operations Plan (March 2019) notes that earthquake and flooding, including flooding due to tsunami, are the two natural hazards determined to present the greatest risk to the City, and therefore are considered in the most detail in the *City of Alameda Local Hazard Mitigation Plan* (2016). A tsunami emergency for the City has also been analyzed in depth by the California Office of Emergency Services (Cal OES), the California Ecological Survey, and the National Oceanic and Atmospheric Administration (NOAA) through the National Tsunami Hazard Mitigation Program.

According to the City's Local Hazard Mitigation Plan, over 70 tsunamis have been observed or recorded within the San Francisco Bay in the past 200 years, with two recorded in the vicinity of Alameda before 1946. Since 1946, when record keeping increased, there have been 30 tsunamis within the San Francisco Bay, and of those, about half have been recorded in Alameda or Oakland. Recorded heights at Alameda and Oakland have ranged from 0.02 feet to 1.22 feet, though most have been under 3 inches. There have been no reported inundation run-ups within the Bay.

However, a 1964 tsunami caused by a Magnitude (M) 9.1 earthquake originating in Alaska caused widespread damage to the West Coast and one death in Bolinas. Another in 2011 from an M8.9 earthquake in Japan with water heights up to 1.5 feet caused damage at the Berkeley Marina, but only resulted in a non-destructive 6-inch wave along the Alameda shoreline.

Although Alameda's shorelines are considered "sheltered" waters, impacts of a large tsunami along the coast could cause a devastating surge in tidal areas all along the inside of San Francisco Bay. According to studies conducted by Cal OES, the California Ecological Survey, and NOAA, the probability of a tsunami impacting Alameda is low, but the risk of significant damage—including complete inundation of Bay Farm Island in the worst case scenario—is extremely high. Damage to marinas, ships and piers, low-lying homes, and other facilities within the tsunami inundation zone would be catastrophic.

Due to this extreme risk, the National Tsunami Hazard Mitigation Program has supported the development of tsunami response "playbooks" for areas with the highest risk of tsunami impacts. One such playbook was developed for the City of Alameda (California Tsunami Evacuation Playbook No. 2015-Alam-05), which provides tsunami-specific maps, guidance about in-harbor hazards, and plans to help emergency management officials respond to tsunamis of different sizes and distances from the California coast. It depicts a map of the Maximum Phase Tsunami Evacuation Zone for Alameda that shows a slightly smaller area subject to tsunami inundation than the more recent map shown on Figure WQ-6.

There are two sources for California tsunamis, based on distance and warning time: local sources and distant sources. Local tsunami sources, like large offshore faults and massive submarine landslides, can put adjacent coastal communities at the greatest risk of a tsunami because the public must respond quickly with little or no official guidance. The Cascadia Subduction Zone is an example of a local tsunami source that could threaten northern California. Stretching from Cape Mendocino, California, to Vancouver Island, British Columbia, this 700-mile long submarine fault system forms the crustal plate boundary where the offshore Gorda and Juan de Fuca plates dive, or subduct, beneath the North American plate. Distant tsunami sources are tsunamis that may be caused by a very large earthquake elsewhere on the Pacific Rim that could reach the California coast many hours after the earthquake. The Alaska-Aleutians Subduction Zone is an example of a distant source that has caused destructive tsunamis in California.

Because very large tsunamis are infrequent and the likelihood that the largest potential tsunamis have not yet occurred in Alameda County, the State tsunami program developed a suite of maximum credible tsunami scenarios as part of their tsunami inundation mapping project for local evacuation planning. This analysis determined that the maximum near-shore tsunami runup depth in Alameda from a local source would be 5 feet, resulting from an M7.3 earthquake on the Point Reyes Thrust Fault or from an M7.1 earthquake on the San Gregorio Fault, with a 10- to 15-minute travel time from either source. The potential inundation from a distant source would be much greater, up to 18 feet, from an M9.2 quake on the Central Aleutians II Fault representing the greatest risk. There would be approximately a 5-hour travel time for this tsunami. Travel times from

other distant sources would be up to 13 hours. These travel times indicate that the time for the City's emergency managers to prepare for an evacuation could only be tens of minutes or just a few hours.

The Alameda Tsunami Evacuation Playbook establishes four phases of evacuation in the event of a tsunami. Under Phase 1, beaches, harbor docks/piers, and boats would be evacuated. Strong currents and potential scour would be expected in harbors, but shoreline areas would not be affected. Mitigation actions identified in the Evacuation Playbook include encouraging the maritime community to improve the harbors to mitigate the risk of damage due to the threat of tsunami and following guidance provided in the Evacuation Playbook. In Phase 2, only some immediate shoreline areas would be affected and require evacuation. The Phase 2 zones of inundation would be similar to that of flooding caused by storms plus king tides, and mitigation actions to decrease flooding damage will also address tsunami inundation.

The Phase 3 evacuation area encompasses most of the area depicted on Figure WQ-6, though the northwest tip of Bay Farm Island is not included, and there are areas in the Northern Waterfront and north-central areas of Alameda Island that are not included. The fourth phase, referred to as Maximum Phase, evacuation area corresponds fairly closely to the inundation area depicted on Figure WQ-6. Inundation of the magnitude modeled for phases 3 and 4 is expected to be precipitated by an earthquake occurring in the Alaskan-Aleutian subduction zone. Mitigation actions for Phase 3 and Maximum Phase include public education, utilizing the mass notification system, and working closely with the media to alert the public. They will also include identification and signage of tsunami inundation hazard zones, evacuation route sign placement, public education about the risk of tsunami on land and to the many boat harbors in Alameda, encouraging citizens to listen for news of tsunamis when they hear about or feel earthquakes, and refinement of the citizen alert system to reach more people. The Alameda Local Hazard Mitigation Plan identifies the National Tsunami Hazard Mitigation Program, U.S. Geological Survey (USGS), Cal OES, NOAA, and California Geological Survey (CGS) as the City's partners in reducing tsunami risk in Alameda.

The *Alameda Climate Action and Resiliency Plan (CARP)* identifies numerous strategies for reducing the adverse effects of flooding and sea level rise that would also have the ancillary benefit of reducing the impact of a tsunami runup wave striking the City's shoreline. These strategies include:

- Conditioning new buildings in high-risk zones to incorporate adaptive strategies;
- Imposing limits on new development in high-risk zones;
- Including real estate disclosures of risk in property sales;
- Establishing zoning overlays in high-risk zones that impose requirements specific to the potential hazards;
- Flood-proofing utilities;
- Utilizing and expanding open space for flood control benefits;
- Mandating flood-resilient development in high-risk zones;
- Maintaining, repairing, and raising shoreline structures;

- Updating evacuation plans to accommodate increases in population and include provisions for vulnerable community members;
- Increase the number of the City’s small rescue boats;
- Plan for temporary transit in the event of disruptions to normal service; and more.

In addition to the Emergency Operations Plan and Local Hazard Mitigation Plan, proposed General Plan Policies ME-9 and HS-20 would help reduce the risk of tsunami inundation in the City. Other proposed policies intended to reduce the impact of sea level rise would also help mitigate potential impacts from tsunami inundation, including CC-2, ME-15, ME-16, OS-9, OS-12, HS-1, HS-4, and HS-15 through HS-19.

Future development in most areas of the City would be potentially vulnerable to the runup wave from a large tsunami originating in the Pacific Ocean. Individual development proposals consistent with the *Alameda General Plan 2040* would be subject to site-specific environmental review that would determine the degree of risk due to tsunami inundation and, where appropriate, identify project-specific mitigation requirements. Given this and the hazard preparations identified in the CARP, Emergency Operations Plan, Local Hazard Mitigation Plan, and proposed General Plan policies, implementation of the proposed General Plan would have a ***less-than-significant impact*** due to tsunami inundation.

Mitigation Measure 15-6

None required.

Impact 15-7

Implementation of the *Alameda General Plan 2040* would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (LTS)

As discussed below, implementation of the proposed General Plan would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Water Quality Control Plan

The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the master water quality control planning document adopted by the San Francisco Bay Regional Water Quality Control Board (RWQCB) in accordance with the Porter-Cologne Water Quality Control Act of 1969.²⁴ It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan has been adopted and approved by the State Water Resources Control

²⁴ California Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, May 4, 2017.

Board, U.S. Environmental Protection Agency (USEPA), and the Office of Administrative Law, where required.

Among other provisions, the Basin Plan establishes conditions (discharge prohibitions) that must be met at all times. These include restrictions on discharge of wastewater, wastewater sludge, biocides (i.e., pesticides, herbicides, copper, etc.), oils, and a wide range of solid materials, including silt, sand, and clay. Point source discharges must be made in accordance with waste discharge requirements (WDRs) established by the RWQCB in accordance with the NPDES program described in Section X-a.

The Basin Plan is a large and complex document with many specific provisions, policies, and implementation plans, all with the overarching goal of protecting water quality for beneficial uses, such as:

- agricultural, municipal, domestic, and industrial supply;
- marine, estuarine, and warm and cold freshwater wildlife habitats;
- commercial and sport fishing;
- navigation;
- preservation of rare and endangered species;
- contact and non-contact water recreation;
- shellfish harvesting;
- fish spawning;
- and more.

Many of the programs and other provisions described in the Basin Plan are not applicable to the proposed General Plan. However, new residential, commercial, and industrial development facilitated by the General Plan would be required to comply with the NPDES regulations pertaining to construction and operation of new development sites, described in detail in Section 15.2. By complying with the applicable provisions of these regulations, potential water pollutants generated by construction and operation of the project would be minimized and would not adversely affect surface or groundwater quality. Therefore, implementation of the proposed General Plan would not conflict with or obstruct implementation of the applicable water quality control plan. This would be a ***less-than-significant*** impact.

Sustainable Groundwater Management Plan

As discussed in Section 15.2, the City of Alameda is located within the East Bay Plain Subbasin, for which EBMUD is the designated Groundwater Sustainability Agency (GSA) for the portion of the basin north of Hayward. EBMUD and Hayward are in the process of jointly preparing a groundwater sustainability plans (GSP) for the entire subbasin in compliance with the Sustainable Groundwater Management Act (SGMA). In the interim, EBMUD's *South East Bay Plain Basin Groundwater Management Plan*, adopted on March 26, 2013, is the effective GSP for the basin. Because only the

southern portion of East Bay Plain Subbasin (i.e., the South East Bay Plain Subbasin) has significant storage capacity and has seen significant municipal, industrial, and irrigation well production, the GMP focuses on the southern portion of the Basin. This plan encompasses Bay Farm Island, but does not include Alameda Island.

The overall intent of the GMP is to assure basin sustainability for generations to come. The objectives in support of this goal include the following:

- Preserve basin storage by maintaining groundwater elevations in the GMP area to ensure sustainable use of the basin;
- Maintain or improve groundwater quality in the GMP area to ensure sustainable use of the basin;
- Manage potential inelastic land surface subsidence from groundwater pumping; and
- Manage the South East Bay Plain (SEBP) Subbasin through coordination and collaboration.

It provides a framework for future sustainability planning efforts that includes the following components:

- Stakeholder and Public Involvement
- Monitoring Program
- Data Management and Analysis
- Groundwater Resource Protection
- Groundwater Sustainability

The GMP establishes programs for ongoing monitoring and management of groundwater elevations, groundwater quality, and subsidence, drawing on a network of monitoring wells located throughout the basin. Action items are identified for each program.

The GMP shows Bay Farm Island to be underlain by Holocene Bay Mud (Qhbm), a relatively young formation dating to about 15,000 years ago, and the youngest deposits in the South East Bay Plain Subbasin. The soils are poorly drained to very poorly drained, including clays, hardpan, and floodplain deposits. These soils do not allow effective groundwater recharge. The basin groundwater less than 200 feet below the ground surface has relatively high concentrations of total dissolved solids (TDS), chloride, nitrate, and sulfate. Nitrate is elevated in large parts of the San Leandro/San Lorenzo area, probably due to septic tank effluent and past farming activities in these areas.

Although the productive aquifers in most parts of the SEBP Basin are confined by thick clay layers and the surface water does not directly contribute to aquifer recharge, the GMP notes that there is an important link between activities that take place on the surface and the potential impact of these activities on the long-term quality and quantity of groundwater recharge. The GMP states that it includes delineation of recharge areas to be protected and recognized for planning purposes, but no maps are provided for this purpose. However, the discussions in the document indicate that the

significant recharge areas are in the southern and eastern portions of the basin, and do not include Bay Farm Island, and the soils underlying this portion of Alameda are not conducive to groundwater recharge. The GMP recommends that land use authorities recognize the need to protect groundwater recharge areas and pay special attention to overlying land use practices that either impede (e.g., large pavement areas) or could pollute (e.g., proper oil disposal) water as it makes its way from the surface to the aquifer.

With the exception of some vacant or underutilized parcels in the southern portion, Bay Farm Island is functionally built out, and it is not anticipated that new development would be constructed except in the southern portion designated on the proposed Land Use Diagram as Business and Employment. While future development in this area would increase the amount of impermeable surfaces that would preclude groundwater recharge, for the reasons set forth above, this area is not expected to provide substantial groundwater recharge under existing conditions. Therefore, implementation of the proposed General Plan would not conflict with or obstruct implementation of the applicable sustainable groundwater management plan. This would be a ***less-than-significant*** impact.

Mitigation Measure 15-7

None required.

CUMULATIVE IMPACTS

New development allowed under the proposed General Plan could, in conjunction with existing development and future development in the region, result in cumulative impacts to water quality and cumulative flooding and sea level rise impacts. However, each new development project pursued under the General Plan would require evaluation for potential hydrology and water quality impacts, and mitigation would be identified to reduce or avoid potentially significant impacts. Each future development project in Alameda meeting the applicable thresholds would be required to comply with the Construction General Permit and with the NPDES C.3 stormwater regulations, as well as the Alameda Municipal Code and proposed General Plan policies intended to protect water quality and reduce adverse effects from flooding and sea level rise. Compliance with these regulations and policies would minimize the potential for erosion, sedimentation, degradation of water quality, flooding, and interference with groundwater recharge. Given this, potential hydrology and water quality impacts would not be cumulatively considerable, and cumulative impacts would be less than significant.

16. HAZARDS AND HAZARDOUS MATERIALS

16.1 Introduction

This chapter describes the potential for hazardous materials or other hazards to affect human health and the environment in the General Plan study area. California Health and Safety Code defines a hazardous material as any “substance or waste that, because of its physical, chemical, or other characteristics, may pose a risk of endangering human health or safety or of degrading the environment.”¹ Hazardous materials include hazardous substances, hazardous waste, extremely hazardous waste, and acutely hazardous waste, each of which has its own statutory definition.

As discussed in more detail in Section 16.3, Standards of Significance, CEQA discussions of hazards are typically focused on two primary categories of hazard: 1) exposure of people or the environment to hazardous materials, and 2) risk of wildfire at a project site. Risks from exposure to hazardous materials can come from hazardous substances that may reside in the soil, groundwater, or air due to past uses on or near a project site. Risks may also be created by a new proposed land use, such as the establishment of a new gasoline station or clothes cleaners, both of which store and use hazardous materials on site to conduct their normal business operations.

The potential for contaminated soil and/or groundwater to be present from historic releases of hazardous materials at potential future development sites was evaluated based on a review of regulatory databases and historic data. If hazardous materials were present, there could be a potential for construction workers and future occupants/users of a new land use to be affected by residual concentrations of these contaminants in the subsurface during and following site development.

Refer to Chapter 14, Geology and Soils, for a description of potential hazards related to seismicity, liquefaction, slope instability, and erosion conditions in the study area. Risks associated with flooding are analyzed in Chapter 15, Hydrology And Water Quality.

16.2 Setting

REGULATORY FRAMEWORK

A myriad of laws and regulations at the federal, State, and local levels affect the management of hazardous materials. In California, the U.S. Environmental Protection Agency (US EPA) has granted

¹ California Health and Safety Code, Section 25260(d).

most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (Cal EPA). Cal EPA has, in turn, granted authority for implementation and enforcement of many hazardous materials regulations in Alameda County to the Hazardous Materials Division of the Alameda County Department of Environmental Health (ACDEH) under the Certified Unified Program Agency (CUPA) Program.²

Regional agencies are responsible for programs regulating emissions to the air, surface water, and groundwater in California. In the San Francisco Bay Area and the City of Alameda, the Bay Area Air Quality Management District (BAAQMD) has oversight over air emissions, and the San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water discharges and water quality of surface water and groundwater.

Oversight of investigation and remediation of sites affected by hazardous materials releases in the City of Alameda is generally provided by State agencies, such as the Cal EPA Department of Toxic Substances Control (DTSC) and the RWQCB. Although their responsibilities sometimes overlap, the DTSC generally oversees sites with contamination of soil, while the RWQCB generally oversees sites with groundwater/surface water impacts. Also, the RWQCB generally oversees underground storage tank (UST) release site investigations and remediations. In Alameda, oversight of UST releases is also performed by the ACDEH.

The California Governor's Office of Emergency Services (Cal OES) is responsible for the coordination of State agency response to disasters, including earthquakes, floods, significant wildfires, prolonged drought impacts, public health emergencies, cybersecurity attacks, agricultural and animal disasters, as well threats to homeland security. Cal OES' mission is to ensure the State's readiness to respond to and recover from all hazards, and assist local governments in their emergency preparedness, response, recovery, and mitigation.

Some of the key federal, State, and local regulatory agencies, laws, and regulations pertaining to hazardous materials and hazardous waste are described below.

Federal

U.S. Environmental Protection Agency

The primary mission of the U.S. Environmental Protection Agency (EPA) is to protect human health and the environment. In order to ensure that Americans have clean air, land, and water, the EPA administers and enforces a wide range of environmental laws and regulations. The agency also conducts scientific research on the effects of pollutants on ecosystems and human health at national Office of Research and Development laboratories operated at each of the EPA's ten regional offices located throughout the country. Two key environmental laws administered by the EPA—the Clean Air Act and the Clean Water Act—are discussed in Chapter 11, Air Quality, and

² California Health and Safety Code, Chapter 6.11.

Chapter 15, Hydrology and Water Quality, respectively. Other environmental laws administered by the EPA are addressed below.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 (15 U.S.C. §2601 *et seq.*) provides EPA with authority to require reporting, record-keeping, and testing requirements for hazardous materials, and to impose restrictions relating to chemical substances and/or mixtures. However, certain substances are generally excluded from TSCA, including food, drugs, cosmetics, and pesticides, among others; these substances are subject to other regulatory laws. Subsequent amendments to the TSCA established programs for regulating the production, importation, use, and disposal of polychlorinated biphenyls (PCBs), mercury, asbestos, indoor radon, and lead. The manufacturing and import/export of a wide range of other chemicals is also regulated by the TSCA, including all new chemicals created since the passage of the TSCA. The EPA may limit production or completely ban production of any chemical that it determines poses an “unreasonable” risk to human health or the environment.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. §6901 *et seq.*) regulates the generation, handling, transportation, treatment, storage, and disposal of household, industrial, and manufacturing solid and hazardous wastes, as well as the cleanup of such waste that may have been spilled, leaked, or improperly disposed of. The 1984 federal Hazardous and Solid Waste Amendments (HSWA) to RCRA focused on waste minimization, phasing out land disposal of hazardous waste, and corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. RCRA includes regulatory programs in the following areas:

- Hazardous Waste
- Used Oil
- Universal Wastes
- Mixed Wastes
- Land Disposal
- Hazardous Waste Injection
- Hazardous Waste Imports/Exports
- Permitting
- Underground Storage Tanks
- Solid Waste

Hazardous Waste

New commercial and industrial/light industrial development allowed under the proposed General Plan could cause an increase in the amount of hazardous materials used and stored in the City,

which could result in increased generation of hazardous waste requiring disposal. A solid waste is a hazardous waste if it is specifically listed in the Code of Federal Regulations (CFR) Title 40, Chapter I, Section 261 as a known hazardous waste or meets the characteristics of a hazardous waste, also specified in Section 261. Characteristic wastes are wastes that exhibit any one or more of the following characteristic properties: ignitability, corrosivity, reactivity or toxicity.

In general, a waste is considered hazardous if it may:

- cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
- pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of, or otherwise managed. (40 CFR Part 261.10(a)).

CFR Title 40, Chapter I, Section 261 includes four categories of listed wastes, and groups them accordingly. The F-list wastes are wastes from common manufacturing and industrial processes that occur in different sectors of industry; they are known as wastes from non-specific sources. The F-list wastes are divided into seven groups:

- spent solvent wastes
- electroplating and other metal finishing wastes
- dioxin-bearing wastes
- chlorinated aliphatic hydrocarbons
- wood-preserving wastes
- petroleum refinery wastewater treatment sludges
- multi-source leachate

The K-list wastes are wastes from specific sectors of industry and manufacturing and industrial specific industries and are considered source-specific wastes. The K-list wastes are generated by the following 13 industries:

- wood preservation
- organic chemicals manufacturing
- pesticides manufacturing
- petroleum refining
- veterinary pharmaceuticals manufacturing
- inorganic pigment manufacturing
- inorganic chemicals manufacturing
- explosives manufacturing
- iron and steel production

- primary aluminum production
- secondary lead processing
- ink formulation
- coking (processing of coal to produce coke)

The P- and U-lists (40 CFR Part 261.33) identify acutely hazardous wastes from discarded commercial chemical products. Wastes on this list must include a listed chemical that is either 100-percent pure, technical (e.g., commercial) grade, or the sole active ingredient in a chemical formulation. The chemical in the waste must be unused and in the form of a commercial chemical product.

Another category of hazardous waste is *mixed waste*, which is a waste that has a hazardous component and a radioactive component. Mixed waste is regulated under both RCRA and the Atomic Energy Act.

In California, businesses that generate hazardous waste are divided into one of two categories. A small-quantity generator (SQG) generates less than 1,000 kilograms (2,200 pounds) per month, while a large-quantity generator (LQG) generates more than 1,000 kilograms per month of non-acute RCRA hazardous waste, more than 1 kilogram of RCRA acute hazardous waste (listed in 40 CFR Part 261.31 or 261.33(e)), or more than 100 kilograms of residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill, into or on any land or water, of any RCRA acutely hazardous waste.

Generators of hazardous waste must register with either EPA or DTSC and receive a Hazardous Waste Identification Number. If a facility generates more than 100 kilograms of RCRA hazardous waste and/or 1 kilogram of acutely hazardous waste per month, it must obtain a federal EPA ID number from EPA; if it generates less than these amounts, it must obtain a State EPA ID number from DTSC. The EPA ID number enables regulators to track the waste from its origin to final disposal, a process referred to as “cradle to grave.”

All hazardous waste transporters and permitted treatment, storage, and disposal facilities (TSDFs) must have EPA ID numbers. In general, hazardous waste generators must have an EPA ID number before a registered hazardous waste transporter will accept their waste for shipment. A Uniform Hazardous Waste Manifest must accompany most hazardous waste that is shipped off site. The manifest is the shipping document that travels with hazardous waste from the point of generation, through transportation, to the final TSDF. Each party in the chain of shipping, including the generator, signs and retains one of the manifest copies, creating a cradle-to-grave tracking of the hazardous waste. The manifests are recorded, tracked, and regulated on the EPA’s e-Manifest tracking system launched on June 30, 2018 in accordance with the Hazardous Waste Electronic Manifest Establishment Act passed by Congress on October 5, 2012.

Comprehensive Environmental Response, Compensation and Liability Act

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (42 U.S.C. §9601 *et seq.*), also known as Superfund, provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, EPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. Superfund provides funding for the cleanup of hazardous waste and spill sites when responsible parties cannot be identified or located, or when they fail to act. The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country and added additional enforcement authorities and technical requirements to the legislation. SARA also authorized the Emergency Planning and Community Right-to-Know Act.

Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 U.S.C. §11001 *et seq.*) was passed by Congress to help local communities protect public health, safety, and the environment from chemical hazards. EPCRA requires federal, state and local governments; Native American tribes; and industrial facilities to report on their use of hazardous and toxic chemicals and any releases into the environment of these substances.

EPCRA requires each state to appoint a State Emergency Response Commission (SERC). The SERCs are required to divide their states into regional Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. Each LEPC must develop an emergency response plan, review the plan at least annually, and provide information about chemicals in the community to citizens. Plans are developed by LEPCs with the required input and participation of stakeholders, including fire fighters, police officials, health officials, government and media representatives, community groups, industrial facility operators, and emergency managers. In California, there are six Emergency Planning Districts. The City of Alameda is located in Region II, which includes 16 counties, including all coastal counties from Monterey in the south to Del Norte at the State's northern border, as well as Lake, Napa, Solano, Contra Costa, Alameda, Santa Clara, and San Benito counties. The six Emergency Planning Districts also correspond to the State's emergency response Mutual Aid Regions administered by the Governor's Office of Emergency Services (Cal OES). In California, many EPCRA requirements are fulfilled by the State's long-standing Certified Unified Program Agencies (CUPAs).

Hazardous Materials Transportation Act

The federal Hazardous Materials Transportation Act (HMTA) (49 U.S.C. §5101 *et seq.*) of 1975 is the primary federal statute regulating the transportation of hazardous materials in the United States, and encompasses hazardous materials transportation by truck, train, aircraft, and ship. Its stated purpose is to "protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce." The HMTA preempts state and local laws unless they are equally or more stringent than the HMTA.

Materials or classes of material designated as hazardous by the Secretary of Transportation—including explosives; radioactive materials; infectious substances; flammable or combustible liquids, solids, or gases; toxic, oxidizing, or corrosive materials; compressed gases; and hazardous wastes as defined by EPA regulations—are subject to extensive regulations pertaining to packaging requirements, registration, operational rules, training and security, and emergency response.

The hazardous materials regulations under the purview of the HMTA are administered by the Pipeline and Hazardous Materials Safety Administration (PHMSA). Enforcement authority is shared by PHMSA, Federal Motor Carrier Safety Administration (FMCSA), Federal Railroad Administration (FRA), Federal Aviation Administration (FAA), and U.S. Coast Guard (USCG), and each of these agencies promulgates its own set of regulations governing transportation of hazardous materials. Additional regulations have been established by the U.S. Department of Transportation (DOT) at Code of Federal Regulations (CFR) Title 49, Sections 172, 173, 177, and 397.

There have been two major amendments to the HMTA since its passage, the Hazardous Materials Transportation Uniform Safety Act of 1990 and the Hazardous Materials Transportation Authorization Act of 1994, both of which broadened the authority of the HMTA.

Occupational Safety and Health Administration

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) regulates all construction work where an employee may be exposed to lead under Code of Federal Regulations (CFR) Part 1926.62. (OSHA regulates non-construction employee exposure to lead under CFR Part 1910.1025.) Lead is a highly toxic metal that was a common ingredient in paint until it was banned from residential paint in 1978. Exposure to lead-based paint (LBP) has been linked to learning disabilities and behavioral problems in children, who are particularly susceptible. Lead may also cause brain damage, kidney damage, seizures, and even death in extreme cases.

The OSHA lead regulations govern a wide range of activities, including demolition or salvage of structures, new construction, cleanup and abatement, maintenance, installation of products containing lead, transportation and disposal of materials containing lead, and more. The regulations limit employee exposure to lead to a maximum of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air averaged over an 8-hour shift, referenced as the Permissible Exposure Limit (PEL). Where employees may be exposed to lead levels in excess of the PEL, an exposure assessment must be performed. A variety of protective measures are required, depending on exposure level, such as appropriate respiratory protection, personal protective clothing and equipment, clean change areas, special hand washing and/or shower facilities, biological monitoring of blood levels, and more.

At the State level, the OSHA regulations are mirrored in California's regulations promulgated in California Code of Regulations (CCR) Title 8, Section 1532.1, administered by the Division of Occupational Safety and Health's (Cal/OSHA) Department of Industrial Relations.

State

Unified Program

In January 1996, Cal EPA adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, referred to as the Unified Program. The Unified Program is intended to ensure consistency throughout the State in the local implementation of hazardous waste and hazardous materials administrative requirements, permits, inspections, and enforcement. CalEPA oversees the Statewide implementation of the Unified Program and its 81 certified local agencies, known as Certified Unified Program Agencies (CUPAs), which apply regulatory standards established by the Governor's Office of Emergency Services (Cal OES), the Department of Toxic Substances Control (DTSC), the Office of the State Fire Marshal (OSFM), the State Water Resources Control Board (State Water Board), and CalEPA. The designated CUPA for businesses in the City of Alameda is the Alameda County Department of Environmental Health (ACDEH).

The Unified Program consolidates the administration and regulation of the following environmental and emergency management programs:

- Hazardous Waste Generator Program and On-Site Hazardous Waste Treatment (Tiered Permitting) Program (Health and Safety Code Division 20, Chapter 6.5 and California Code of Regulations, Title 22, Division 4.5);
- Aboveground Petroleum Storage Act (APSA) Program (Health and Safety Code Division 20, Chapter 6.67, Section 25270.5(c));
- Underground Storage Tank Program (Health and Safety Code Division 20, Chapter 6.7 and California Code of Regulations, Title 23, Chapters 16 and 17);
- California Accidental Release Prevention (CalARP) Program (Health and Safety Code Division 20, Chapter 6.95, Article 2 and the California Code of Regulations, Title 19, Sections 2735.1-2785.1);
- Hazardous Materials Release Response Plans and Inventories (Business Plans) Program (Health and Safety Code Division 20, Chapter 6.95, Article 1, Sections 25500-25519);
- Hazardous Materials Management Plan (HMMP) and Hazardous Material Inventory Statements (HMIS) (California Fire Code Title 24, Part 9, Sections 2701.5.1 and 2701.5.2); and
- Areas Plans for Hazardous Materials Emergencies (Health and Safety Code Division 20, Chapter 6.95, Sections 25500-25519 and California Code of Regulations, Title 19, Division 2, Chapter 4, Sections 2620-2734).

Department of Toxic Substances Control

The mission of the Department of Toxic Substances Control (DTSC) is to protect California's people and environment from harmful effects of toxic substances by restoring contaminated resources, enforcing hazardous waste laws, reducing hazardous waste generation, and encouraging the

manufacture of chemically safer products. DTSC administers the following environmental programs:

- **Brownfields and Environmental Restoration Program**, which oversees the investigation and cleanup of contaminated properties.
- **Hazardous Waste Management Program**, which administers hazardous waste facility permits, conducts regular and targeted inspections of facilities that manage hazardous waste, responds to complaints of illegal storage/disposal of hazardous waste or other illegal activities, and assists local law enforcement agencies with hazardous waste investigations.
- **Office of Environmental Justice and Tribal Affairs** is a program intended to enhance protections for vulnerable communities from environmental hazards and ensure that those most impacted by multiple sources of pollution have a voice in the decision-making process.
- **Safer Products and Workplaces Program** is tasked with managing the Safer Consumer Products Program (SCP), which seeks to integrate safer chemicals in consumer products, and the Health and Safety Branch, which provides training and support to ensure the highest level of protection to DTSC staff operating in the field and in DTSC offices.
- **Environmental Chemistry Laboratory** operates branch laboratories in Berkeley and Pasadena staffed by 50 DTSC scientists and support staff and 10 grant-funded visiting scholars who carry out DTSC's work in the Analytical Chemistry, Environmental Chemistry, and Biomonitoring programs.

DTSC's extensive hazardous waste regulations are promulgated at California Code of Regulations Title 22, Division 4.5. Among the many issues addressed by the regulations, they establish standards for the following:

- Identification and Listing of Hazardous Waste
- Generators of Hazardous Waste
- Transporters of Hazardous Waste
- Owner/Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities
- Recyclable Hazardous Waste
- Military Munitions
- Land Disposal Restrictions
- Hazardous Waste Permit Program
- Enforcement, Inspections, and Informant Rewards
- Universal Waste Management
- Management of Used Oil
- Waste Minimization
- Management of Tanks

- Best Management Practices for Perchlorate Materials
- Selection and Ranking Criteria for Hazardous Waste Sites Requiring Remedial Action
- Prohibited Chemical Toilet Additives
- Requirements for Management of Fluorescent Light Ballasts which Contain Polychlorinated Biphenyls (PCBs)
- Hazardous Waste Environmental Technology Certification Program
- Site Remediation

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) regulates and enforces workplace health and safety regulations established in Title 8 of the California Code of Regulations. Title 8 requirements protect workers from exposure to hazardous materials and contamination during demolition, excavation, and construction on development sites. Cal/OSHA regulations include procedures for safe handling of asbestos-containing building materials (ACBM) and lead-based paint (LBP) during building demolition or renovation of buildings. Cal/OSHA regulations are generally more stringent than federal OSHA regulations.

Cal/OSHA regulations pertaining to the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Additional hazard communication program regulations include requirements for identifying, labeling, and handling hazardous substances as well as procedures for communicating hazard information relating to hazardous substances. The program requires Materials Safety Data Sheets (MSDS) that identify the hazardous characteristics of chemicals to be on site where the materials are used and available for review by employees. These regulations also require documentation of training programs and preparation of emergency action plans that detail escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation.

Title 8 Cal/OSHA regulations include special provisions for hazard communication to employees in research laboratories, including training in chemical work practices. Specific, more detailed training and monitoring is required for the use of carcinogens, ethylene oxide, lead, asbestos, and certain other chemicals listed in 29 CFR. Emergency equipment and supplies, such as fire extinguishers, safety showers, and eye washes, must also be provided and maintained in accessible places.

Similar to federal regulations, Cal/OSHA includes detailed requirements for worker protection during any maintenance, renovation, or demolition activity that could disturb ACBMs, to ensure that workers are not exposed to asbestos. Exposure to ACBMs is also regulated by the Bay Area Air Quality Management District, as discussed below under Local/Regional regulations.

Lead-Based Paint

Cal/OSHA regulates all construction work where an employee may be exposed to lead under California Code of Regulations (CCR) Title 8, Section 1532.1. Lead is a highly toxic metal that was a common ingredient in paint until it was banned from residential paint in 1978. Exposure to lead-based paint (LBP) has been linked to learning disabilities and behavioral problems in children, who are particularly susceptible. Lead may also cause brain damage, kidney damage, seizures, and even death in extreme cases.

The Cal/OSHA lead regulations govern a wide range of activities, including demolition or salvage of structures, new construction, cleanup and abatement, maintenance, installation of products containing lead, transportation and disposal of materials containing lead, and more. The regulations limit employee exposure to lead to a maximum of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air averaged over an 8-hour shift, referenced as the Permissible Exposure Limit (PEL). Where employees may be exposed to lead levels in excess of the PEL, an exposure assessment must be performed. A variety of protective measures are required, depending on exposure level, such as appropriate respiratory protection, personal protective clothing and equipment, clean change areas, special hand washing and/or shower facilities, biological monitoring of blood levels, and more.

The Cal/OSHA lead regulations mirror the federal regulations of the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA), which are found at Code of Federal Regulations (CFR) Part 1926.62. (OSHA regulates non-construction employee exposure to lead under CFR Part 1910.1025.)

Governor's Office of Emergency Services

The Office of Emergency Services (Cal OES) is charged with preparing for, protecting against, responding to, recovering from, and mitigating the impacts of all hazards and threats, including threats to homeland security as well as natural disasters. Cal OES was created by the California Emergency Services Act of 1970, which also required the preparation of a State of California Emergency Plan (SEP). The latest SEP was adopted in 2017. Pursuant to Government Code Section 8568, each California city, county, special district, or other local government agency is charged with implementing the SEP, which describes methods for conducting emergency operations, the process for rendering mutual aid, emergency services of government agencies, how resources are mobilized, how the public is informed, and how continuity of government is maintained during emergency. The SEP outlines actions to reduce risk from hazards and to prepare and recover from disasters.

The 2017 SEP establishes the California Emergency Support Functions (CA-ESFs), which are 18 disciplines essential to address emergency management needs. CA-ESFs are each led by a State agency and represent an alliance of State government and other stakeholders with similar functional responsibilities. The CA-ESFs and their allied lead State agency are listed in Table HM-1.

Table HM-1
California Emergency Support Functions

Number	Emergency Support Function	Lead State Agency
CA-ESF1	Transportation	California State Transportation Agency
CA-ESF2	Communication	Governor's Office of Emergency Services
CA-ESF3	Construction and Engineering	Government Operations Agency
CA-ESF4	Fire and Rescue	Governor's Office of Emergency Services
CA-ESF5	Management	Governor's Office of Emergency Services
CA-ESF6	Care and Shelter	California Health and Human Services Agency
CA-ESF7	Resources	Government Operations Agency
CA-ESF8	Public Health and Medical	California Health and Human Services Agency
CA-ESF9	Search and Rescue	Merged with CA-ESF13 and CA-ESF4
CA-ESF10	Hazardous Materials	California Environmental Protection Agency
CA-ESF11	Food and Agriculture	California Department of Food and Agriculture
CA-ESF12	Utilities	California Natural Resources Agency
CA-ESF13	Law Enforcement	Governor's Office of Emergency Services
CA-ESF14	Recovery	Governor's Office of Emergency Services
CA-ESF15	Public Information	Governor's Office of Emergency Services
CA-ESF16	Evacuation	Merged with CA-ESF13/Law Enforcement
CA-ESF17	Volunteer/Donations Management	California Volunteers
CA-ESF18	Cybersecurity	Governor's Office of Emergency Services

Source: Cal OES, 2017

In addition to the CA-ESFs, the Governor may call upon the services, resources, and capabilities of the 125 State agencies, departments, offices, boards, commissions, councils, and authorities in times of emergency. The SEP describes key agencies and departments that have primary or support roles in an emergency. Even those State agencies not specifically listed in the plan may be called upon to carry out activities necessary to mitigate the effects of an emergency.

Local/Regional

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) regulates exposure to asbestos during demolition, renovation, milling, and manufacturing activities under Regulation 11, Rule 2, adopted on December 15, 1976. Asbestos was common in a variety of construction materials until the late 1970s, and can be found in building insulation (both spray-on and blanket types), pipe wraps, floor and ceiling tiles, tile mastics (adhesives), wallboard, mortar, roofing materials, and more. Asbestos is a known human carcinogen, and inhalation exposure to asbestos fibers or dust, known as friable asbestos, has been linked to an increase risk of lung cancer and mesothelioma, which is a relatively rare cancer of the thin membranes that line the chest and abdomen. Inconclusive evidence has also linked asbestos exposure to a variety of other cancers. With cumulative exposure, asbestos fibers can cause inflammation and scarring of the lungs, resulting in breathing difficulties. Friable asbestos—which can be crumbled, pulverized, or reduced to powder by hand pressure when dry—can be inhalable when airborne, and is particularly hazardous. Naturally-occurring asbestos (NOA) in the soil or bedrock can also be hazardous.

BAAQMD oversight of asbestos exposure applies to Regulated Asbestos-Containing Material (RACM), which includes friable asbestos; Category I non-friable asbestos that may become friable or that has been subjected to sanding, drilling, grinding, cutting, or abrading; and Category II non-friable asbestos that may become or has become crumbled, pulverized, or reduced to powder by demolition or renovation activities. Regulation 11, Rule 2 stipulates methods and procedures for demolition, renovation, removal, handling, and disposal of RACM. The BAAQMD must be notified at least 10 working days prior to renovation where the amount of RACM present is equal to or greater than 100 linear feet (30.8 meters [m]), 100 square feet (9.4 m²), or 35 cubic feet (1 m³). BAAQMD must be also notified 10 days prior to demolition activities even where no RACM is present. Regulation 11, Rule 2 also requires written notification of BAAQMD at least 45 days before excavation or disturbance of any asbestos-containing waste material that has been deposited at a waste disposal site and is covered.

Alameda County Hazardous Waste Materials Area Plan

The *Alameda County Hazardous Waste Materials Area Plan* (December 2017) was prepared to fulfill requirements of the Certified Unified Program Agency (CUPA) regulatory program previously discussed. Area Plans must be prepared by each CUPA to prepare for emergency response to a release or threatened release of a hazardous material within a city or county. In accordance with Health and Safety Code Section 25504, the Area Plan also functions as a Hazardous Materials Management Plan. Area Plans must include the following components:

- 1) Procedures and protocols for emergency response personnel, including the safety and health of those personnel;
- 2) Pre-emergency planning;
- 3) Notification and coordination of onsite activities with State, local, and federal agencies, responsible parties, and special districts;

- 4) Training of appropriate employees;
- 5) Onsite public safety and information;
- 6) Required supplies and equipment;
- 7) Access to emergency response contractors and hazardous waste disposal sites;
- 8) Incident critique and follow-up; and
- 9) Requirements for notification to the Office of Emergency Services, pursuant to Health and Safety Code Section 25510, of a hazardous materials release occurring within one-half mile of a school.

Hazardous Materials Business Plan

One of the programs administered by the Alameda County Department of Environmental Health (ACDEH), the CUPA for the City of Alameda, is the Hazardous Materials Business Plan (HMBP) program. Starting July 1, 2020, businesses must submit a complete HMBP on an annual basis, in accordance with Chapter 6.95, Article 1 of the California Health and Safety Code (Sections 25500 through 25519). Businesses storing hazardous materials, hazardous waste, or extremely hazardous substances at reportable quantities, are required to prepare and electronically submit an HMBP to the California Environmental Reporting System (CERS) administered by the ACDEH. The general reportable quantities are equal to or greater than 55 gallons of a liquid, 200 cubic feet of a gas, and 500 pounds of a solid, stored at any time during the reporting year. The requirements apply equally to storage of hazardous materials in underground storage tanks (USTs) and above-ground storage tanks (ASTs). Additional thresholds and requirements apply to extremely hazardous materials and radioactive materials.

A business can be exempted from the HMBP requirement if the only hazardous material it stores is lubricating oil, and the volume stored does not exceed 55 gallons of each type of oil or 275 gallons of all types handled by the facility.

The purpose of the HMBP is to foster the prevention of release of hazardous materials into the workplace or environment, and to facilitate the mitigation of damage to the health and safety of persons and the environment in the event an accidental release occurs. The HMBP provides information on the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of on a site. It must include both an Employee Training Plan and an Emergency Response/Contingency Plan detailing procedures to be followed in the event of a release or threatened release of hazardous materials. The HMBP must provide a site map showing locations of hazardous materials handling and storage areas, emergency response equipment, emergency shutoffs, staging areas, and more.

The information presented in the HMBP is intended for use by firefighters and other emergency responders, health officials, planners, public safety officers, health care providers, and regulatory agencies, as well as interested members of the public. The HMBP must be revised within 30 days of introducing a new hazardous material to a facility, increasing the quantity of an existing material by 100 percent or more, or otherwise making a substantial change in operations.

Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program³ is also administered by the Alameda County CUPA. It is part of the federal program adopted by the EPA pursuant to the Clean Air Act. The CalARP Program was implemented on January 1, 1997 and replaced the California Risk Management and Prevention Program (RMPP). The purposes of the CalARP program are to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handle more than a threshold quantity of a regulated substance listed in the regulations to develop a Risk Management Plan (RMP). The threshold quantities vary by the substance, and may range from 1 pound to 10,000 pounds.

An RMP is a detailed engineering analysis of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. The RMP must contain detailed information including, but not limited to:

- regulated substances held onsite at the stationary source;⁴
- offsite consequences of an accidental release of a regulated substance;
- accident history at the stationary source;
- emergency response program for the stationary source;
- coordination with local emergency responders;
- hazard review or process hazard analysis;
- operating procedures at the stationary source;
- training of the stationary source's personnel;
- maintenance and mechanical integrity of the stationary source's physical plant; and
- incident investigation.

As part of the CalARP program, ACDEH performs comprehensive compliance inspections of facilities in the program at least once every three years to ensure compliance with the CalARP program as well as with other provisions of the Unified Program previously discussed. ACDEH also conducts incident investigations of major chemical accidents or releases and performs unannounced inspections of industrial facilities.

³ Health and Safety Code Division 20, Chapter 6.95, Article 2 and the California Code of Regulations, Title 19, Sections 2735.1-2785.1.

⁴ *Stationary source*, as defined at 40 CFR 68.3, means any buildings, structures, equipment, installations, or substance-emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person or persons under common control), and from which an accidental release may occur.

OAK Airport Land Use Compatibility Plan

As shown on Figure HM-1, Bay Farm Island and the eastern end of Alameda Island are located within the Airport Influence Area (AIA) surrounding Oakland International Airport, and new development within these areas would therefore be subject to the provisions of the *Oakland International Airport Land Use Compatibility Plan* (ALUCP).⁵ The ALUCP was adopted by the Airport Land Use Commission (ALUC) of Alameda County to coordinate State, regional, and local land use planning as it affects or pertains to airport operations. The ALUC was established in 1971 pursuant to the California State Aeronautics Act to “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.”⁶ Each ALUC is responsible for developing an airport land use compatibility plan for achieving land use compatibility between public use airports within their jurisdiction and their environs. In 1986 the Alameda County ALUC adopted an ALUCP for the three public use airports in the County: Livermore Municipal Airport (LVK), Hayward Executive Airport (HWD), and Oakland International Airport (OAK). The ALUC subsequently developed separate compatibility plans for each airport that supersede the prior document.

The ALUC has statutory authority to review local general plans and specific plans affecting the AIA to ensure their consistency with the ALUCP. When ALUC review is required pursuant to the Public Utilities Code, the determination by the ALUC is binding unless overruled by the local agency, which requires a two-third’s vote by the agency’s governing body, accompanied by specific findings stipulated in the Public Utilities Code.⁷ In addition to the adoption of plans, zoning ordinances, and building regulations, the ALUC must also review general plan and specific plan amendments for consistency with the ALUCP.

Conversely, State law requires that existing, adopted local plans be consistent with an adopted ALUCP.⁸ When the ALUC adopts or amends the ALUCP, within 180 days each local jurisdiction must amend its general plan and any applicable specific plan to be consistent with the ALUCP, or adopt findings and override the ALUC in accordance with Section 21676(b) of the Public Utilities Code. The consistency criteria are listed in Section 2.7.3.4 of the ALUCP.

In addition to its authority over general and specific plans, the ALUC requests local agencies to submit individual land use development proposals within the Airport Influence Area for review by the Commission. Submittal requirements are listed in Section 2.7.5.1 of the ALUCP. Although the

⁵ Alameda County Airport Land Use Commission, *Oakland International Airport–Airport Land Use Compatibility Plan*, December 2010.

⁶ California Public Utilities Code, Section 21670(a)(2).

⁷ California Department of Transportation (Caltrans), *California Airport Land Use Planning Handbook*, Section 1.3: ALUC Compatibility Planning Process Overview, October 2011.

⁸ California Government Code, Section 65302.2.

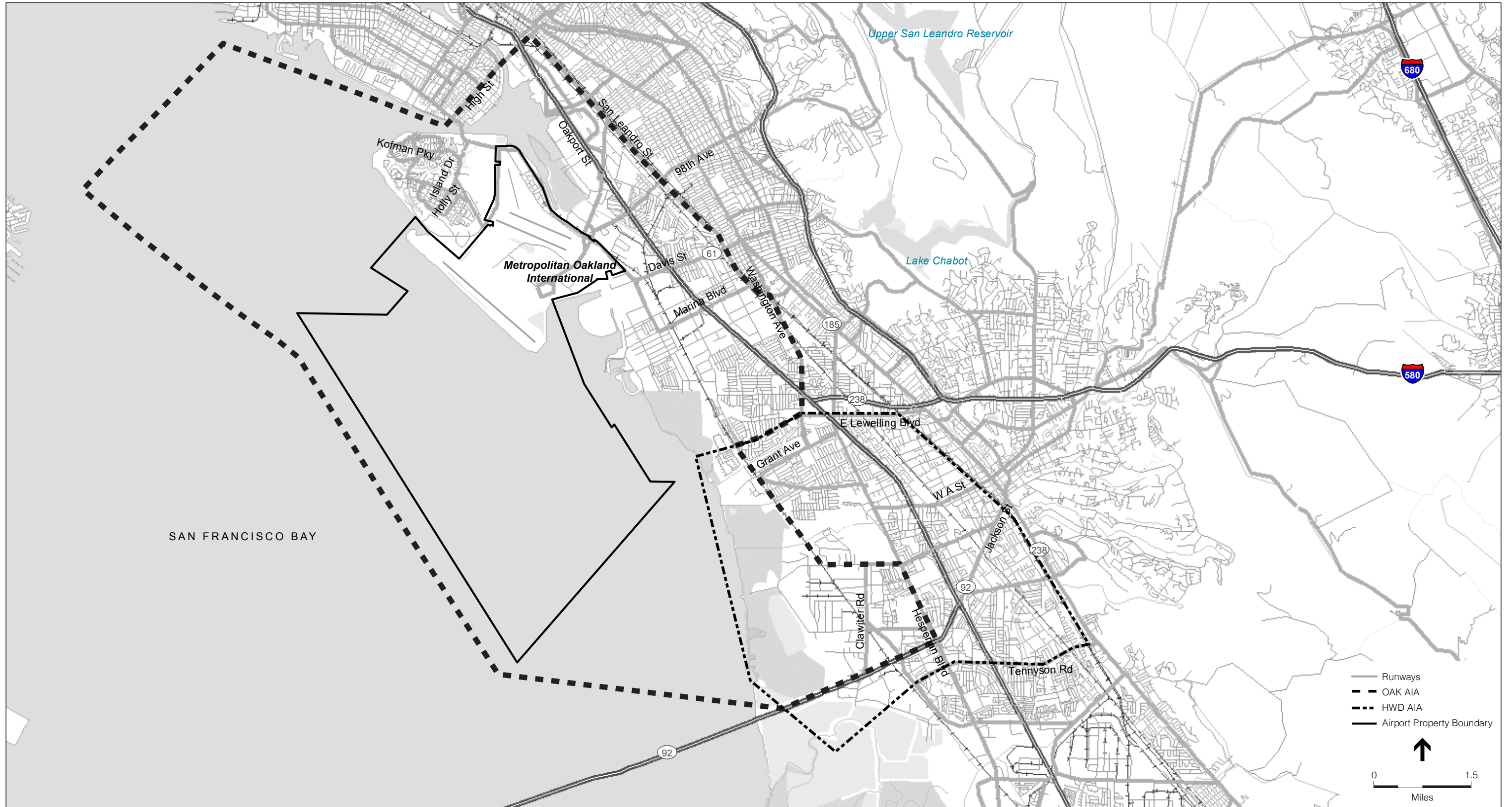


Figure HM-1

Airport Influence Area of Oakland International Airport

Source: ESA Airports, ESRI, OAK Airport Master Plan

ALUC makes the consistency determination for projects submitted for review, the affected local jurisdiction is responsible for enforcing compatibility with the ALUCP. A determination of ALUCP by the ALUC may be subject to compliance with conditions the ALUC may impose, such as restricting the height of a proposed structure.

The ALUCP lists a variety land uses and land use actions that should be referred to the ALUC for a determination of consistency with the ALUCP prior to their approval by the local jurisdiction; they generally encompass any type of use that could pose a hazard to air navigation. Those categories with potential relevance to the proposed project include:

- Proposed residential development within the AIA, including land divisions, consisting of five or more dwelling units or parcels;
- Any discretionary development proposal within the AIA for projects having a building floor area of 20,000 square feet or greater;
- Proposed land acquisition within the AIA by a government or private entity for any facility that would act as an indoor or outdoor assembly area for a large number of people (i.e., meeting halls, parks, correctional institutions, sport facilities, etc.);
- Any obstruction reviewed by the Federal Aviation Administration (FAA) in accordance with Federal Aviation Regulations (FAR) Part 77 that receives a finding other than “not a hazard to air navigation;”
- Any industrial use within the AIA having the potential to interfere with, or create hazards to, aircraft in flight, including (but not limited to):
 - Electrical or other interference with radio communications or navigational signals;
 - Lighting which could be mistaken for airport lighting;
 - Thermal plumes;
 - Glare in the eyes of pilots or aircraft using the airport; or
 - Impaired visibility near the airport from smoke or steam.
- Other non-residential development including, but not limited to:
 - Institutional uses (schools, prisons);
 - Utility uses (utility poles, electrical substations, water supply and treatment facilities, and power plants);
 - Healthcare uses (hospitals, respite facilities); and
 - Open spaces (parks, golf course, agricultural areas, wildlife refuges, or other forms of land use that could serve as habitat for potentially hazardous wildlife).
- Projects within the AIA with the potential to attract an increased number of birds to the vicinity of an airport, such as those with large water features, ponds, etc.
- Regardless of location within Alameda County, any proposal for construction or alteration of a structure (including antennas) taller than 200 feet above the

ground level at the site. (Such structures also require notification to the Federal Aviation Administration in accordance with Federal Aviation Regulations, Part 77, Paragraph 77.13(a)(1).)

- Any other proposed land use action, as determined by the local planning agency, involving a question of compatibility with airport activities.

When referring projects to the ALUC for review, project sponsors must submit a variety of information and documentation, including a full project description and map of the geographic area and its relation to the safety zones defined by the ALUCP, a description of the proposed uses and densities, an analysis of the maximum elevation of proposed improvements, and a copy of the environmental impact assessment document prepared pursuant to CEQA and/or the National Environmental Policy Act (NEPA). Following review of the submittal, the ALUC Administrative Officer may find the project consistent with the ALUCP, find it consistent with the ALUCP only subject to stipulated (and limited in scope) conditions, or find it inconsistent with the ALUCP, identifying the sources of conflict. Although State law does not specify a time frame for ALUC review of individual projects, it is the policy of the Alameda County ALUC to conduct such reviews within 21 days of receiving a complete application. If the Administrative Officer refers the project the full ALUC for review, a hearing must be scheduled within 60 days of the referral.

Airport Planning Boundaries

There are a number of planning boundaries surrounding Oakland International Airport that are pertinent to future development that could occur under the proposed General Plan. As noted above, land use decisions affecting property within the **Airport Influence Area (AIA)**—the area in which current or future airport-related noise, overflight, safety, and/or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses—are subject to the policies of the ALUCP. In most circumstances, the AIA is designated by the ALUC as its planning area boundary for the airport and the two terms can be considered synonymous.

Noise contours depicting **noise compatibility zones** are also designated around Oakland International Airport, corresponding to 60-, 65-, 70-, and 75-decibel (dB) Community Noise Equivalent Level (CNEL) exposure contours. More recent noise contour mapping excludes the 60-dB contour, as illustrated on Figure HM-2. The noise compatibility zones were established to prevent the development of noise-sensitive land uses in areas surrounding the airport that are exposed to significant levels of aircraft noise. Although the southern portion of Bay Farm Island is located within the 65-dB contour, most of the City lies outside the airport's noise compatibility zones.

The ALUCP also delineates seven different **safety zones** around the airport that are related to different levels of risk acceptability. These zones, shown on Figure HM-3 were determined by risk contours that were derived from accident distribution patterns culled from a national accident database, focusing on data from general aviation airports with similar operational characteristics to those at Oakland Airport, such as aircraft types, runway lengths, traffic patterns, etc. The risk zones are intended to delineate and rank the areas on and surrounding the airport where aircraft



Figure HM-2

Noise Compatibility Zones Surrounding Oakland International Airport

Source: Port of Oakland

accidents are most likely to occur, and to prevent the encroachment of incompatible land uses into those areas of greatest risk. Some land uses, such as schools and hospitals, represent unacceptable risks when located near aircraft operation areas and are prohibited.

The following risk zones, illustrated on Figure HM-3, have been established around the airport runways:

- Zone 1: Runway Protection Zones
- Zone 2: Inner Approach/Departure Zones
- Zone 3: Inner Turning Zones
- Zone 4: Outer Approach/Departure Zones
- Zone 5: Sideline Zones
- Zone 6: Traffic Pattern Zone
- Zone 7: Other Airport Environs, outside of Zones 1-6 but within the AIA

As shown on Figure HM-3, most of Bay Farm Island is located within Safety Zone 6, while some of the residential areas, parks, and part of Chuck Corica Golf Course are within Zones 1, 2, 3, or 4. Within Safety Zone 1, all structures except those with aeronautical functions are prohibited.

Noise Compatibility Criteria

Table 3-1 of the ALUCP lists compatibility criteria for land uses within the different noise exposure zones surrounding Oakland International Airport, similar to the Land Use Noise Compatibility Matrix included in the *State of California General Plan Guidelines (2017)* published by the Governor's Office of Planning and Research, and which is reflected in the Noise and Safety Element of the proposed Alameda General Plan. The criteria for some of the more likely future development on Bay Farm Island within Oakland Airport's noise compatibility zones include the following:

- **Residential** uses within the 60-dB noise contour are *Conditionally Acceptable*, while such uses are *Incompatible* within the 65- and 70-dB contours.
- **Office and Commercial** uses are *Compatible* within the 60-dB noise contour and *Conditionally Acceptable* within the 65- and 70-dB noise contours.
- **Light Industrial/Research and Development** uses are *Compatible* within the 60- and 65-dB noise contours and are *Conditionally Acceptable* within the 70-dB noise contour.

Conditionally Acceptable uses must be capable of attenuating exterior noise to the indoor CNEL of 45 dB, though standard construction methods will normally suffice to achieve this standard. With respect to outdoor uses, the ALUCP states that "caution should be exercised with regard to noise-sensitive uses."

The ALUCP identifies the following noise-sensitive land uses on Bay Farm Island within the AIA: Tillman Park, Leydecker Park, Godfrey Park, Doc Harrington Park, Amelia Earhart Elementary, Chinese Christian School, a daycare center, and several places of worship.

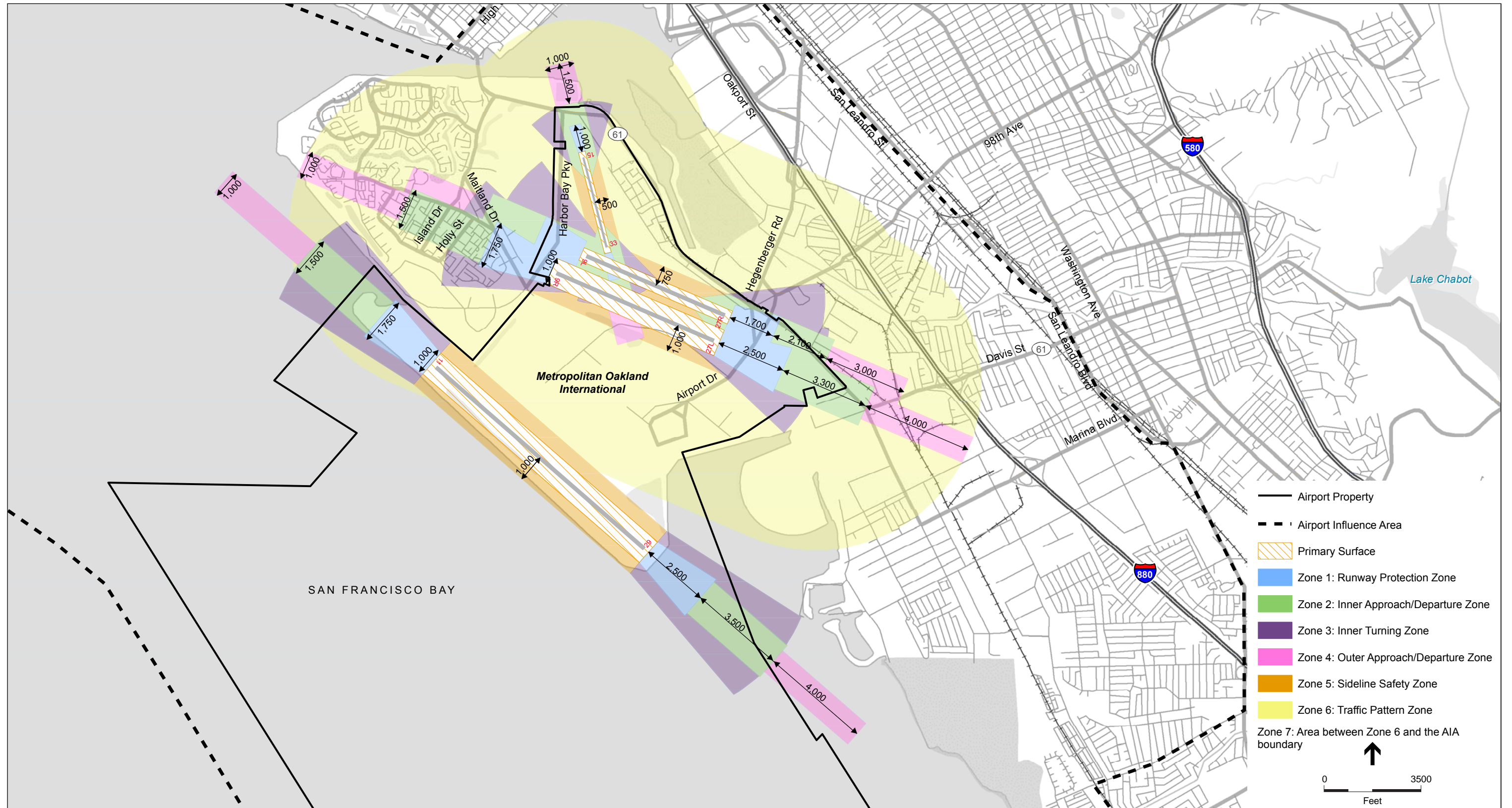


Figure HM-3

Safety Zones Surrounding Oakland International Airport

Source: ESA Airports, ESRI, OAK Airport Master Plan, 2006, Caltrans California Airport Land Use Planning Handbook, 2002

Safety Compatibility Criteria

Table 3-2 of the ALUCP lists land uses permitted within the different safety zones at Oakland International Airport, along with safety compatibility criteria. For example, the table recommends that 40 percent of the land area in Zone 2 parcels and 30 percent of the land area in Zone 3 parcels should consist of open land. For non-residential land uses, the table lists the maximum site-wide average density of 60 people per acre in Zone 2 and 100 people per acre in Zones 3 and 4, and 150 people per acre in Zone 5. There are no density or open land restrictions in Zone 6. As previously noted, no development is allowed within Safety Zone 1.

ALUCP Table 3-2 presents a lengthy list of Permitted, Conditional, and Incompatible land uses within the seven safety zones, and notes that proposed development not listed in the table shall be evaluated by comparison to a similar use. Uses identified in Table 3-2 as Incompatible should not be developed within the indicated safety zones “under any circumstances,” according to the table.

While a wide range of future development located within the AIA of Oakland Airport would be allowed under the proposed General Plan, the following selection from ALUCP Table 3-2 represents likely categories of future development. For each category, the safety compatibility criteria stipulated in Table 3-2 are noted.

- **Office Buildings:** Development in Safety Zones 2 through 5 is a Conditional use, subject to limitations on Floor Area Ratio (FAR) ranging from 0.30 to 0.74. Office development in Safety Zone 6 is unrestricted.
- **Small Eateries/Drinking Establishments:** Development in Safety Zones 3 through 5 is a Conditional use, subject to limitations on Floor Area Ratio (FAR) ranging from 0.14 to 0.21. This type of development is unrestricted in Safety Zone 6.
- **Miscellaneous Medium-Sized Businesses: Salons, Electronics Stores, Etc.:** Development in Safety Zones 2 through 5 is a Conditional use, subject to limitations on Floor Area Ratio (FAR) ranging from 0.28 to 0.69. Development in Safety Zone 6 is unrestricted.
- **Manufacturing, Research and Development:** Development in Safety Zones 3 through 5 is a Conditional use, subject to limitations on Floor Area Ratio (FAR) ranging from 0.69 to 1.03. This type of development is unrestricted in Safety Zone 6.
- **Retail Center with No Restaurant Facilities:** This use is unrestricted in Zones 3 through 6. It is Conditional in Zone 2, subject to an FAR limit of 0.23.
- **Low- and Medium-Density Residential:** These uses are Conditional in Zones 2 through 5 as infill development only, with adjacent open space of at least one-half acre, among other criteria. They are Permitted uses in Zone 6.

Imaginary Surfaces

The ALUCP incorporates federal regulations applicable to airports, specifically the Federal Aviation Regulations (FAR) Part 77 protecting airspace from encroachment by land use development or objects affecting navigable airspace. Part 77 establishes parameters for evaluating the potential hazardous effects of new construction on air navigation and identifies mitigating measures to enhance safe air navigation. Penetration of any imaginary surfaces established by FAR Part 77 would automatically characterize a structure or object as an incompatible land use; such penetration also requires notification of the Federal Aviation Administration (FAA). Deviation from the Part 77 standards does not necessarily mean that a proposed object is prohibited from construction, only that the offending object must be evaluated by the FAA and that mitigative actions, such as marking or lighting may be required. Figure HM-4 depicts the Part 77 imaginary surfaces in the vicinity of Oakland Airport.

Under new Part 77 requirements that became effective on January 18, 2011, any proponent of new construction or alterations meeting any of the following conditions must notify the Administrator of the FAA at least 45 days prior to initiation of construction if the project would have any of the following characteristics:

- Any construction or alteration that is more than 200 feet above ground level at its site;
- Any construction or alteration exceeding 200 ft above ground level;
- Any construction or alteration
 - within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.;
 - within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.;
 - within 5,000 ft of a public use heliport which exceeds a 25:1 surface.
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards;
- When requested by the FAA;
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Persons failing to comply with the provisions of FAR Part 77 are subject to Civil Penalty under Section 902 of the Federal Aviation Act of 1958, as amended and pursuant to 49 U.S.C. Section 46301(a).

Overflight Policies and Avigation Easements

To address the annoyance that can result from the overhead flight of aircraft, in addition to the noise compatibility criteria previously discussed, the ALUCP includes overflight policies that are to

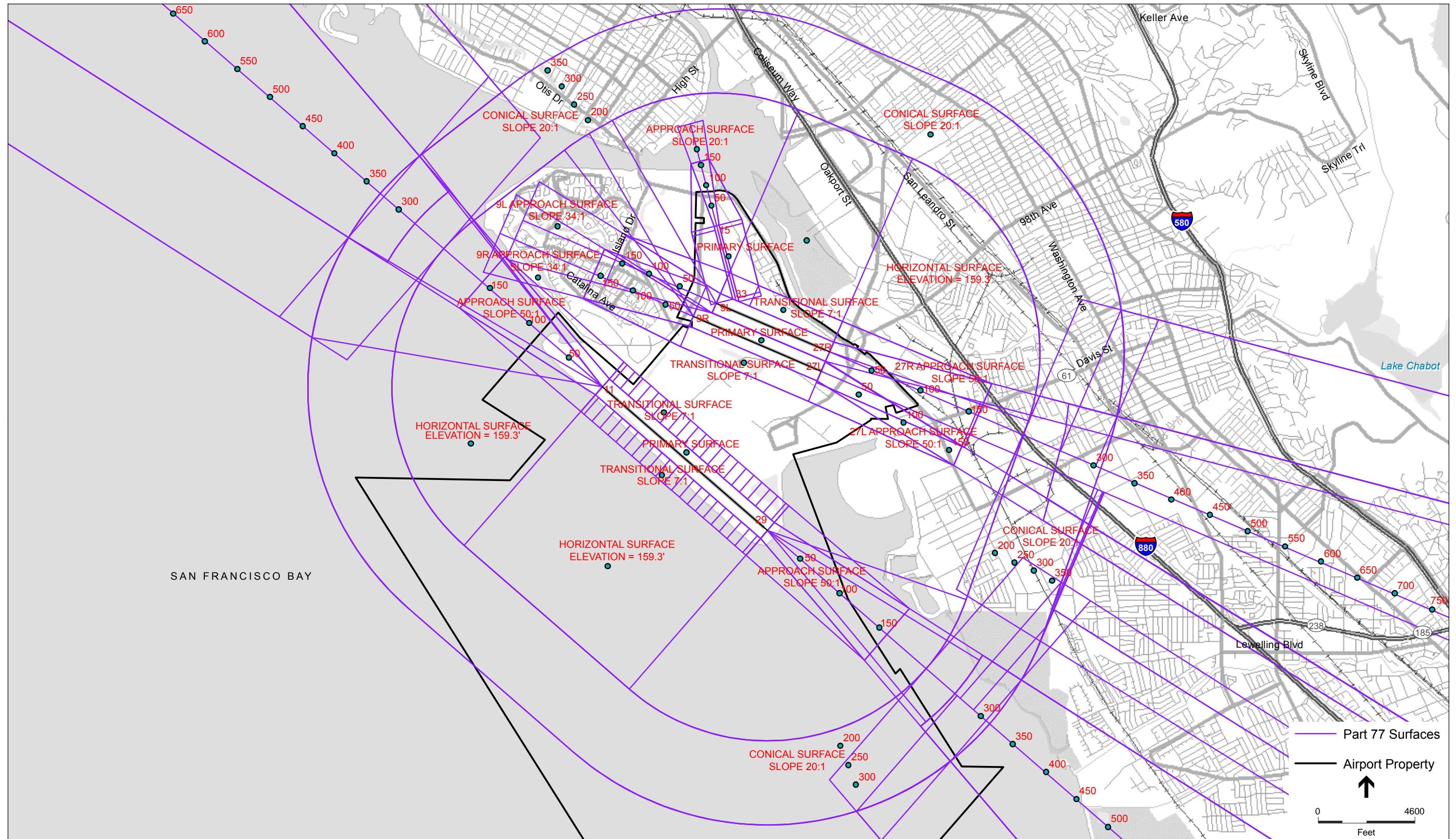


Figure HM-4

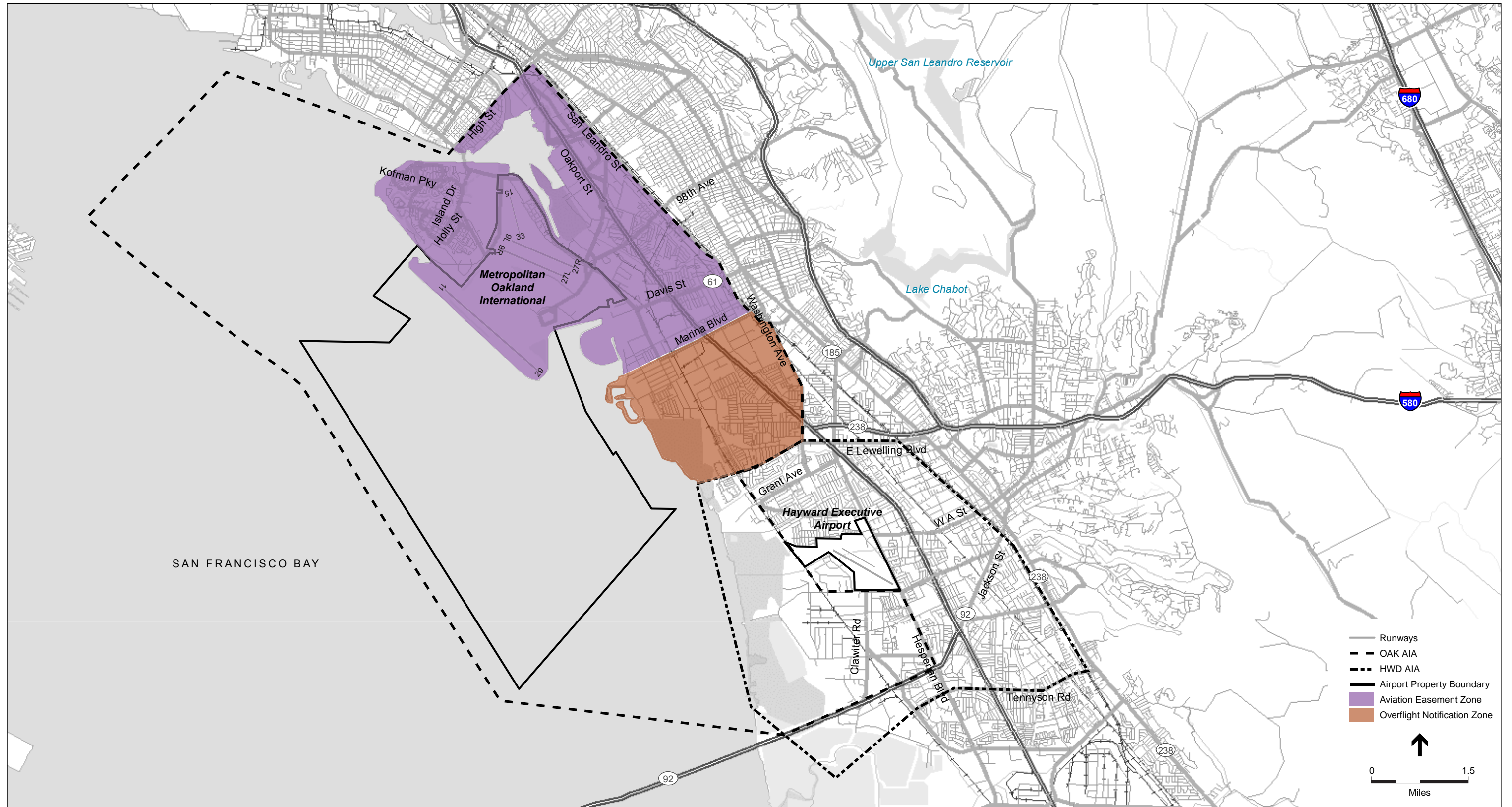


Figure HM-5

Oakland International Airport Overflight Compatibility Zones

be applied by local jurisdictions when contemplating approval of new development. The overflight compatibility policies do not restrict how land can be developed or used; rather, the policies form the requirements for notification about airport proximity and aircraft overflights. The policies apply to new development located within the overflight zones depicted on Figure HM-5. The overflight compatibility policies require disclosures about overflights on real estate transfers of residential property, with a separate notification required where an aviation easement is provided. As shown on Figure HM-5, the overflight notification zone does not extend into the City of Alameda, but the aviation easement zone encompasses all of Bay Farm Island and the eastern end of Alameda Island.

Avigation easements transfer certain property rights from the owner of a property to the owner of the airport (i.e., the Port of Oakland). ALUCs may recommend the dedication of an avigation easement as a condition for approval of development on property to restrict the heights of structures or trees. Avigation easements should be dedicated to the airport owner as a condition for any discretionary local approval of any residential or non-residential development within the avigation easement zone depicted on Figure HM-5. The avigation easement must identify the potential hazard associated with the proposed project and its location within protected airspace; identify the airport owner's right to clear or maintain the airspace from potential hazards; identify the right to mark potential obstructions and notify aviators of such hazards; and provide the right to pass within the identified airspace.

City of Alameda Local Hazard Mitigation Plan

The *City of Alameda Local Hazard Mitigation Plan* (LHMP) (June 2016) was prepared in accordance with the Disaster Mitigation Act of 2000, which required states, cities, and Indian tribes to prepare a hazard mitigation plan in order to be eligible for mitigation funding from the Federal Emergency Management Agency (FEMA). The purpose of the City's LHMP is to identify the City of Alameda's natural hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks, in order to reduce or eliminate long-term risk to people and property from natural hazards.

The LHMP attempts to identify all possible natural hazards that could occur in the City and evaluate each one according to the following metrics:

- **RISK:** For each hazard, determine the potential magnitude of the hazard and the likelihood that an event of that magnitude will happen. For example, there is an X-percent chance that an earthquake of magnitude Y will strike the East Bay within Z years and cause significant damage.
- **VULNERABILITY:** Identify all vulnerable populations in the City. This includes people who would have more difficulty preparing for or avoiding hazards, who would be harmed more by the hazard, and/or have a harder time recovering after the disaster. Identify all assets within the City that could be affected by a disaster. Both the immediate disaster response and the long-term recovery of the City are important.

- **EXPOSURE:** Determine the intersection of risk and vulnerabilities – where the people and assets are most exposed to the risks.
- **MITIGATIONS:** Determine what can be done to decrease the hazard risk, to make people and assets less vulnerable or more resilient, and to minimize exposures to hazards. Determine what the City can do and how it can be paid for. Determine what other governments, non-governmental organizations (NGOs), and the private sector can do.
- **IMPLEMENTATION:** Start a public information campaign, make changes to City codes and planning documents, assign personnel, and start to implement the mitigation strategies. Periodically, reassess and update the Local Hazard Mitigation Plan.

The LHMP functions less a regulatory instrument and more as a planning tool. It is referenced here because as part of City-sponsored projects undertaken under the proposed General Plan, the City would implement applicable mitigation strategies from the LHMP. Private landowners would also be encouraged to implement applicable mitigation strategies when they propose new or modified development consistent with the General Plan. Additionally, the proposed Health and Safety Element identifies the LHMP as a document that informs the Health and Safety Element. It is also worth noting that LHMP Mitigation Strategy III.F calls for updating the Health and Safety Element, which is the subject—along with other proposed General Plan elements—of this EIR.

The potentially significant hazards to the citizens and environment of the City of Alameda identified in the LHMP include seismic shaking from earthquakes, earthquake-induced liquefaction, coastal and non-coastal flooding, and inundation by tsunamis. Each of these hazards is also addressed in this EIR.

City of Alameda Emergency Operations Plan

The *Emergency Operations Plan* (March 2019) sets forth the City's responsibilities during emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the City in coordination and with local, State, and federal agencies. The plan establishes an emergency organization to direct and control operations during a period of emergency by assigning responsibilities to specific personnel. The plan conforms to the State-mandated Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS), as well as Alameda County's policies on emergency response and planning.

The plan provides for coordinated emergency response at all levels in compliance with the Incident Command System (ICS), which is a standardized, on-scene, all-hazards incident management approach that:

- Allows for the integration of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure;
- Enables a coordinated response among various jurisdictions and functional agencies, both public and private; and

- Establishes common processes for planning and managing resources.

The Emergency Operations Center (EOC) is the location from which the coordination of information and resources to support incident activities takes place. It provides centralized overall coordination of jurisdictional assets, departments, and incident support functions. The EOC does not directly manage or command incidents, which is done by field-level emergency responders, such as law enforcement, fire and rescue, and the Public Works Department. Initial recovery coordination is also a responsibility of the EOC. Alameda's primary EOC is located at 1809 Grand Street, but if this site is not operable, the alternate EOC is located in the basement area of the Police Administration Building at 1555 Oak Street.

The Emergency Management Plan identifies the following goals for the City during an emergency, disaster, or large-scale planned event:

- Protect the safety and welfare of residents, employees, and visitors in the City of Alameda.
- Provide for a safe and coordinated response to emergency situations.
- Protect the City's facilities, properties, infrastructure and natural resources.
- Provide continuity of government.
- Enable the City to restore normal conditions in the shortest time possible.
- Provide for interface and coordination between incident sites and the City EOC.
- Provide for the orderly conversion of pre-designated sites to community shelters, when necessary.
- Provide for interface and coordination between the City and other responders, including utilities, agencies, and non-governmental organizations (NGOs).
- Provide for interface and coordination between the City EOC and the Alameda County Operational Area (OA) EOC.
- Provide fiscally responsible stewardship of City funds and follow procedures that allow for State and Federal reimbursement.
- Plan for, prepare, respond, and recover in a way that mitigates the impact of future events.

Marsh Crust Ordinance

Most of Alameda Point and much of the area east of Main Street, west of Webster Street, and north of Ralph Appezato Memorial Parkway are within the area covered by the City's Marsh Crust Ordinance (MCO) (Alameda Municipal Code Chapter XIII, Article XVII, Section 13-56). The MCO applies to former tidal or subtidal areas in this portion of the City that were previously filled in to create dry land. Prior to digging, contractors are required to review the Marsh Crust Map, shown on Figure HM-6, that establishes threshold depths. Any excavation within the mapped Marsh Crust that will be below the applicable threshold depth requires a permit issued by the City's Chief Building Official (CBO), who will determine the depth to which excavation will be allowed. Pile

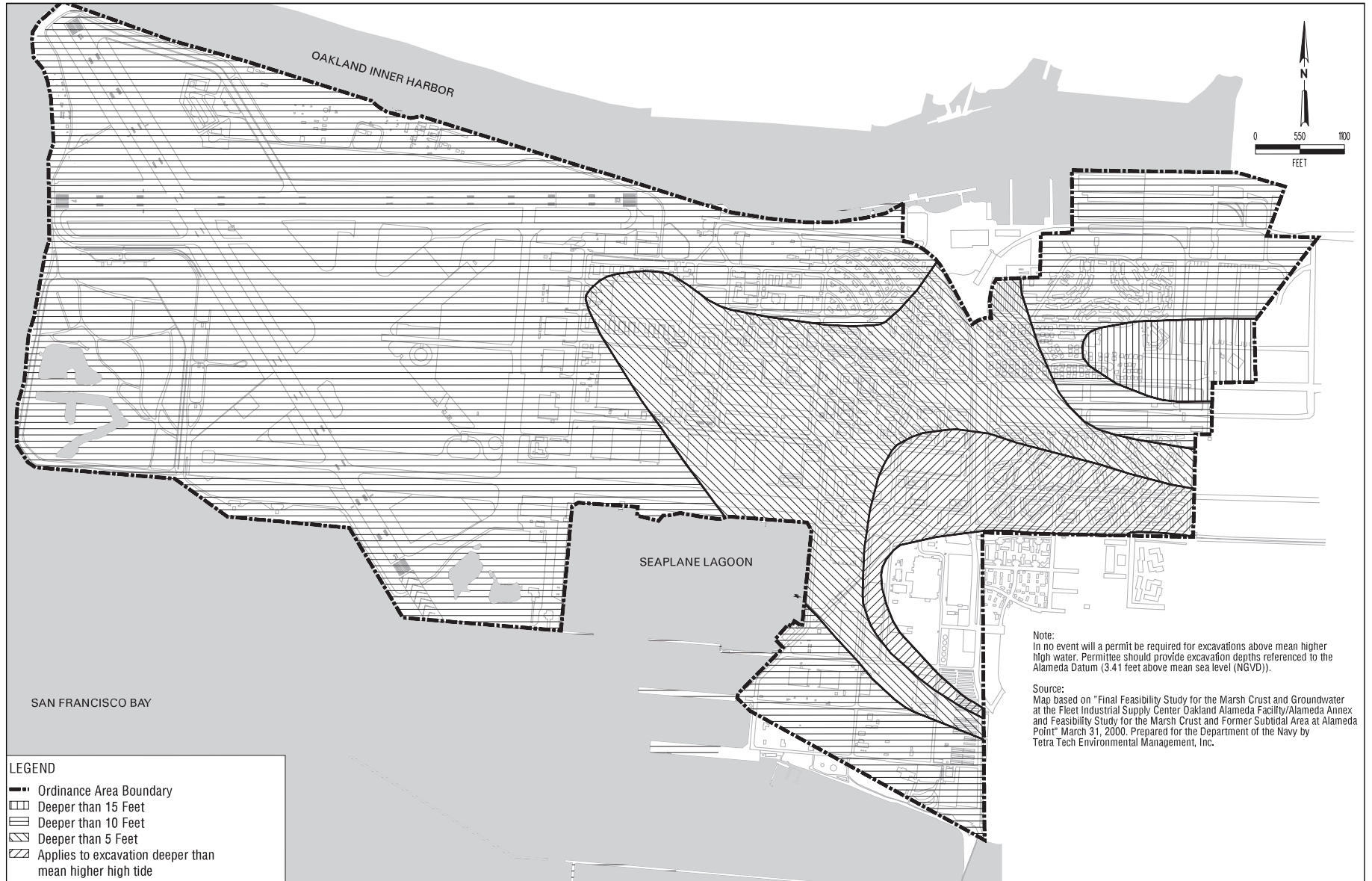


Figure HM-6

Areas Underlain by Marsh Crust in Alameda

Source: City of Alameda

driving that does not involve bringing excavated material above the threshold depth shown on the Marsh Crust map does not require a permit.

Excavated material from areas subject to the MCO must be handled and disposed of as hazardous waste unless the results of subsurface testing performed by a registered engineer or registered geologist rule out, to the satisfaction of the CBO, the presence of hazardous materials. When a Marsh Crust Permit is required, the applicant must retain the services of a certified industrial hygienist to prepare a site-specific Health and Safety Plan, subject to approval by the CBO, that identifies any special materials handling procedures to be followed throughout construction.

EXISTING CONDITIONS

Existing Hazardous Materials Contamination

CEQA requires an assessment of whether a proposed project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and whether, as a result, it would create a significant hazard to the public or the environment. The lists of hazardous materials release sites required by Section 65962.5 are compiled and updated at least annually by CalEPA, with input from other State agencies. This compilation of hazardous waste and substances sites is commonly referred to as the “Cortese List,” named after Dominic Cortese, the State legislator who enacted the statute in 1985.

The list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 actually consists of several lists, including:

- A list of hazardous waste sites and facilities compiled by the California Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code Sections 25187.5, 25220, and 25356;
- A list of contaminated water wells compiled by the California Department of Health Services (DHS) (subsequently reorganized into the California Department of Health Care Services and the California Department of Public Health) pursuant to Health and Safety Code Section 116395;
- A list of leaking underground storage tank sites and solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the State Water Resources Control Board (SWRCB) pursuant to Health and Safety Code Section 25295 and Water Code Sections 13273, 13301, and 13304; and
- A list of solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the Local Enforcement Agency (LEA) pursuant to California Code of Regulations Title 14, Section 18051. These lists are consolidated by the Department of Resources Recycling and Recovery (CalRecycle).

DTSC maintains the EnviroStor database for purposes of complying with Section 65962.5, while the SWRCB maintains the GeoTracker database. The EnviroStor database lists sites that have known or

potential contamination as well as facilities permitted to treat, store, or dispose of hazardous waste. It incorporates the following lists: Permitted Treatment, Storage, and Disposal Facilities (TSDFs); Federal Superfund sites (National Priorities List (NPL)); State Response sites, including Military Facilities and State Superfund sites; Voluntary Cleanup sites; School sites; and Corrective Action sites.

The GeoTracker database lists Leaking Underground Storage Tanks (LUST) cleanup sites, Cleanup Program Sites (formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites), military sites, land disposal sites (landfills), permitted underground storage tank sites, Waste Discharge Requirement sites, Irrigated Lands Regulatory Program sites, and DTSC cleanup and hazardous waste permit sites.

The EnviroStor and GeoTracker databases were searched during preparation of this EIR to identify sites that could pose an environmental hazard to future development allowed under the proposed General Plan. Although there were hundreds of resulting listings in the Citywide search, the majority of them had a “Case Closed” or “No Further Action” status. Appendix D lists all of the sites from both database searches that still have some type of open status, which may entail ongoing assessment or remediation.

Marsh Crust

The Marsh Crust is a layer of sediment contaminated with semi-volatile organic compounds (SVOCs) that was deposited across the tidelands and the former subtidal areas in western Alameda from the late 1800s until the 1920s. The contamination is believed to have resulted from direct discharges of petroleum products and wastes from former industrial processes into San Francisco Bay. As discussed above under Regulatory Framework, excavation within the Marsh Crust requires a permit from the City’s Chief Building Official due to the potential to release these hazardous constituents into the environment.

Wildland Fire Hazard

Though many California jurisdictions have areas of significant wildfire hazard within their boundaries, as a fully urbanized island community surrounded by water and other urban development, there is no risk of wildfire in the City of Alameda.

Government Code Section 51178 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of high fire hazard within Local Responsibility Areas (LRAs) that are not under the direct jurisdiction of CAL FIRE, where local fire-fighting agencies have primary responsibility for fire response. CAL FIRE’s mapping of Very High Fire Hazard Severity Zones (VHFHSZs) is based on data and models of potential wildland fuels over a 30- to 50-year time horizon and their expected fire behavior and burn probabilities. The City is designated as a Local Responsibility Area (LRA) by Cal FIRE, as are all of the neighboring cities, including Oakland, San

Leandro, and Emeryville. Neither Alameda nor the surrounding cities are designated as being within high or very high fire hazard zones.⁹

Aircraft Hazards

As previously discussed, Bay Farm Island and Alameda Island east of High Street are within the Airport Influence Area (AIA) of Oakland International Airport. As recognized in the ALUCP discussed above under Regulatory Setting, certain land use characteristics, particularly those that entail tall structures, including antennas, have the potential to adversely affect the safety of aircraft flying overhead. Hazards to aircraft can also be caused by electrical interference with radio communications of navigational signals, lighting that can be mistaken for airport lighting, thermal plumes from industrial processes, glare in the eyes of aircraft pilots, or impaired visibility caused by smoke or steam emitted by industrial processes. Additionally, aircraft accidents are more likely to occur during landings and take-offs, placing land uses on the ground in the vicinity of airports at greater risk of aircraft crashes.

According to the *California Airport Land Use Planning Handbook* (Caltrans, 2011), aircraft accidents typically occur along the extended runway centerline. Because aircraft accidents happen infrequently and the time, place, and consequences of their occurrence cannot be predicted, the concept of *risk* is central to the assessment of safety compatibility. From the standpoint of land use planning, two variables determine the degree of risk posed by potential aircraft accidents:

- *Accident Frequency*: Where and when aircraft accidents occur in the vicinity of an airport; and
- *Accident Consequences*: Land uses and land use characteristics that affect the severity of an accident when one occurs.

Given the consequences of aircraft accidents, the development of schools, hospitals, and other land uses with concentrated populations is generally prohibited in proximity to an airport, and even residential development is restricted. Based on research of airport accident data, the airport safety zones established around Oakland Airport, previously discussed and shown on Figure HM-3, represent decreasing levels of risk with increased distance from the airport runways and approach zones. The type and extent of new development allowed in proximity to the airport is determined by these safety zones. Table 3-2 of the ALUCP lists land uses permitted within the different safety zones at Oakland International Airport, along with safety compatibility criteria.

⁹ California Department of Forestry and Fire Protection (CAL FIRE), Alameda County Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL FIRE [map], September 3, 2008.

16.3 Standards of Significance

Appendix G of the *CEQA Guidelines* identifies a number of significant environmental impacts related to hazards and hazardous materials. A project may have a significant hazards impact if it would include any of the following:

- creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- creation of 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;
- emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment;
- being located on a site that is within the planning area of an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and, as a result, could result in a safety hazard or excessive noise 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
- exposure of people or structures, either directly or indirectly, to significant risk of loss, injury, or death involving wildland fires.¹⁰

These standards of significance are adopted for use in this EIR.

16.4 Impacts and Mitigation Measures

The assessment of hazards and hazardous materials impacts identified in this chapter is based on the standards of significance listed in Section 16.3. This section identifies hazards impacts that could result from the construction and/or operation of new land use developments that would be allowed under the proposed General Plan.

The proposed Health and Safety Element of the *Alameda General Plan 2040* identifies the policies and strategies necessary to reduce the risk of death, injuries, property damage, environmental degradation, economic and social dislocation, and excessive and harmful noise from the natural and man-made hazards and noise sources in the City of Alameda. The element describes the City's

¹⁰ Governor's Office of Planning and Research, *CEQA Guidelines*, Appendix G, Section IX, as amended December 28, 2018.

emergency management programs; identifies the seismic, geologic, flooding, and sea level rise hazards in the City; and establishes policies for:

- fire and emergency response;
- hazardous materials and waste management;
- protection from noise, including aircraft noise from Oakland International Airport; and
- protection from harmful air pollutants.

Specific policies of the Health and Safety Element that would reduce potential hazards and hazardous materials impacts and/or improve emergency response during natural and manmade disasters include the following. Additional policies related to seismic safety are listed in Chapter 14, Geology and Soils. Additional policies related to emergency fire response are listed in Chapter 6, Public Services.

Goal 1 **Minimize risks of loss of life, personal injury, property damage and environmental degradation by developing, monitoring and updating comprehensive and collaborative emergency preparedness and recovery programs.**

Policy HS-1 Maintain emergency management and disaster preparedness as a top City priority.

Actions:

- **Update Emergency Management and Operations Plan.** *Maintain and update the recommendations and standards established in the City of Alameda's Emergency Management and Operations Plan as the guide for disaster planning in Alameda.*
- **Training.** *Maintain training programs to ensure that City personnel are sufficiently prepared to respond to an emergency and staff the Emergency Operations Center.*
- **Facilities.** *Identify and publicize essential emergency facilities in the City, including shelters, evacuation routes, and emergency operation staging areas, and take the necessary actions to ensure that they will remain operational following a disaster.*
- **Exercises.** *Conduct periodic emergency response exercises to test the effectiveness of local preparedness response, recovery, and mitigation procedures.*

Policy HS-2 **Emergency Operations Center.** Continue to maintain and support the Emergency Operations Center with current technology and emergency preparedness best practices so the City is well prepared to respond to a major emergency event.

Policy HS-3 **Mutual Aid Agreements.** Coordinate local emergency preparedness efforts with the Federal Emergency Management Agency (FEMA), Coast Guard, United States Maritime Administration Ready Reserve Fleet (MARAD), the San Francisco Bay Area Water Emergency Transportation Authority (WETA), the Port of Oakland, adjacent jurisdictions, the Alameda Unified School District, the various private schools in Alameda, local hospitals, housing facilities for seniors or individuals with disabilities, and other local and regional police, fire and public health agencies in

preparation for natural and man-made disasters, and ensure that the City's disaster response communication technologies are compatible with other agency communication technologies.

Policy HS-4 Maintain and promote community programs to train volunteers, support groups for seniors and individuals with disabilities, food banks, and other local aid organizations to assist police, fire, and civil defense personnel during and after a major earthquake, fire, or flood.

Actions:

- **Volunteers.** *Maintain community-based emergency preparedness training programs targeted to neighborhoods and business groups including outreach and coordination with Voluntary Organizations Active in Disasters (VOAD) and other community based programs.*
- **Education.** *Prepare and/or make available public education and awareness materials in multiple languages on all aspects of emergency preparedness, including the type and extent of hazards in the community, measures to reduce the likelihood of damage and injury, provisions for emergency supplies, steps to take immediately after a disaster, and the locations of shelters and medical facilities.*
- **Targeted Communication.** *Engage Alamedans using a wide range of tools, languages and strategies to communicate about all types of health threats and planning, with a special emphasis on the most vulnerable people who are least likely to know about or be able to adapt to various threats.*

Policy HS-7 **Infectious Disease Preparedness.** Prepare for future outbreaks of infectious diseases and pandemics.

Actions:

- **Response Plans.** *Maintain comprehensive local response plans to infectious diseases, in consultation with Public Health Departments, focused first on protecting the most vulnerable populations from disease, displacement and other consequences of an infectious disease event.*
- **Space.** *Provide flexibility to adapt public and private space, such as public streets, parking lots, parking lanes and sidewalks to accommodate different uses such as outdoor dining, drop off and pick up zones, slow streets, and parklets that allow for increased distance between individuals to reduce risk of spreading infection.*
- **Contactless.** *Continue to modernize public facilities and equipment, such as traffic signal "push buttons," parking meters, and gates, to minimize the need for touching shared surfaces to reduce the risk of spreading infection.*
- **Digital Infrastructure.** *Continue to work with service providers to ensure that all Alameda residents and businesses are adequately and served by digital infrastructure needed to work or learn remotely.*

- **Overcrowding.** Minimize residential overcrowding by meeting local and regional housing needs.
- **Curb Flexibility.** Explore more flexible uses for curb space to facilitate parklets, outdoor dining and pickup/drop-off zones.
- **Air Quality.** Continue to work to improve indoor and outdoor air quality.

Policy HS-8 Resilience and Recovery. Develop informed long range plans to respond to economic and health crises.

Actions:

- **Data and Information.** Ensure that data collection is prioritized so that data-informed decisions are driving recovery efforts with regard to equity, prioritization of investments, infrastructure, public health and safety.
- **Budget and Prioritization.** Ensure that revenue projections are well integrated into plans and assessments are made for immediate and long-term priorities regarding what items have a direct impact on recovery, what items are required by the State, and what items should be longer-term investments.
- **Economic Recovery.** Be most responsive to the needs of the most economically vulnerable members of the community including small businesses.
- **Community Resiliency.** Plans should strive for quick and effective responses both organically from within the communities most impacted and from the City itself.

Policy HS-9 Building Standards. Maintain up-to-date local building codes that incorporate new standards for construction pertaining to development on areas of fill or underlain by bay mud or Merritt sand.

Policy HS-10 Transportation Facilities. Work with Caltrans, the Metropolitan Transportation Commission, the Alameda County Transportation Commission and other regional, state and federal partners to fund earthquake strengthening protection for critical public regional transportation facilities, such as the Posey and Webster Tubes, the Miller Sweeney Bridge and the High Street Bridge.

Policy HS-11 Life-line Standard Estuary Crossing. Work with Caltrans, Alameda County, and other regional agencies to retrofit and improve at least one estuary crossing to meet a life-line standard to ensure access to the larger region for emergency access, equipment supplies, and disaster response and recovery in the event of a major seismic event.

Policy HS-26 Fire Prevention Capabilities. Maintain the City's fire prevention, disaster preparedness, and fire-fighting and emergency medical service capabilities.

Policy HS-31 Underground Utilities. Require new development to underground utilities to minimize disruption by fire or other natural disasters.

Goal 5 **Minimize risks of loss of life, personal injury, serious illness, property damage and environmental degradation posed by the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.**

Policy HS-32 **Transportation of Hazardous Materials.** Continue to identify and assess the risks associated with various hazardous materials transported in Alameda.

Policy HS-33 **Awareness.** Increase public awareness of hazardous material use and storage in the City, the relative degree of potential health hazards, and the appropriate channels for reporting odor problems and other nuisances.

Action:

- **Education on Safe Disposal.** Promote public education about the safe disposal of household hazardous waste, such as motor oil and batteries, including the locations of designated household hazardous waste disposal sites.

Policy HS-34 **Hazardous Waste Reduction.** Work with County, regional, state and federal agencies to implement programs for hazardous waste reduction, hazardous material facility siting, hazardous waste handling and disposal, public education and regulatory compliance.

Action:

- **Landfill Methane.** Continue to remove and monitor methane gas produced as a waste product of materials decomposing in the former landfill on Doolittle Drive.

Policy HS-35 **Contaminated Sites Cleanup.** Work with County, regional, state, and federal agencies and private property owners to ensure that the necessary steps are taken to clean up residual hazardous wastes on any contaminated sites.

Action:

- **New Construction.** Require that all new construction, including construction on former industrial sites, has been cleared for residential, commercial or industrial uses from the appropriate federal, state and local agencies and acts, including the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Program, the Resource Conservation and Recovery Act (RCRA), the California Department of Toxic Substances Control (DTSC), the Regional Water Quality Control Board (RWQCB) and the Alameda County Department of Environmental Health (ACDEH), which is the Certified Unified Program Agency (CUPA) responsible for implementing state environmental regulations related to hazardous waste and hazardous materials.

Policy HS-36 **Resource Recovery Initiatives.** Continue to support the various resource recovery initiatives and other measures specified in the Alameda County Countywide Integrated Waste Management Plan.

Policy HS-37 **Hazardous Materials Incident Plan.** Ensure that the City's Emergency Preparedness programs include provisions for hazardous materials incidents, as well as measures to quickly alert the community and ensure the safety of residents and employees following an incident.

Action:

- **Training and Capability.** *Improve the training and capability of the Fire Department to handle accidental releases of hazardous materials. Provide ongoing training for hazardous materials enforcement and response personnel. Apply the Emergency Operations Plan, if necessary, in response to a hazardous materials release disaster.*

- Policy HS-38 Separation of Uses.** Require adequate and safe separation between areas and uses with hazardous materials and sensitive uses such as schools, residences and public community facilities.
- Policy HS-39 Hazardous Material Containment.** Require that all facilities that handle and/or store hazardous materials are designed to minimize the possibility of environmental contamination and adverse off-site impacts and that they are in compliance with state and federal standards and requirements designed to protect public health and the environment.
- Policy HS-40 Radon Gas.** Encourage residential, commercial and industrial property owners to test their properties for elevated levels of radon gas (more than 4 pico curies per liter).
- Policy HS-48 Airport Safety Zones.** Regulate land uses within designated airport safety zones, height referral areas, and noise compatibility zones to minimize the possibility of future noise conflicts and accident hazards.
- Policy HS-49 Aircraft Crash Readiness.** Maintain a high degree of readiness to respond to aircraft crashes through participation in preparedness drills and mutual aid activities with the City and Port of Oakland to ensure quick and effective response to emergencies.

CONSTRUCTION IMPACTS

Impact 16-1

Site preparation activities associated with construction of new buildings and facilities allowed under the *Alameda General Plan 2040* could potentially expose construction workers and future site workers or residents to hazardous concentrations of contaminants in the soils and groundwater at the site. (LTS)

Construction of new residential, commercial, office, light industrial, and other development projects allowed under the proposed General Plan would typically require excavation into surface soils underlying a given site, and possibly into deeper soil levels, depending on the nature of the project, the type of building foundation required, and the geologic structure of the subsurface. Deeper excavations could also encounter and expose groundwater. On sites where the soil and/or groundwater are contaminated with hazardous materials, such as petroleum hydrocarbons or volatile organic compounds (VOCs), exposure of the contaminated soil or groundwater could expose construction workers to health hazards and could release the contaminants into the air or allow them to migrate offsite, potentially contributing harmful pollutants to surface waterways.

With the exception of Alameda Point and Encinal Terminals, on the northern Alameda shoreline, Alameda is largely built out, and future development in other portions of the City would occur as infill development or as redevelopment of currently developed sites. Existing soil and groundwater contamination may exist on or adjacent to both currently undeveloped properties as well as developed properties that could be redeveloped. As presented in Appendix D, there are active contamination sites located throughout Alameda. Hazardous materials sites are particularly concentrated in areas where future development is likely to occur, including at Alameda Point, along the northern shoreline of Alameda Island, and along the Park Street and Webster Street corridors. Although there are hundreds of additional sites that have been remediated and are no longer listed as active by regulatory agencies, such sites would pose little to no environmental or health hazard threat during construction of future development projects.

Any excavation in Marsh Crust areas below established threshold depths would require authorization with a Marsh Crust Permit, which would require implementation of a Health and Safety Plan and disposal of excavated material as a hazardous waste unless laboratory testing demonstrates that it is not hazardous. Enforcement of the Marsh Crust Ordinance and implementation of General Plan policies included in the proposed Health and Safety Element would reduce the risk from exposure to hazardous materials during future land use development and redevelopment activities, including policies HS-35, HS-38, and HS-40, listed above. Implementation of these policies, particularly the implementing action for Policy HS-35, would minimize the risk of exposure to existing hazardous materials in the environment that could occur during construction activities on development sites. With implementation of the proposed policies and actions presented in the Health and Safety Element, the risk of release of hazardous materials during construction of new development would be a *less-than-significant impact*.

Mitigation Measure 16-1

None required.

OPERATIONAL IMPACTS

Impact 16-2

New land uses allowed under the *Alameda General Plan 2040* could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or through emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (LTS)

Many industries and businesses use hazardous substances during manufacturing processes or for maintenance and cleaning of equipment. A wide range of process chemicals are employed across various industries, while typical equipment maintenance products include fuels, lubricants, degreasers, solvents, and paints. Hazardous materials that could be used in industrial or light industrial settings could include explosives, corrosives, flammable and combustible substances,

poisons, and radioactive materials. Toxic industrial chemicals may be stored in the gas, liquid, or solid state. They can be chemical hazards (e.g., carcinogens, reproductive hazards, corrosives, or agents that affect the lungs or blood) or physical hazards (e.g., flammable, combustible, explosive, or reactive). Exposure of workers or members of the public to hazardous materials could result in death, serious injury, or long-lasting health effects, depending on the substance and the nature and extent of exposure. Uncontrolled release of hazardous materials into the environment can degrade air quality and water quality and cause adverse health impacts, reproductive problems, and mortality to wildlife.

New residential uses allowed under the General Plan could also include the storage and use of hazardous materials. A wide range of hazardous household products are typically associated with residential uses, including household cleaners, pesticides, fertilizers, paints, solvents, and automotive products. In a residential setting, these types of products are normally stored in small containerized quantities, where the risk of uncontrolled spills is very low. This type of usage is typical of all residential development, and would not constitute a significant hazard to the public or the environment.

New commercial and industrial/light industrial development allowed under the proposed General Plan could cause an increase in the amount of hazardous materials used and stored in the City, which could result in increased generation of hazardous waste requiring disposal. Similar to the handling and storage of hazardous materials, the generation, storage, transport, and disposal of hazardous waste can lead to adverse impacts to the physical environment and to human health if not properly managed. However, as outlined in Section 16.2, under Regulatory Framework, numerous federal, State, and local regulations govern the use, transportation, and disposal of hazardous materials.

New businesses that could be developed in accordance with the proposed General Plan and that would store and use hazardous materials above reporting thresholds would be required to file a Hazardous Materials Business Plan (HMBP) with the Alameda County Department of Environmental Health (ACDEH). The HMBP must include policies and procedures for the prevention of release of hazardous materials into the workplace or environment, and to facilitate the mitigation of damage to the health and safety of persons and the environment in the event an accidental release occurs. Pursuant to Government Code Section 65850.2, the City would be required to verify an approved HMBP prior to issuing an occupancy permit or its equivalent.

Businesses that would handle more than a threshold quantity of a regulated substance listed in the regulations for the California Accidental Release Prevention (CalARP) Program would be required to develop a Risk Management Plan (RMP), which would also be subject to oversight by ACDEH.

Businesses generating hazardous waste would be required to register as small-quantity generators (SQGs) with DTSC or as large-quantity generators (LQGs) with the U.S. EPA. They would be required to dispose of hazardous waste using a licensed hazardous waste hauler at a permitted TSDF, all of which would be tracked and recorded in accordance with RCRA. The transport of hazardous waste

to a TSDF would create the potential for an accident or other upset that could release hazardous materials into the immediate environment and pose a health safety risk to nearby members of the public. Hazardous waste transporters would be required to comply with the provisions of the Hazardous Materials Transportation Act of 1975 (49 U.S.C. §5101 *et seq.*), which governs hazardous materials transportation on U.S. roadways, and to the tracking requirements codified in the Title 40 of the Code of Federal Regulations, Part 263. These regulations are enforced by a variety of federal agencies, including the Federal Motor Carrier Safety Administration (FMCSA), the Federal Rail Administration (FRA), Federal Aviation Administration (FAA), the U.S. Coast Guard (USCG), and the Pipeline and Hazardous Materials Safety Administration (PHMSA). In addition, the transportation of hazardous waste is regulated at the State level by Title 22 of the California Code of Regulations, Division 4.5, Chapter 16.

Compliance with the regulatory programs identified above would minimize the risk of exposure of people to hazardous materials and would minimize the potential for uncontrolled discharge of hazardous materials into the environment. Implementation of proposed Health and Safety Element policies HS-32, HS-33, HS-34, and HS-36 through HS-40, listed above, would also minimize potential impacts from hazardous materials.

As indicated in the standards of significance listed in Section 16.3, CEQA treats the generation of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school as a potentially significant impact. However, implementation of Health and Safety Policy HS-38, in addition to compliance with applicable regulations cited above, would ensure that schools would not be adversely affected by hazardous materials.

Mandatory compliance with existing federal, State, and local laws and regulations pertaining to the transport, storage, use, and disposal of hazardous materials would minimize the associated health safety and environmental risks, ensuring that new development implemented under the proposed *Alameda General Plan 2040* would have a ***less-than-significant impact*** from release of hazardous materials into the environment.

Mitigation Measure 16-2

None required.

Impact 16-3

New land uses allowed under the *Alameda General Plan 2040* could be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment. (LTS)

There are many hazardous materials sites located throughout Alameda that are included on one or more lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5; they are listed in Appendix D. These sites include LUST cleanup sites, cleanup program sites, military evaluation sites, military cleanup sites, military privatized sites, military UST sites, corrective action

sites, State response sites, voluntary cleanup sites, tiered permit sites, federal Superfund sites, school investigation sites, and hazardous waste sites. These sites have varying status, including active, inactive-needs evaluation, certified with land use restrictions, open assessment, verification monitoring, remediation, interim remedial action, and eligible for closure. In addition to the sites listed in Appendix D, there are hundreds of additional sites on lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5 that have a “case closed” status and have been determined by DTSC or the RWQCB to no longer pose an environmental threat.

While future development on or in proximity to an active cleanup site or other hazardous materials site could expose construction workers and the public to residual contaminants in the soil or groundwater during site development, implementation of Health and Safety Element Policy HS-35 and its implementing action, listed above, would ensure that the proposed development has been cleared for the planned use by the appropriate federal, State, and/or local agencies. Implementation of Policies HS-38 and HS-39 would further reduce the risk of exposure to hazardous materials. With implementation of Policies HS-35, HS-38, and HS-39 , this would be a ***less-than-significant impact***.

Mitigation Measure 16-3

None required.

Impact 16-4

Implementation of the *Alameda General Plan 2040* could result in a safety hazard or excessive noise for people living and working within the planning area of Oakland International Airport. (LTS)

All of Bay Farm Island and Alameda Island east of High Street are located within the Airport Influence Area (AIA) of Oakland International Airport. The *Oakland International Airport Land Use Compatibility Plan* (ALUCP) establishes various safety zones around the airport that are based on the degree of risk exposure within those areas, based on local and nationwide airport accident data. The risk of aircraft accidents is generally higher within the take-off and landing zones of the runways. Taking into consideration these risk factors, the ALUCP lists land uses permitted within the different safety zones at Oakland International Airport, along with safety compatibility criteria.

Most of Bay Farm Island is located in the safety zone with the lowest risk, Zone 6, the Traffic Pattern Zone, while the eastern end of Alameda Island is in Zone 7, which is the area between Zone 6 and the AIA boundary, and is not a restricted safety zone. There are areas designated for low- and medium-density residential use on Bay Farm Island on the proposed General Plan land use map that are within the airport’s Safety Zones 2, 3, and 4. However, these areas are fully built out, and new construction is not expected in these areas. Similarly, an area designated as Community Mixed-Use on the land use map that is within Zone 4, the Outer Approach/Departure Zone, is already developed as the Harbor Bay Landing commercial shopping center, and development of new buildings on this site is not anticipated.

The proposed General Plan land use map designates the southern edge and southeastern corner of Bay Farm Island as Business + Employment. This area includes a number of vacant or underdeveloped parcels that could be developed in the future with offices, research and development (R&D) facilities, bio-technology, food manufacturing, maritime commercial manufacturing, hotels, and warehouse distribution uses. While most of these areas on Bay Farm Island are within Safety Zone 6, some of them fall within Zone 1, the Runway Protection Zone, and some are within Zone 3, the Inner Turning Zone. The ALUCP identifies office buildings, small eateries/drinking establishments, miscellaneous medium-sized businesses (salons, electronic stores, etc.), manufacturing, and R&D as Conditional uses in Zone 3, subject to density limitations. No development is allowed within Safety Zone 1.

The ALUC has statutory authority to review local general plans and specific plans affecting the AIA to ensure their consistency with the ALUCP, and is expected to review and comment on the proposed *Alameda General Plan 2040* prior to its adoption. However, State law does not authorize ALUCs to zone property or apply other land use controls normally exercised by local public agencies. Once a local agency has adopted or revised its general plan (or overruled the ALUC, if applicable), a proposed discretionary approval of development by the local agency is not subject to further commission review, unless the commission and the local agency agree that individual projects shall be reviewed by the commission. Once an ALUC has adopted a compatibility plan, the authority and responsibility for enforcing its compatibility policies lie fully with the affected jurisdictions.

The City of Alameda intends to exercise this discretion and ensure that future development does not expose residents or buildings to undue risk of exposure to aircraft accidents. The proposed Health and Safety Element includes Policy HS-48, listed above, which regulates new land use within designated airport safety zones. In addition to Policy HS-48, new development proposed consistent with the *Alameda General Plan 2040* would be required to comply with Federal Aviation Administration (FAA) regulations prohibiting new construction that presents a hazard to air navigation. Implementation of Policy HS-48 and compliance with applicable FAA regulations would minimize the risk exposure of future development to aircraft accidents. Therefore, this would be a ***less-than-significant impact***.

Mitigation Measure 16-4

None required.

Impact 16-5

Future development allowed under the *Alameda General Plan 2040* could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (LTS)

New development allowed under the proposed General Plan could impair implementation of the City's *Comprehensive Emergency Management Plan* (CEMP) in two ways. First, construction of new homes and job centers could increase the population of the City, and the larger number of people

attempting to evacuate in the event of a natural disaster such as an earthquake or flood event could contribute to crowding that could exceed the capacity of roadways designated as evacuation routes in the CEMP. Secondly, the increased numbers of people could exceed available capacity in designated public evacuation shelter facilities. However, new development would not be expected to physically block or impede access to evacuation routes, since all of the routes utilize existing City streets, where new development would not be permitted. The primary evacuation routes out of Alameda include the Webster/Posey Tubes; the High Street, Park Street, and Fruitvale Avenue bridges; and Highway 61/Doolittle Drive.

As noted in the CEMP, constraints on the capacity of evacuation routes and shelter facilities will require a high level of coordination to effectively communicate protective action and shelter information to evacuees. However, the CEMP includes contingency plans for conditions when the capacity of evacuation routes and shelter facilities is exceeded, such as modifying evacuation routes and directing residents to alternative refuges of last resort. Conditions would be continually monitored by the City's field units and Emergency Operations Center (EOC) so that bottlenecks and other issues can be quickly identified and contingency plans can be executed.

The CEMP recognizes that a catastrophic event that requires evacuation of one-half or more of the City's population would severely stress roadways in and around the City. In addition to the contingency plans included in the CEMP, the City has been divided into three evacuation zones to better manage an evacuation event. Evacuation Team Leaders would manage resources and logistics within each zone, while coordinating with the EOC using an Incident Command System (ICS). When primary evacuation zones became constricted, Evacuation Team Leaders would have the ability to funnel traffic, create temporary one-way flows, and maintain the ability to access populated areas using secondary arteries and roadways. The response team in each zone would be responsible for a smaller specific area, allowing them to more effectively accomplish strategic placement of traffic control measures and pre-positioning of resources to assist with vehicle breakdowns, accidents, and other isolated emergencies that could obstruct the process.

While population growth allowed under the proposed General Plan could increase congestion of evacuation routes and crowding of shelter facilities in the event of a large natural disaster or other catastrophic event, the contingencies provided in the CEMP would serve to mitigate those additional pressures. Implementation of proposed Health and Safety Element policies HS-1, HS-2, HS-3, HS-4, HS-7, HS-8, HS-11, HS-26, HS-37, HS-38, and HS-39, listed above, would further reduce this impact. With implementation of these policies, the proposed project would have a ***less-than-significant impact*** related to impairing implementation of the City's emergency response/evacuation plan.

Mitigation Measure 16-4

None required.

Impact 16-6

Future development allowed under the *Alameda General Plan 2040* would not expose people or structures, either directly or indirectly, to significant risk of loss, injury, or death involving wildland fires. (LTS)

Government Code Section 51178 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of high fire hazard within Local Responsibility Areas (LRAs) that are not under the direct jurisdiction of CAL FIRE, where local fire-fighting agencies have primary responsibility for fire response. CAL FIRE's mapping of Very High Fire Hazard Severity Zones (VHFHSZs) is based on data and models of potential fuels over a 30- to 50-year time horizon and their expected fire behavior and burn probabilities. All of the City of Alameda is within an LRA and is designated as a non-VHFHSZ.¹¹ The project site is located in an urbanized area and there are no wildlands in close proximity to the site. Therefore, there is no potential for wildfire at the project site.

Mitigation Measure 16-6

None required.

CUMULATIVE IMPACTS

New development allowed under the proposed General Plan could, in conjunction with existing development, result in increased risk of accidental releases of hazardous substance and wastes. However, each new development project would require evaluation for potential threats to public safety, including those associated with transport/use/disposal of hazardous materials, accidental release of hazardous materials into the environment, hazards to sensitive receptors (including schools), listed hazardous material sites, aircraft-related hazards, emergency response, and flood hazards. Because hazardous materials and risk of upset conditions are largely site-specific, this evaluation would occur on a case-by-case basis for each individual project affected, in conjunction with development proposals on these properties. Further, each related project would be required to follow local, State, and federal laws regarding hazardous materials and other hazards. Therefore, with full compliance with local, State, and federal laws pertaining to hazards and hazardous materials, cumulative impacts would be less than significant.

¹¹ California Department of Forestry and Fire Protection (CAL FIRE), Alameda County Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL FIRE [map], September 8, 2008.

17. VISUAL QUALITY

17.1 Introduction

Visual quality is a measure of a site's aesthetic value. This chapter describes the existing visual character of the City of Alameda in broad terms, identifies its aesthetic and scenic resources, and analyzes the effects implementation of the proposed General Plan would have on the existing visual quality of the City.

17.2 Setting

REGULATORY SETTING

State of California

The California Department of Transportation (Caltrans) manages the State Scenic Highway Program, which is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. To be eligible for designation as a scenic highway, a State highway segment must generally provide views to travelers of significant areas of beautiful natural landscape. Designated and eligible scenic highways are listed in Section 263 of the Streets and Highways Code. In order for an eligible scenic highway to become officially designated, the local governing body in which the highway segment is located must apply to Caltrans for scenic highway approval, adopt a Corridor Protection Program, and receive notification that the highway has been officially designated a Scenic Highway. As previously noted, there are no designated or eligible scenic highways in the City of Alameda.

City of Alameda

Municipal Code

Design Review. All new buildings, additions to buildings, and exterior alterations of existing buildings in the City of Alameda require Design Review approval unless they are specifically exempted. Chapter XXX, Article II of the Alameda Municipal Code establishes the structural design review regulations that must be adhered to by covered construction projects. The City's design review process is intended to conserve "the value of property by encouraging construction of buildings which are compatible and harmonious with the decision and use of surrounding

properties, and to discourage the construction of buildings which will have a deleterious effect upon, impair the occupancy of, or jeopardize the value of, such properties.”¹

Depending on the nature of a project, design review is conducted by Design Review Staff designated by the Planning Director, or is referred to the Zoning Administrator or the Planning Board for review and approval. Notices must be posted on the project site and be mailed to all property owners within 100 feet of the site at least 10 days prior to a final Design Review decision. Although public hearings are not required on Design Review applications, the Planning Director may elect to conduct one. In order to grant Design Review approval, the City must make the following findings:

- a) The proposed design is consistent with the General Plan, Zoning Ordinance, and the City of Alameda Design Review Manual.
- b) The proposed design is appropriate for the site, is compatible with adjacent or neighboring buildings or surroundings, and promotes harmonious transitions in scale and character in areas between different designated land uses; and
- c) The proposed design of the structure(s) and exterior materials and landscaping are visually compatible with the surrounding development, and design elements have been incorporated to ensure the compatibility of the structure with the character and uses of adjacent development.

Nighttime Lighting. The type and intensity of outdoor lighting in Alameda is regulated by the City’s Dark Skies Ordinance, codified in Municipal Code Section 30-5.16(c). The standards in the ordinance are intended to:

- d) Allow adequate illumination for safety, security, utility, and the enjoyment of outdoor areas.
- e) Prevent excessive light and glare on public roadways and private properties.
- f) Minimize artificial outdoor light that can have a detrimental effect on human health, the environment, astronomical research, amateur astronomy, and enjoyment of the night sky.
- g) Minimize light that can be attractive, disorienting, and hazardous to migrating and local birds.

The Alameda Dark Skies Ordinance requires all exterior lighting to be fully shielded and downward-directed except for low-voltage landscape lighting, special architectural and public art lighting, and historic lighting fixtures. Light trespass must not exceed 1 foot-candle at an adjacent property, and security lighting fixtures of more than 100 watts (or 20-watt LED) or 1,600 lumens must be controlled by a programmable motion-sensor device unless continuous lighting is required by the California Building Standards Code.² Additional standards apply, including restrictions on the color temperature of light-emitting diode (LED) lighting.

¹ Alameda Municipal Code, Section 30-35.1.

² A foot-candle is the amount of illuminance on a one-square-foot surface that is uniformly distributed with a flux of one lumen. It is equal to approximately 10.764 lux. A foot-candle is a British unit of illuminance; lux is its metric (SI)

VISUAL CHARACTER

Alameda's island setting provides access to a variety of unique open space and natural habitat scenic resources for its residents and visitors. The San Francisco Bay, Oakland Estuary, San Leandro Bay, wetlands, marshes, tidal flats, beaches, public boat launches, small boat marinas, neighborhood and community parks, and recreational facilities provide an interconnected network of open space, parks, and recreation facilities that serve all Alameda residents, employees, visitors, and local wildlife while at the same time constituting scenic resources.

Although Alameda is densely developed with residential, commercial, and institutional uses, with less dense industrial development in some areas of the City, it also has a substantial amount of open space resources. With a relatively compact land area of 10.61 square miles, the City has over 20 parks for residents to enjoy, encompassing more than 500 acres.³ Additionally, the proposed land use diagram designates over 700 acres of former Naval Air Station (NAS) Alameda runways as a future nature reserve that will provide long-term protection of habitat for the endangered California least tern and other wildlife. In addition to the extant runways, this area on the western end of Alameda Island currently supports nonnative grassland, seasonal wetlands, and salt marsh. The Chuck Corica Golf Complex encompassing more than 150 acres on Bay Farm Island provides another scenic resource to Alameda residents, augmented by two adjoining parks, Shoreline Park and Godfrey Park.

The majority of the developed environment in Alameda is characterized by compact neighborhoods and retail areas with predominantly one- and two-story buildings with a pedestrian scale and orientation. There are many historic commercial and residential buildings in Alameda that contribute to its small-town character. Thousands of Victorian homes were constructed in the late 1800s and early 1900s after railroad service to the City was developed. Though many of the homes were demolished in the 1950s and 1960s, more than 3,000 remain today, and another 1,000 historic buildings, including City Hall, remain in commercial areas, particularly along Park Street and Webster Street.⁴

SCENIC VISTAS

Due to its island geography, the shoreline areas of Alameda provide many scenic vistas of the surrounding waters of San Francisco Bay and the other cities ringing the Bay. Depending on the vantage point, the City of San Francisco is visible 3 miles to the west across the Bay, and the high-rise downtown section of Oakland is visible approximately 1 mile to the north. From the northern shoreline, Jack London Square and its shoreline marina are visible directly across the Oakland

counterpart. A lumen is a measurement of luminous flux, or the perceived intensity of light, that is adjusted to reflect the varying sensitivity of the human eye to different wavelengths of light.

³ U.S. Census, QuickFacts, Alameda City, California, accessed March 23, 2020 at: <https://www.census.gov/quickfacts/fact/table/alamedacitycalifornia,US/PST045219>.

⁴ Mary McInerney, *Alameda Magazine*, "Island of the Victorians: More Per Capita Than Anywhere? Maybe," January-February 2008, Accessed March 23, 2020 at: <http://www.alamedamagazine.com/Alameda-Magazine/January-February-2008/Architecture/>.

Estuary. Although it has a distinctly industrial character, the Port of Oakland is also visible across the Oakland Estuary, and includes large-scale docking facilities for ocean-going vessels, some of which pass close to the Alameda shoreline, as well as large mechanized cranes, cargo container storage areas, and warehouses. Given the waterfront and maritime setting, many viewers find this vista to be scenic.

Bay Farm Island is visible and prominent from some vantage points on Alameda Island; similarly, the main island is visible from the northern shoreline of Bay Farm Island. The Montara Mountains and the Santa Cruz Mountains, both of which extend down the San Francisco Peninsula, are visible in the distance across San Francisco Bay from vantage points on both islands.

SCENIC HIGHWAYS

There are no designated or eligible scenic highways in the City of Alameda. The State Scenic Highway Program is described below, under Regulatory Setting.

NIGHTTIME LIGHTING AND GLARE

Nighttime lighting is an inherent component of urban development. In city centers, the amount of overhead light in the night sky may be 25 to 50 times brighter than the natural background level.⁵ There are many existing sources of nighttime lighting throughout the City, the most prominent being vehicle headlights and street lighting along major streets and in the parking lots of shopping centers. Security lighting of commercial and industrial buildings is another significant source of nighttime lighting, as are marinas and maritime uses along the Northern Waterfront.

Another significant source of nighttime lighting is located outside the City, across the Oakland Estuary. The Port of Oakland occupies 19 miles of waterfront that includes approximately 680 acres of marine terminal facilities and active support areas. Port property extends along the Oakland Inner and Outer Harbors and includes marine facilities, Jack London Square, and various parks, all of which generate ambient light and glare that is visible from the northern shoreline of Alameda. Another off-island light source is Oakland International Airport, where illuminated runways and buildings contribute to the accumulation of urban lighting.

A less significant nighttime lighting source is outdoor lighting of residential properties, which tends to be lower intensity, shielded or downward directed, and more sparsely placed than on commercial or industrial properties. While interior lighting of homes is ubiquitous, these light sources do not emanate far from their sources, and tend to merely highlight the windows from which they issue without contributing to anthropogenic sky glow. Interior lighting of commercial properties may contribute more to light pollution because windows tend to be larger and the interior lighting tends to be of higher intensity.

⁵ Rensselaer Polytechnic Institute, National Lighting Product Information Program, *Lighting Answers*, Light Pollution, Volume 7, Issue 2, March 2003 (revised February 2007), Accessed March 25, 2020 at: <https://www.lrc.rpi.edu/programs/nlpi/lightinganswers/lightpollution/skyGlow.asp>.

Glare is a visual sensation caused by excessive and uncontrolled brightness that can be disabling or simply uncomfortable. It is subjective, and sensitivity to glare can vary widely, with older people generally more sensitive to glare due to the aging characteristics of the human eye. Sources of glare in the project area are largely attributable to reflections of the sun from vehicles or building windows, as well as from surface water bodies.

17.3 Standards of Significance

Appendix G of the *CEQA Guidelines* identifies a number of significant environmental impacts related to aesthetics, including:

- creation of a substantial adverse effect on a scenic vista;
- substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a State scenic highway;
- in non-urbanized areas, substantial degradation of the existing visual character or quality of public views of the site and its surroundings; and in urbanized areas, conflict with applicable zoning and other regulations governing scenic quality; or
- creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area.⁶

These standards of significance are adopted for use in this EIR.

17.4 Impacts and Mitigation Measures

In assessing the significance of the impacts in this chapter, it is important to acknowledge that visual preferences are a subjective matter, and there are no objective black-and-white criteria for assessing visual impacts. While there may be a high degree of agreement on certain aesthetic questions, opinions will vary widely on others. Each person is entitled to his or her opinion, but in the present case, an opinion must be rendered that represents a reasonable position that's as close as possible to a consensus. In assessing the visual impacts of the proposed General Plan, the City of Alameda has carefully applied the standards of significance outlined above to support the conclusions presented herein.

Although the proposed *Alameda General Plan 2040* does not include policies expressly intended to protect aesthetic resources and the visual quality of the City, it does set forth policies intended to protect the natural areas of the City that constitute its scenic resources. Other proposed policies are intended to preserve Alameda's distinctive architecture, which also contributes to the City's aesthetic qualities.

The General Plan includes "spotlights" sprinkled throughout the various General Plan elements that are intended to help explain the City's policies and programs. The spotlight on the City's small-town

⁶ Governor's Office of Planning and Research, *CEQA Guidelines*, Appendix G, Section I, as amended December 28, 2018.

character presented in the Land Use and City Design Element identifies the following qualities important to the City, which all contribute to the City's visual quality:

Human Scale. The majority of buildings (other than large institutional or employment centers) are 1-½ to 4 stories, and not wider than a large house. It is critically important to retain a human scale while accommodating density and a diversity of building types.

High Quality of Architecture. Although the buildings represent a wide range of Bay Area regional architecture styles, they are well-crafted, comfortable and rich in personality and color. Continuing to promote design excellence by ensuring that City development regulations express clear outcomes is essential.

Leafy Streets. The presence of mature deciduous and evergreen trees along Alameda's city streets is a distinguishing characteristic of its neighborhoods. Systematic planting of a variety of younger specimen trees in the future is critical as older trees gradually die off.

Legible Centers and Neighborhoods. The City has a clear "small town" community fabric that has endured and evolved over time. This includes distinct "centers" and "neighborhoods" that provide a strong framework for the City's future growth and change. The General Plan strives to enact policies that both preserve and build on this fabric, while accommodating compatible growth and appropriate transitions between neighborhoods.

Walkability. Small blocks, human scale and street trees contribute to making walking in Alameda pleasant and comfortable. The City's historic street grid provides easy movement from building to building, building to block, and from neighborhood to neighborhood. Continuing to enhance the pedestrian and cyclist experience to provide safe and easy movement throughout Alameda is a primary goal.

Connected to the Water and the Outdoors. Alameda's island setting contributes to its distinctive small town aesthetic and identity. The street grid system as well as the relatively small-scale of the City, provides multiple ways to explore the outdoors, easily connect to the water's edge, and Alameda's open space network. Promoting and investing in improvements to retain and enhance access to the water for all Alamedans is a focus of the General Plan.

Each of these traits contribute to the aesthetic qualities of the City. A variety of General Plan objectives, policies, and actions support these values, particularly those in the Land Use and City Design Element and the Open Space, Recreation and Parks Element. Pertinent policies include the following:

Policy LU-4 Neighborhood Transitions. Ensure sensitive transitions between neighborhoods and adjoining business districts to minimize nuisances while encouraging mixed-use development that provides commercial services or employment opportunities in close proximity to neighborhoods.

Policy LU-18 Alameda Point Waterfront and Town Center Mixed-Use District. Consistent with the Waterfront and Town Center Specific Plan, create a compact, transit-oriented mixed-use urban core and vibrant waterfront experience that leverages the unique character and existing assets of the area to catalyze a transformation of the larger Alameda Point area.

Actions:

- **Mixed-Use.** Create a pedestrian, bicycle, and transit supportive mixed-use urban waterfront environment designed to de-emphasize the automobile and provide for a mix of uses that include waterfront and visitor-serving uses, retail, service, entertainment, lodging, recreational, and medium to high-density residential.
- **Seaplane Lagoon.** Permit uses that promote pedestrian vitality and are oriented to the Seaplane Lagoon, such as a ferry terminal, marinas, viewing platforms, fishing piers, and areas reserved for kayaks and other non-motorized boats. Include “short-duration stop” facilities that support stopping, gathering and viewing with places to sit, interpretive kiosks, integrated water features, public art, and access to the water.
- **De Pave Park.** On the western shore of the Lagoon, develop “De Pave Park” consistent with the Public Trust and sensitive to the Wildlife Refuge.
- **Conservation.** Educate users and enforce restrictions to Breakwater Island and install signs about the sensitivity of the protected bird and mammal species.

Policy LU-19 Alameda Point Main Street Neighborhood Mixed-Use District. Consistent with the Main Street Specific Plan, provide a variety of housing types and a mix of residential densities with complementary business uses, neighborhood-serving retail, urban agriculture and park uses.

Actions:

- **Mixed-Use.** Create a mixed-use and mixed-income residential neighborhood with parks and community serving businesses and institutions, child care and family child care homes, supportive housing, assisted living, community gardens, urban farms and agriculture, compatible specialty manufacturing and light industrial uses, life science companies, and community services that complement and support the subdistrict and Alameda as a whole.
- **Walkable.** Create a walkable, transit friendly neighborhood with safe streets, common open space areas and greenways, and pedestrian and bicycle friendly development.
- **Alameda Point Collaborative.** Support development of a new residential campus for the Alameda Point Collaborative (APC), Building Futures for Women and Children, and Operation Dignity (collectively referred to as the “Collaborating Partners”).
- **NAS Alameda Historic District.** Preserve the character defining features of the NAS Alameda Historic District Residential Subarea. Preserve the “Big White” single family homes, and consider the preservation of the Admiral’s House for community and/or City use.

Policy LU-20 Alameda Point Enterprise Sub-District. Support the development of the Enterprise District for employment and business uses, including office, research and

development, bio-technology and high tech manufacturing and sales, light and heavy industrial, maritime, community serving and destination retail, and similar and compatible uses.

Actions:

- **Vibrant Employment District.** Support the creation of a pedestrian, bicycle, and transit supportive business environment with high quality, well designed buildings within walking distance of transit, services, restaurants, public waterfront open spaces, and residential areas.
- **Support and Protect Job Growth.** Encourage and facilitate job growth and limit intrusion of uses that would limit or constrain future use of these lands for productive and successful employment and business use.
- **Pacific Avenue.** Support the development of Pacific Avenue as an iconic landscaped boulevard with separated bike paths and pedestrian routes.
- **Residential Uses.** Ensure that residential uses are directed to those areas within the district that will not result in limitations or impacts on the ability of research and development, bio-technology, high tech manufacturing, heavy industrial, manufacturing, or distribution businesses to effectively operate in the area.

Policy LU-21 Alameda Point Adaptive Reuse Sub-District. Support the development of the Adaptive Reuse District for employment and business uses, including office, research and development, bio- technology and high tech manufacturing and sales, light and heavy industrial, maritime, commercial, community serving and destination retail, work/live, and other uses that support reinvestment in the existing buildings and infrastructure within the NAS Alameda Historic District.

Actions:

- **Preservation of the NAS Alameda Historic District.** Support and promote a pedestrian, bicycle, and transit supportive urban environment that is compatible with the character-defining features of the NAS Alameda Historic District.
- **Investment Opportunities.** Allow for a wide range of investment opportunities within the district to encourage private reinvestment in the NAS Alameda Historic District.
- **Significant Places.** Encourage the creation of a range of cultural and civic places through the development or adaptive reuse of key civic structures, including libraries, churches, plazas, public art, or other major landmarks to provide a sense of center and unique character.

Policy LU-22 Alameda Point Open Space and Nature Reserve. Provide for parks, recreation, trails, and large-scale public assembly and event areas consistent with the Public Trust Exchange Agreement.

Actions:

- **Public Access.** Support maximum public access, use and enjoyment of these lands, and the protection of natural habitat and wildlife. Provide

a variety of public open space and compatible uses, such as museums and concessions in a manner that ensures the protection of the natural environment.

- **Limited Use.** *Limit uses to public recreation and maritime oriented commercial uses in this sub-district. Provide seasonal public access to wildlife and nature reserve areas.*
- **Nature Reserve.** *Support the development of the Nature Reserve and Government sub-district for wildlife habitat to preserve and protect the natural habitat in this area and protect endangered species and other wildlife and plant life that inhabit, make use of, or are permanently established within this area.*
- **Marine Conservation Areas.** *Consider establishment of a Marine Conservation Area within the submerged lands at the entrance of Seaplane Lagoon.*

Policy LU-23 Northern Waterfront Mixed-Use Area. Create a vibrant mixed-use, pedestrian-friendly, transit- oriented neighborhood with a variety of uses that are compatible with the waterfront location.

Actions:

- **Waterfront Access.** *Expand public shoreline access and by redeveloping vacant and underutilized waterfront property with shoreline public open space and a mix of uses and extending Clement Avenue, the Cross Alameda Trail, and the Bay Trail through the Northern Waterfront from Grand Street to Sherman and from Broadway to Tilden Avenue to facilitate the movement of vehicles, bicycles, and pedestrians along the northern waterfront.*
- **View Corridors.** *Create a safe circulation system that addresses the needs of pedestrians, bicyclists, transit riders, automobile and truck drivers, and adjacent neighborhoods. Preserve views of the water and Oakland from existing and planned roadways and public rights of way.*
- **Waterfront Mixed-Use.** *To support a lively waterfront and pedestrian friendly environment, provide a mix of uses and open space adjacent to the waterfront including a mix of multi-family residential, neighborhood-serving commercial, office, marine, and waterfront commercial recreation, boat repair, maintenance and storage, dry boat storage and hoists, waterfront restaurants and related amenities.*
- **Public Launching and Water Shuttle Facilities.** *Support waterborne forms of transportation and water based recreation by providing public docks at Alameda Landing at 5th Street, Marina Village, Alaska Basin at Encinal Terminals, Grand Street Boat Ramp, and Alameda Marina.*
- **Maritime and Tidelands Uses.** *Promote and support water and maritime related job and business opportunities.*

- **Historic Resources.** *Preserve the unique historical, cultural, and architectural assets within the area and utilize those assets in the creation of a new, vibrant mixed-use district.*
- **Del Monte Warehouse and Alaska Packers Building.** *Preserve the Del Monte Warehouse Building consistent with Secretary of the Interior’s Standards for Rehabilitation and its City Monument designation, and preserve the Alaska Packers building for maritime and tidelands compliant uses.*
- **Encinal Terminals.** *Redevelop the vacant property with a mix of uses to create a lively waterfront development with residential, retail and recreational commercial, restaurant and visitor serving, and maritime uses. Ensure the provision of an accessible, safe and well designed public shoreline promenade around the perimeter of the site adjacent to the Alaska Basin and Fortman Marinas that connects to trail systems. Consider a reconfiguration of the Encinal Tidelands to allow public ownership of the privately held submerged lands and waterfront lands to better provide for public waterfront access and enjoyment and future maritime use.*
- **Infrastructure Funding.** *Require all new development to fund a fair share proportion of the costs of extending Clement Street from Sherman to Grand and upgrade storm sewer and wastewater facilities to serve all future development within the Northern Waterfront area.*

Goal 4: Promote sustainable, high-quality, accessible city design.

Policy LU-24 Universal Design. Continue to promote and require universal design in new construction and rehabilitation to protect the public health, accessibility, and safety of all regardless of ability and ensure equal access to the built environment.

Actions:

- **Principles.** *Incorporate universal design principles at every level of planning and design to ensure an inclusive and healthy built environment.*
- **Awareness.** *Promote and raise awareness about the importance of universal design and building an environment that works for everyone.*
- **Universal Design Regulations.** *Conduct annual reviews of the City’s Universal Design Ordinance to ensure that current best practices of the built and external environment are being used and that implementation is successful in meeting the diverse needs of Alamedans regardless of ability without undue constraints on housing development.*

Policy LU-25 Historic Preservation. Promote the preservation, protection and restoration of historic sites, districts, buildings of architectural significance, archaeological resources, and properties and public works.

Actions:

- **City-Owned Buildings.** *Preserve, maintain and invest in all City-owned buildings and facilities of architectural, historical or aesthetic merit.*
- **Partnerships.** *Work in partnership with property owners, Alameda Unified School District, and non-profit organizations, such as the Alameda Architectural Preservation Society (AAPS) to ensure that the City's unique and memorable buildings and landscapes are preserved.*
- **Property Owner Awareness.** *Continue to work to increase owners' and buyers' awareness of the importance of preservation in protecting community character and identity.*
- **Historic Districts and Monuments.** *Designate additional Historic Districts and Monuments to recognize areas or sites with significant historic architectural design character or cultural history.*
- **Financial and Design Assistance.** *Develop financial and design assistance programs to encourage the restoration or preservation of buildings, structures, and sites with architectural, historic or aesthetic merit, such as a Mills Act Program or the Facade Grant Program*
- **Demolition Controls.** *Maintain demolition controls for historic properties.*
- **Alterations.** *Require that exterior changes to existing buildings be consistent with the building's existing or original architectural design whenever feasible.*
- **Archaeological Resources.** *Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.*

Policy LU-26 Architectural Design Excellence. Promote high quality architectural design in all new buildings and additions to complement Alameda's existing architectural assets and its historic pedestrian and transit-oriented urban fabric.

Actions:

- **Diversity.** *Encourage a broad range of architectural styles, building forms, heights, styles, materials, and colors to enhance Alameda's rich and varied architectural character and create visually interesting architectural landscapes within each neighborhood and district.*
- **Creativity.** *Encourage and support creative and contemporary architectural design that complements, but does not mimic, existing architectural designs in the neighborhood or district.*
- **Harmony.** *Harmonize the architectural design of new buildings with the architectural character of the surrounding buildings to create a visually appealing architectural landscape.*
- **Human Scale.** *Promote accessible, human scaled designs that ensure that ground floors are easily accessible and visually interesting from the*

public right-of-way by facing buildings toward the street, using higher quality materials at the ground floor, providing pedestrian-scaled lighting, and minimizing the extent of blank walls along ground floor elevations with doorways, windows, art, landscaping, or decorative materials.

- **Regulations and Guidelines.** *Promote design excellence by ensuring that City development regulations and design guidelines clearly express the intent and support for creative and innovative design solutions. Guidelines should focus on desired outcomes rather than prohibited outcomes.*

Policy LU-27 Neighborhood Design. Protect, enhance and restore Alameda’s diverse neighborhood architecture and landscape design while encouraging design innovation and creativity in new residential buildings and landscapes.

Actions:

- **Architectural and Landscape Design.** *Require that neighborhood infill development and alterations to existing residential buildings respect and enhance the architectural and landscape design quality of the neighborhood.*
- **City Design Regulations.** *Develop regulations, standards and guidelines that express the intended and desired form and functional outcomes as opposed to expressing just the prohibited forms to support and encourage innovative design solutions and high quality design.*

Policy LU-28 Retail and Commercial Design. Require that alterations to existing buildings and all new buildings in commercial districts be designed to be pedestrian-oriented and harmonious with the architectural design of the surrounding mixed-use district.

Actions:

- **Park and Webster Street Design.** *Continue to support and promote high quality design in the reinvestment in Alameda’s “Front Doors” to ensure the continued vibrancy of these unique city Main Streets for commerce, employment, entertainment, and culture.*
- **Contextual Architectural and Landscape Design.** *Require varied building facades that are well-articulated, visually appealing at the pedestrian level, and that utilize architectural and landscape design features that respond to the district’s existing architectural and landscape character.*
- **Pedestrian Orientation.** *Require building entrances (e.g., the entry to a store, or the lobby entry to an office building) to actively engage and complete the public realm (streets, entry plazas or public open spaces) through such features as building orientation, universal design, build-to and setback lines, facade articulation, ground floor transparency and location of parking.*

- **Sidewalks.** Provide generous sidewalks, sidewalk lighting, street trees, bus shelters, bicycle racks, and street furniture to promote pedestrian traffic and encourage strolling, window-shopping and sidewalk dining.
- **Public Space for Commercial Use.** Support the use of public on-street parking spaces and public sidewalks for small parklets, sidewalk dining, and other temporary commercial purposes. Avoid the use of fixed, permanent fences and barricades on public sidewalks that permanently privatize the use of the sidewalk for a single business for 24 hours a day.
- **Automobile Parking and Access.** Minimize the number of curb cuts and driveways crossing public sidewalks. Place off-street parking areas behind or beside buildings, but not between the public right-of-way and the front entrance to the building, whenever possible.
- **Signs and Utilities.** Provide well-designed public signage including street signs, directional signs, gateway markers, street banners, and pedestrian-oriented directories. Reduce visual clutter where possible by grouping sign messages and regulating the number, size and design quality of signs. Utility boxes and trash enclosures should be grouped and screened from public view and should not be located adjacent to the public right-of-way unless no other location is available. Alternatively, visible utility boxes should be made attractive with public art.

Policy LU-29 Shopping Center Redevelopment. Redevelop existing automobile-oriented, single-use shopping centers with associated large surface parking areas into transit-oriented, mixed-use centers with multi-family housing.

Actions:

- **Vertical Mixed-Use.** Maintain ground floor commercial retail and service uses, while allowing upper stories to be developed for residential, office, and other uses.
- **Safe, Accessible, and Connected.** Ensure that the pedestrian, bicycle, transit and automobile network is safe and convenient for all users and well integrated with adjacent off-site networks.
- **Shared Parking.** Minimize the amount of land needed for off-street automobile parking by sharing parking between on-site commercial businesses and on-site residents.
- **Walkable.** Create walkable, pedestrian-scaled blocks, publicly accessible mid-block and alley pedestrian routes where feasible, and sidewalks generously scaled for pedestrian and wheelchair use with ample street trees, public seating areas, pedestrian lighting, and other amenities to create a safe and convenient pedestrian experience and enhance Alameda's network of leafy streets.
- **Gathering Places.** Provide public, open air, gathering places, such as small parks, plazas, outdoor dining opportunities, or other publicly accessible areas to support a mix of residential, commerce, employment, and cultural uses.

- **Architecture.** *Require building offsets, window and door recesses, and variations in building heights to create a rich and visually interesting pedestrian level experience.*

Policy LU-30 Waterfront Design. Preserve and enhance Alameda’s waterfronts as important destinations by maximizing waterfront physical and visual access from adjoining neighborhoods and streets and permitting land uses that complement the waterfront setting. (See also Policies LU-6, OS-8 and HS-22).

Actions:

- **High Quality.** *Design new parks, open spaces, and waterfront buildings of exemplary quality, highlighting visual and physical connections to the water’s edge, preserving waterfront historic resources, and complementing the character of adjacent neighborhoods.*
- **Inclusive.** *Design and locate waterfront public spaces and the Bay Trail to be inclusive and welcoming to all.*
- **Climate Sensitive.** *Design public spaces to be micro-climate sensitive, allowing for shelter, wind breaks, sun access and shading.*
- **Public and Safe.** *Ensure that all new waterfront buildings are set back an appropriate distance from the water’s edge, such that the public access and Bay Trail feels public, yet also safe for visitors and Bay Trail users.*
- **Public Access and Building Heights.** *Require a wider public access and separation between the water’s edge and the face of the building for taller buildings. Shorter buildings may be closer to the water’s edge. Taller buildings should be set back further.*
- **Architecture.** *Require that buildings adjacent to the shoreline provide attractive and varied facades that compliment, but do not mimic, the historic maritime character of the waterfront.*
- **Visual and Physical Access.** *Maximize visual and physical access to the waterfront from inland neighborhoods by maintaining views and access to the water along streets and other public rights-of-way. Ensure that the placement of and access to utilities do not interfere with physical or visual access to the waterfront*
- **Street Grid.** *Extend the street grid so that north-south streets continue to the waterfront and provide gateways to the waterfront, while equitably distributing traffic between existing and new neighborhoods, and supporting people walking and bicycling from inland neighborhoods to the waterfront.*
- **Climate Adaptation.** *Ensure all public investments are designed to accommodate the 50-year sea level rise scenario.*

Policy LU-31 Gateway Design. Enhance the design of the gateways into the city.

Actions:

- **Posey-Webster Tubes.** *Improve the entry into Alameda and Webster Street by reducing visual clutter from Caltrans signs and signs on adjacent private property and increasing tree planting in the area.*
- **Park Street Bridge.** *Improve the Park Street entry into Alameda by upgrading the street lighting, street tree canopy, and sidewalk and bike and pedestrian connections on the Park Street side of the bridge. Work with the Downtown Alameda Business Association on its plan for an iconic entry arch near the Park Street Bridge.*
- **Miller-Sweeney Bridge and Fruitvale Rail Bridge.** *Improve the Fruitvale Avenue entry into Alameda by redesigning Tilden Way to include sidewalks, bicycle facilities, and consistent street tree plantings from Broadway to the Bridge approach. Remove or seismically reinforce the abandoned Fruitvale Rail Bridge, to prevent the risk of collapse on the Miller-Sweeney Bridge in the event of a large earthquake.*
- **Bay Farm Island Bridge.** *Ensure that the design for Bridgeview Park enhances the Bay Farm Island Bridge entry onto the Main Island. Maintain and enhance the wooden bike/ped bridge.*

Policy LU-32 Civic Center Design. Create an identifiable Civic Center District that supports a wide variety of civic, institutional, cultural, office, commercial, retail, and residential uses and provides a transition between the Park Street commercial district to the east and the neighborhoods to the west on Santa Clara and Central Avenues.

Actions:

- **Centerpieces.** *Preserve the City Hall, Carnegie Library, and Elks Club buildings as centerpieces of the Civic Center district.*
- **Opportunity Sites.** *Support and encourage the redevelopment and reuse of the corners opposite City Hall and the Carnegie Building with mixed-use development.*

Policy LU-33 Alameda Rail Station Design. Ensure that a future Alameda rail station is designed as an underground, urban station located within the fabric of the existing neighborhood or business district similar to Oakland's 12th Street and 19th Street BART stations.

Policy LU-34 Parking Design. To maintain the historic character of Alameda and reduce the impact of automobile parking and trips on the environment and character of Alameda, design parking facilities in a manner that decreases their visibility in the urban environment.

Actions:

- **Size.** *Minimize the size and amount of land dedicated to off-street parking.*
- **Design.** *Design parking lots for shared and multiple uses, active parking management, and electric vehicle charging. Parking areas should be*

well landscaped with shade trees to reduce heat island effects from expansive asphalt surfaces and to screen cars from view. Ensure impacts on Alameda's stormwater system are minimized.

- **Location.** Place parking inside, below, or behind buildings. Avoid placing parking between the building and the public right of way or the waterfront wherever possible.

- Policy OS-1 Parks and Open Space Funding.** Secure adequate and reliable funding for the development, rehabilitation, programming, and maintenance of parks, community and recreation facilities, trails, greenways, and open space areas.
- Policy OS-7 An Interconnected Network.** Promote the creation and maintenance of a comprehensive, seamless, interconnected system of parks, open space, commercial recreation, trails, and urban forest that frames and complements the City's waterfronts, neighborhoods, and commercial areas.
- Policy OS-8 Waterfront Access.** Ensure safe and convenient access to the Alameda waterfront from all Alameda neighborhoods.
- Policy OS-9 San Francisco Bay Trail.** Support the completion of a continuous shoreline Bay Trail along the entire perimeter of the City of Alameda.
- Policy OS-10 Cross Alameda Trail.** Promote the completion of the Cross Alameda Trail for people walking, rolling, and cycling from the Alameda Point park at Seaplane Lagoon to the Miller Sweeney Bridge to support access to the citywide network of parks.
- Policy OS-12 Wildlife Habitat.** Promote the preservation, protection, and expansion of wildlife habitat areas, open space corridors, and ecosystems as essential pieces of the overall network and an important contributors to building citywide resilience.
- Policy OS-13 Jean Sweeney Open Space Park.** Support the completion of the last two phases of the 25-acre Jean Sweeney Open Space Park to include a community garden, demonstration gardens, walking trails, a bicycle skills loop, outdoor classroom, picnic areas, and large areas of open space and trees.
- Policy OS-14 Estuary Park.** Support the completion of the 8-acre Estuary Park to provide recreational facilities for the neighborhoods on the former Naval Air Station property in western Alameda to include passive recreational space, picnic areas, and basketball courts.
- Policy OS-16 Alameda Point Northwest Shoreline Park and Bay Trail Extension.** Partner with the East Bay Regional Park District to develop a 158-acre waterfront, public park, and Bay Trail extension on the Northwest Territories.
- Policy OS-17 Alameda Point Wildlife Refuge and Bay Trail Extension.** Partner with the Bureau of Veterans Affairs and the Department of Fish and Wildlife to create a seasonal trail along the shoreline of the Wildlife Refuge.
- Policy OS-18 De-Pave Park on the Seaplane Lagoon and Bay Trail Extension.** Implement the development of the 22-acre western shore of the Seaplane Lagoon as a passive nature park with upland and floating wetlands, educational and interpretive programs, picnic areas, camping opportunities, and nature trails.

- Policy OS-19 Seaplane Lagoon Park and Bay Trail Extension.** Support the development of the northern and eastern shore of the Seaplane Lagoon as an urban waterfront with access to the Ferry Terminal, the Bay Trail, waterfront dining and cafes, passive recreation space, an outdoor amphitheater, public boat launches, and non-motorized watercraft rental and lessons.
- Policy OS-21 Waterfront Developments.** Partner with private property owners to develop publicly accessible waterfront open space and Bay Trail facilities in new waterfront development.
- Policy OS-22 Alameda Point Marine Conservation, Wildlife and Recreation Area.** Partner with regional, state, and federal conservation agencies and volunteer nongovernmental organizations to seek funding to enhance and protect habitat values, ensure safe public access, and foster appreciation of the marine environment just south of Alameda Point.

CONSTRUCTION IMPACTS

Impact 17-1

Site preparation and construction of new buildings and facilities allowed under the Alameda General Plan 2040 could disturb the existing landscape and would introduce heavy construction equipment into public and private views. (LTS)

New residential, commercial, mixed-use, and industrial development could be constructed under the proposed General Plan that would result in temporary adverse aesthetic impacts on the development sites and their surroundings. Construction of such projects typically requires operation of heavy construction equipment for grading and other site preparation. In some cases, such as sites at Alameda Point, demolition of existing buildings, pavements, and other facilities could be required before construction could commence. Project sites could be cluttered with equipment, trucks, stockpiled materials, and construction workers and their vehicles throughout construction of new buildings and facilities, which could last for anywhere from a few months to one or two years. Exposed earth, building foundations, and partially completed structures would further degrade the visual character of construction sites. Similar to any construction project, the equipment, material, and activity would temporarily degrade the visual quality of any construction site, and could potentially have an adverse effect on views across a site toward a scenic visual backdrop to the site, such as views of San Francisco Bay.

The degree of impact would vary by site location, the setting of the site, including surrounding land uses, and the nature of the project. Where a site is surrounded by private land uses, such as businesses or residences, the impacts would not be significant because CEQA does not typically treat adverse effects on private vistas as significant environmental impacts. Additionally, the disturbance would be short-term in duration and, once complete, the new development would not constitute a substantial deterioration in the existing visual quality of the site; in most cases, the overall post-project aesthetics of the site would be improved through the use of thoughtful, aesthetically pleasing architecture and landscaping.

Some future construction sites could be visible from one or more public vantage points. For example, future mixed-use development at Coast Guard Island that would be allowed under the proposed General Plan would be visible from public vantage points along the Northern Waterfront, such as the public piers at the north end of Grand Street, as well as from the Embarcadero in Oakland. As another example, construction of future mixed-use development at Alameda Point could also be highly visible to car drivers on Main Street or from less-traveled roadways within Alameda Point.

While some viewers may find active construction sites to be aesthetically unpleasing, the visual impact to these viewers would not be significant. In the case of drivers passing a construction site, the visual disturbance would only be experienced for the few moments needed to pass the site, and in most cases drivers would need to turn their heads to have a direct view of a site. Pedestrians passing a site could experience a greater degree of visual exposure, but it would still be limited to the few minutes (or less) it would take to walk past a given site. Where viewers in a public park or other public vantage point would be seated or otherwise more static, a particular construction site would comprise just a portion of the overall viewshed available to the viewer, in some cases a very small portion of the viewshed. Such viewers could divert their attention to other more pleasing points of focus.

More importantly, CEQA does not typically treat the temporary disruption and visual degradation that occurs during any construction project to be a significant visual impact. Furthermore, the majority of visual receptors who would notice the visual degradation of a project site during construction would experience this from public vantage points for a brief time, such as the few seconds necessary to drive, bicycle, or walk past an active site. Therefore, for the forgoing reasons, this impact would be ***less than significant***.

Mitigation Measure 17-1

None required.

AESTHETIC IMPACTS

Impact 17-2

Implementation of the *Alameda General Plan 2040* could adversely affect scenic vistas of San Francisco Bay and lands bordering the Bay, and could damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a State scenic highway. (LTS)

To a large extent, scenic vistas from within Alameda are confined to the shoreline areas, and consist of views of San Francisco Bay or the Oakland Estuary. This is due to the flat topography of the city and the dense development of the interior with buildings that obstruct long-distance views. The substantial number of mature trees growing throughout the city further limit the availability of views of distant scenic resources, such as the East Bay Hills.

The one exception to this is at the western half of Alameda Point, on the former NAS Alameda, which is virtually flat and devoid of structures, except for former airport runway pavements and an occasional shack or outbuilding. There are no trees to obscure views within this portion of Alameda Point. Views from the western half of Alameda Point that could be considered scenic vistas include San Francisco Bay, the City of San Francisco, the San Francisco-Oakland Bay Bridge, Mt. Tamalpais in Marin County, the City of Oakland, the East Bay Hills, and San Bruno Mountain on the San Francisco Peninsula. Due to the flat topography, views are unobstructed and extend for many miles in all directions, depending on weather and air quality conditions. While these views are expansive and undeniably scenic, implementation of the proposed General Plan would not adversely affect these views because the majority of the area is designated as protected wildlife habitat, where the only permitted development would be structures and uses that support preservation of the habitat, with an allowable floor area ratio of less than 0.25. The only other designated land use in this area is in the northern portion, which is assigned the Public Parks and Recreation Areas designation, where only recreation uses would be allowed at the same low FAR of 0.25. Thus, the views in this area would be largely unchanged under buildout of the General Plan.

Views in the eastern half of Alameda Point are considerably more constrained, but they are more extensive than in most other parts of the city, partially as a result of the broad boulevards, large building setbacks, and limited numbers of trees. Long-distance views of the City of San Francisco and the Bay occur along roadway view corridors, where buildings line the roadway and frame the view. Unobstructed views of the Bay are also available from most shoreline locations within Alameda Point. Additionally, views of the Estuary, East Bay Hills, and the City of Oakland are available throughout Alameda Point when not obstructed by buildings or trees.

Future new mixed-use development allowed under the proposed General Plan in the eastern half of Alameda Point could constrain some existing views, primarily in the view corridors defined by the area's roadways, because more buildings would be constructed up to the lot lines on site frontages, or with smaller setbacks than currently exist. This would serve to further narrow the adjacent view corridors. As more street trees are introduced, there would be additional narrowing of the view corridors.

These changes would not constitute a significant impact for a number of reasons. First, unlike the views from the western half of Alameda Point, the existing views are not at all expansive; they are highly constrained by the surrounding development. Secondly, where narrow but scenic views of San Francisco or the East Bay Hills are presently visible, these features are far in the distance, comprise a tiny portion of the overall viewshed, and are not visible at all during many common climatic and weather conditions. Finally, in cases where an existing view corridor might be narrowed by new development placed closer to the roadway, the changes would be incremental and not substantial.

Scenic shoreline vistas in other parts of Alameda would for the most part remain unchanged under the proposed General Plan. Almost all of the southern shoreline on Alameda Island is designated as Public Parks and Recreation Areas, with some stretches designated as Wildlife Habitat. Aside from one parcel with a Public Institutional land use designation, the eastern end of the island is

designated Low-Density Residential and the northeast end is designated Medium-Density Residential. These shoreline areas are fully developed with existing uses and are not expected to change under the proposed General Plan. Similarly, the scenic vistas available from the beaches and trails along the southern shoreline of Alameda Island and Bay Farm Island would not be altered by implementation of the Alameda General Plan 2040. While there are some undeveloped and underutilized parcels along Alameda's shoreline, development of these parcels would be subject to the City of Alameda Design Review process and the policies in the General Plan policies requiring preservation and enhancement of Alameda's waterfronts as unique destinations by maximizing waterfront access from adjoining neighborhoods by optimizing visual and physical access to the waterfront by maintaining views and access to the water along streets and other public rights-of-way and requiring that buildings adjacent to the shoreline provide attractive and varied facades that reflect Alameda's distinctive architectural heritage and character. Waterfront architectural and landscape designs should respect, but not mimic, the historic maritime character of the waterfront.

With respect to scenic resources, there are no significant rock outcroppings in Alameda, and the preservation of scenic trees is something that will be addressed on a project-by-project basis as new development is proposed. Removal of trees within the public right-of-way would be subject to Municipal Code Section 23-3.2, which requires approval by the Public Works Director, and to the *Alameda Master Street Tree Plan*, which prohibits the removal of any protected tree within the public right-of-way without a certificate of approval from the Historical Advisory Board. Protected trees include the palm trees in the public right-of-way on Burbank Street and Portola Avenue, any street tree on Thompson and Central Avenues, and any Coastal Live Oak (*Quercus agrifolia*) with a 10-inch or greater diameter measured 4.5 feet above the ground.

Proposed removal of scenic trees from private property would be evaluated as part of the City's development review process, and the City would work with a property owner proposing to remove a scenic tree to minimize the impact through avoidance, relocation (if feasible), or providing suitable replacement trees. Because future development allowed under the proposed General Plan would for the most part occur as infill development on previously disturbed or developed sites, it is not anticipated that there would be a substantial number of requests to remove scenic trees from private property.

The threshold of significance for damage to scenic resources applies to those resources located within a State scenic highway. There are no State-designated scenic highways in Alameda.⁷ Therefore, all future development in Alameda consistent with the proposed General Plan would have a ***less-than-significant impact*** on scenic vistas and scenic resources, for the reasons set forth above, and no mitigation would be required.

⁷ California Department of Transportation (Caltrans), List of Eligible and Officially Designated State Scenic Highways, Accessed April 28, 2021 at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.

Mitigation Measure 17-2

None required.

Impact 17-3**Implementation of the *Alameda General Plan 2040* would not conflict with applicable zoning or other regulations governing scenic quality. (LTS)**

The City of Alameda is an urban island community that is largely built out, with few vacant parcels. Therefore, the applicable standard of significance as set forth in Environmental Checklist Section I-c of Appendix G of the *CEQA Guidelines* is the one pertaining to urbanized areas (see Section 17.3, above). However, it is worth noting that future development allowed under the proposed General Plan would also not exceed the threshold of significance applicable to non-urbanized area, i.e., it would not substantially degrade the existing visual character or quality of the sites and surroundings where new development could occur.

The City has promulgated a variety of regulations that are intended to contribute to a positive aesthetic environment. Following are some typical examples from the City's Municipal Code that directly or indirectly contribute to the scenic quality of the City:

- **Section 23-3 – Trees and Shrubbery:** This section regulates the placement, maintenance and removal of trees, hedges, and shrubs located within the public right-of-way (ROW) of Alameda's streets and public places. It requires private property owners to maintain trees, plants, and shrubs on their property such that it does not encroach on the public ROW and maintains adequate vertical clearance over public sidewalks and adjacent streets.
- **Section 23-4 – Weeds, Rubbish and Rubbish and Rubbish Control:** This section requires private property owners to maintain their property free and clear of all weeds, rubble, rubbish, or other rank growths and to ensure that such obstructions do not encroach on City sidewalks or streets.
- **Section 23-5 – Abandoned Vessels; Removal:** This section prohibits the beaching or abandonment of boats and other watercraft.

Alameda more directly regulates scenic and visual quality in the City through adopted General Plan policies. For example, the City Design Element of the current General Plan contains numerous policies pertaining to aesthetics. In particular, Policy 3.2.d calls for maintaining views and access to the water along streets and other public rights-of-way that extend to the bulkhead line and Policy 3.2.i states that sections of the Estuary waterfront should remain visually unobstructed. The City Design Element also has policies calling for preservation of the architecture and historic integrity of the City's many historic residences and other buildings.

Because the project would entail adoption of a new general plan, the policies in the proposed *Alameda General Plan 2040* are more pertinent for purposes of this discussion. The Land Use and City Design Element discusses the qualities that give Alameda its unique character, and cites leafy

streets, connection to nature and public open spaces, and quality of architecture and design as some of the key qualities, all related to visual and/or scenic quality. Numerous policies in the element support preservation or enhancement of these qualities. Some relevant policies include the following:

- **Goal 4: Design** promotes sustainable, high-quality, accessible city design.
- **Policy LU-25** promotes the preservation of buildings of architectural significance, as well as historic properties and archaeological resources.
- **Policy LU-26** calls for high-quality architectural design in all new buildings and additions to complement Alameda’s existing architectural assets.
- **Policy LU-27** requires the protection and enhancement of Alameda’s diverse neighborhood architecture and landscape design.
- **Policy LU-28** requires new commercial buildings and alterations to existing commercial buildings to be harmonious with the architectural design of the surrounding mixed-use district.
- **Policy LU-30** calls for the preservation and enhancement of Alameda’s waterfronts by maximizing physical and visual access from adjoining neighborhoods and streets.
- **Policy OS-9** supports the completion of a continuous shoreline Bay Trail along the entire perimeter of the City of Alameda.

This is not a complete list of policies in the proposed General Plan intended to preserve and enhance visual and scenic quality in Alameda. There are also policies pertaining to the aesthetics of Alameda gateways, bridges, parking facilities, and more. There are additional policies in the Parks and Open Space Element promoting development of parks and open spaces that provide access to scenic resources, including Policies OS-10, OS-12, OS-13, OS-14, and OS-15 through OS-22.

Future development proposals would be evaluated for their consistency with the City’s adopted General Plan policies, including the policies referenced above. Most sites that will be developed over the 20 year period covered by the General Plan are sites with existing buildings and improvements. Redevelopment of these sites will result in new buildings, or enlarged existing buildings that would be subject to design review to ensure that high-quality architectural design is employed in the project.

There is no evidence or reason to believe that Implementation of the *Alameda General Plan 2040* would conflict with applicable zoning or other regulations governing scenic quality. While future development allowed under the *Alameda General Plan 2040* would result in substantial changes to the sites of development, the changes would not be expected to result in substantial degradation of the existing visual character or quality of the sites or their surroundings, or to conflict with policies or regulations governing scenic and visual quality. To the contrary, implementation of the proposed General Plan objectives, policies, and actions, listed at the beginning of Section 17.4, above, would minimize potential visual and scenic impacts from new development. Implementation of those policies and actions would help protect the visual character of the City as new land uses

are constructed, and the policies and actions would contribute to the creation of more aesthetic open space resources in the City. Consequently, implementation of the *Alameda General Plan 2040* would have a ***less-than-significant impact*** due to a conflict with applicable zoning or other regulations governing scenic quality.

Mitigation Measure 17-3

None required.

LIGHTING IMPACTS

Impact 17-4

Future development allowed under the *Alameda General Plan 2040* could create new sources of substantial new nighttime lighting that could adversely affect nighttime views in the area, including light pollution and skyglow. (LTS)

Each new development project that could be constructed in accordance with the proposed General Plan would require interior and exterior nighttime lighting that would contribute to the existing lighting environment. Some of these projects would be developed on infill parcels, where they would be surrounded by existing development with its own nighttime lighting. For such projects, compliance with the Alameda Dark Skies Ordinance, which requires fully shielded and downward-directed exterior lighting and limits light trespass at neighboring properties, would ensure that the nighttime lighting effects from new development would be less than significant.

However, due to the existing low levels of nighttime illumination at Alameda Point and the large amount of new development that could be approved consistent with the *Alameda General Plan 2040*, new development in this area could create substantial new light that could adversely affect nighttime views of the area. This impact was previously identified in the Alameda Point Project EIR that was certified by the City in February 2014. That EIR is incorporated by reference, and its mitigation requirements for nighttime lighting are adopted in this EIR. A copy of the Alameda Point Project EIR may be reviewed at the Alameda Planning Department, located at 2263 Santa Clara Avenue, Alameda, and may also be accessed online at: <https://www.alamedaca.gov/files/assets/public/departments/alameda/base-reuse/environmental/alameda-point-draft-eir.pdf>.

The analysis of the nighttime lighting impact presented in the Alameda Point Project EIR is summarized below.

Planned development at Alameda Point would include a sports complex on the eastern edge of the planning area along the Oakland Estuary. The sports complex would include a range of sports facilities, including baseball, soccer, football, and basketball. There would be eight outdoor soccer fields and associated facilities and parking areas that would require elevated high-intensity outdoor light to illuminate the playing fields during nighttime use, creating a potential for spillover of intrusive amount of lights into nearby areas.

The potential for impacts from the sports complex nighttime lighting would be greatest for the existing residential homes in the northeast portion of Alameda Point and east of Main Street, as well as future residential units that could be constructed under the proposed General Plan. General project lighting would also be visible from areas across the Oakland Estuary, including Jack London Square. Given the height and density of planned uses on the site, the nighttime skyline of Alameda Point would become a prominent new visual presence within the nighttime view of the Bay.

Alameda Point development within the sub-areas identified as the Northwest Territories (NWT), Civic Core, and Marina, which are depicted on Figure VQ-1, must comply with requirements established by the U.S. Fish and Wildlife Service' (USFWS) Biological Opinion (BO) issued in August 2012 for the proposed transfer and reuse of the NAS Alameda. These and other requirements were also part of the U.S. Navy's Declaration of Restrictions recorded in June 2013 that apply to all surplus federal property conveyed to the City or other non-federal entity in the NWT, Civic Core, and Marina areas in order to limit the effects of additional lighting and glare on California least terns. Development at Alameda Point is also subject to the lighting requirements documented in a Memorandum of Understanding (MOA) with the Department of Veterans Affairs (VA).

As outlined in the BO issued by USFWS, future development at Alameda Point within the NWT, Civic Core, or Marina subareas would be required to comply with the following avoidance and minimization measures (AMMs):⁸

- 7a) Lighting associated with building security and other lighting needs or requirements throughout the NWT, Civic Core Area, and Marina Area shall be allowed as long as the cumulative increase in ambient nighttime light levels, from VA and City sources as defined in 7b, does not exceed 10 percent above the ambient nighttime light levels in these areas, prior to any VA or City development on transferred/conveyed lands, as defined in Silverman and Light (2011) or another Service-approved lighting study conducted prior to conveyance and between April 1 to August 15, with full development of the NWT, Civic Core Area, and Marina Area, including VA development.
- 7b) The VA conducted a study (Silverman and Light, 2011) to determine the existing ambient nighttime light levels at several locations around the least tern colony site. In April of each year following the installation of any light sources that may increase the foot-candle nighttime light level at the least tern colony, the City, in coordination with the VA, shall ensure the foot-candle nighttime light levels are appropriately sampled and have not exceeded 10 percent of the pre-conveyance levels established by the VA in Silverman and Light (2011) lighting study. In the event of an increase above 10 percent from the VA and City sources, corrective action will be taken within 2 months to reduce nighttime light levels to less than 10 percent of the pre-conveyance ambient nighttime light level. The results of the April nighttime light level sampling will be included as part of the annual least tern monitoring and management report.

⁸ U.S. Fish and Wildlife Service (USFWS), *Biological Opinion on the Proposed Naval Air Station Alameda Disposal and Reuse Project*, August 29, 2012.

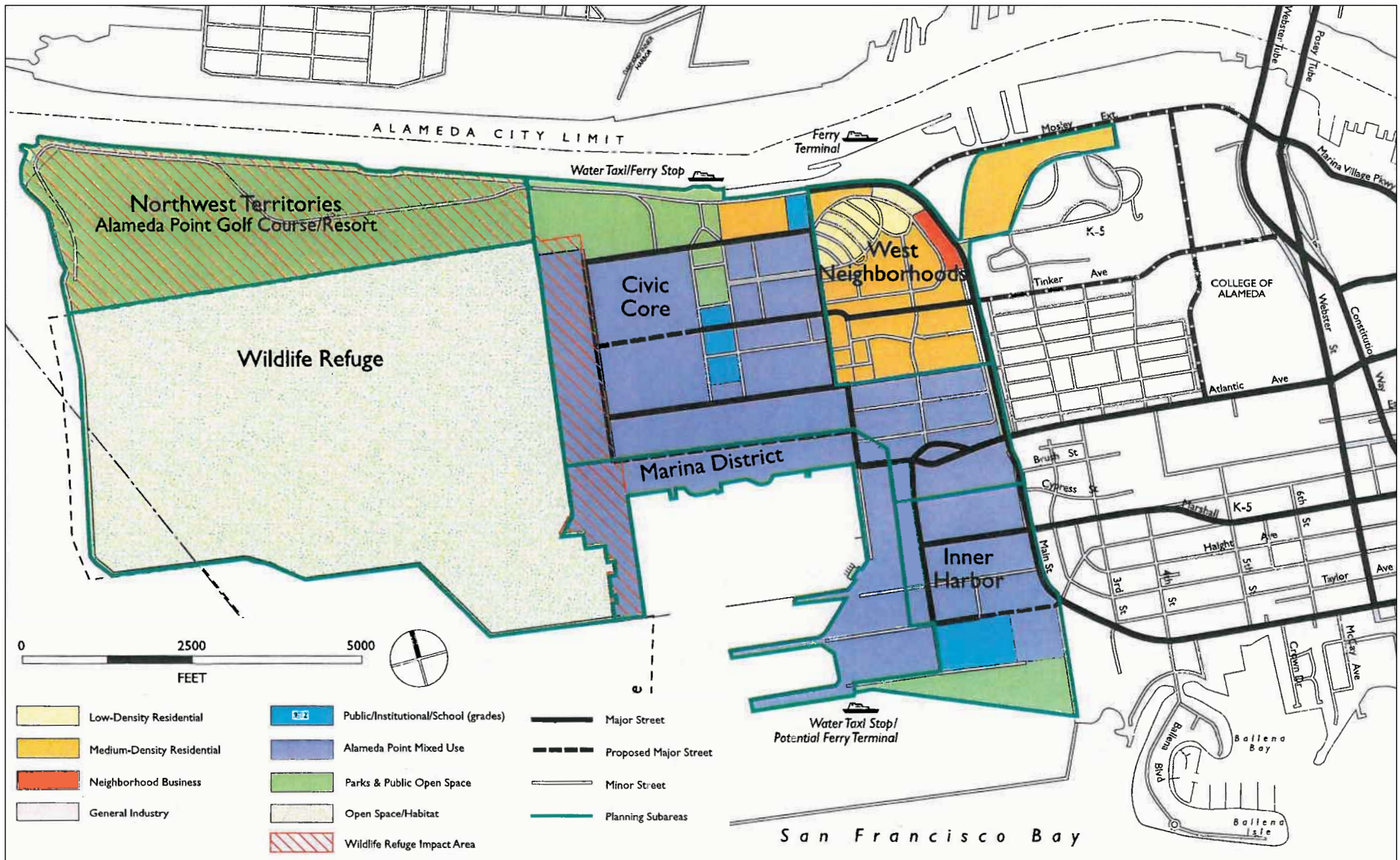


Figure VQ-1

Planning Subareas at Alameda Point

- 7c) As a condition of approval for any project, the City shall perform design review to ensure the cumulative increase in ambient nighttime light levels within and near the least tern colony from VA and City sources does not exceed 10 percent of the pre-conveyance levels from April 1 to August 15, as described in avoidance and minimization measures 7a and 7b. The City shall develop lighting requirements and provide them to all project applicants.
- 8d) The Sports Complex fields shall not be lighted for nighttime play between April 1 and August 15, unless proposed lighting in these areas can be designed to ensure that lighting for the VA and City projects cumulatively will not exceed the light levels by the VA in Silverman and Light (2011) lighting study, Avoidance and Minimization Measure 7a. A maximum of 55 light poles, not to exceed 20 feet in height, may be installed and must contain anti-perching devices within the soccer fields and parking areas.

In addition, the MOA between the City and the VA contains an agreement by the City to implement the aforementioned AMMs. The two major provisions of the MOA are:

- 1) Coordinating to monitor nighttime lighting levels on an annual basis and taking any corrective actions necessary to reduce nighttime lighting levels; and
- 2) Implementing lighting mitigation measures for all new improvements and development at Alameda Point.

Finally, the *Alameda General Plan 2040* policies ensure that, consistent with the MOA, all lighting installations at Alameda Point near the Wildlife Refuge will be designed and installed to be fully shielded (full cutoff) to minimize glare and obtrusive light and avoid misdirected or excessive illumination.

As previously noted, new and modified development elsewhere in the City consistent with the proposed *Alameda General Plan 2040* would be subject to the City's Design Review process and the Alameda Dark Skies Ordinance, which would minimize the potential for light trespass and contribution to skyglow. Therefore, future development would have a ***less-than-significant impact*** related to the introduction of new nighttime lighting.

Mitigation Measure 17-4

None required.

CUMULATIVE IMPACTS

Future development that is consistent with the proposed General Plan would occur as infill development on sites surrounded by existing urban development. As required by the City's design review process, future projects would need to be designed to be aesthetically harmonious with their surroundings. Changes to visual conditions from such projects would be incremental and would not have significant, adverse aesthetic impacts. In many cases, the developments could enhance the visual character of the sites and their surroundings. For these reasons, the development of multiple projects over time would not have the potential to result in cumulatively considerable adverse visual impacts.

Within Alameda Point, future development would generally have a beneficial aesthetic effect on the area compared to existing conditions. The area is currently characterized by many vacant and deteriorating buildings, large open expanses of pavement, very few trees, and little to no landscaping. Many large blocks are completely devoid of any vegetation and are covered with buildings and pavements, resulting in an industrial character that is not conducive to pedestrian activity. The planned redevelopment of the area would over time transform it to vibrant mixed-use community of multi-family residential housing, townhomes, retail and hotel space, commercial service uses, offices, a business park, institutional uses, and manufacturing and warehouse space. Numerous parks and recreation areas would be developed and a new ferry terminal would be constructed on the eastern shoreline of Seaplane Lagoon. Future development would also include new landscaping, street trees, and roadway improvements, which would further contribute to the enhanced visual character of the area. Therefore, implementation of the proposed General Plan would have a beneficial cumulative impact on aesthetics at Alameda Point.

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18. CULTURAL RESOURCES

18.1 Introduction

This chapter analyzes the impacts associated with implementation of the proposed General Plan on the historic and cultural resources in the City of Alameda. Cultural resources are defined as prehistoric and historic sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. Cultural resource impacts include those to existing historic resources (i.e., historic districts, landmarks, etc.) and to archeological resources, including Native American resources.

18.2 Setting

REGULATORY FRAMEWORK

Federal

The National Historic Preservation Act (NHPA) of 1966 was passed by Congress to preserve and protect the historical and cultural foundations of the Nation from damage due to development. Section 106 of the NHPA requires federal agencies to consider potential impacts to historic resources when implementing projects under their jurisdiction or when providing funding or issuing permits to projects being implemented at the state and local level. The Act established the National Register of Historic Places, the list of National Historic Landmarks, the Advisory Council on Historic Preservation, and the State Historic Preservation Offices (SHPOs).

The National Register of Historic Places (NRHP, or National Register) is the nation's most comprehensive inventory of historic resources. The National Register is administered by the National Park Service and includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. The Section 106 review of the NHPA must consider potential impacts on sites listed on or eligible for listing on the National Register.

Structures, sites, buildings, districts, and objects over 50 years of age can be listed in the NRHP as significant historic resources. However, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP. The criteria for listing in the NRHP include resources that:

- A) are associated with events that have made a significant contribution to the broad patterns of history (**Criterion A**);

- B) are associated with the lives of persons significant to our past (**Criterion B**);
- C) embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (**Criterion C**); or
- D) have yielded or may likely yield information important in prehistory or history (**Criterion D**).

State

California Environmental Quality Act (CEQA)

CEQA Guidelines Section 15064.5 requires that public or private projects financed or approved by public agencies must assess the effects of the project on historical resources. Historical resources generally include buildings, sites, structures, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance.

Under *CEQA Guidelines* Section 15064.5(a), “historical resources” include the following:

- 1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (*Public Resources Code* Section 5024.1, Title 14 CCR, Section 4850 *et seq.*).
- 2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the *Public Resources Code* or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the *Public Resources Code*, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- 3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources (*Public Resources Code* §5024.1, Title 14 CCR, Section 4852), including the following:
 - a) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
 - b) is associated with the lives of persons important in our past;
 - c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - d) has yielded, or may be likely to yield, information important in prehistory or history.
- 4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical

resources (pursuant to Section 5020.1(k) of the *Public Resources Code*), or identified in a historical resources survey (meeting the criteria in section 5024.1(g) of the *Public Resources Code*) does not preclude a lead agency from determining that the resource may be a historical resource as defined in *Public Resources Code* sections 5020.1(j) or 5024.1.

Historic resources are usually 45 years old or older and must meet at least one of the criteria for listing in the California Register of Historical Resources (CRHR) described above (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity.¹ Properties eligible for listing in the National Register are automatically listed in the California Register.

Archaeological resources that are not “historical resources” according to the above definitions may be “unique archaeological resources” as defined in Public Resources Code Section 21083.2, which also generally provides that “non-unique archaeological resources” do not receive any protection under CEQA. If an archaeological resource is neither a unique archaeological resource nor an historical resource, the effects of the project on those resources will not be considered a significant effect on the environment.

CEQA requires that if a project would result in an effect that may cause a substantial adverse change in the significance of a historical resource, or would cause significant effects on a unique archaeological resource, then alternative plans or mitigation measures must be considered. Therefore, prior to assessing effects or developing mitigation measures, the significance of cultural resources must first be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

- identify potential historical resources and unique archaeological resources;
- evaluate the eligibility of historical resources; and
- evaluate the effects of the project on eligible historical resources

State Historical Building Code

The California Office of Historic Preservation states that the California State Historical Building Code (CHBC), codified in Sections 18950 to 18961 of Division 13, Part 2.7 of the Health and Safety Code, is one of California’s most valuable tools for the preservation of historic resources. The CHBC is intended to save California’s architectural heritage by recognizing the unique construction issues inherent in maintaining and adaptively reusing historic buildings, and establishing alternative building regulations for repairs, alterations, and additions to historic buildings. The code includes provisions for the fire and seismic safety of buildings, similar to standard building codes, while preserving the historical value of qualified historical buildings and structures.

The CHBC requires modification of any building deemed a “qualified historical building or structure” to conform to the alternative building standards and regulations of the CHBC and requires local building departments to enforce the code provisions. Pursuant to Senate Bill 2321 (1984), the CHBC

¹ CEQA Guidelines Section 15064.5 (a)(3).

regulations are no longer discretionary for public agencies, but have the same authority as State law. Revisions to the CHBC are made by the State Historical Building Safety Board, which is comprised of 22 representatives from the Division of the State Architect, State Fire Marshal, Cal/OSHA, Historic Resources Commission, Caltrans, Seismic Safety Commission, Department of Housing and Community Development, and League of California Cities, among others.

Health and Safety Code Section 18955 defines “qualified historical building or structure” as any structure or property, collection of structures, and their related sites deemed of importance to the history, architecture, or culture of an area by an appropriate local or state governmental jurisdiction. This includes historical buildings or structures on existing or future national, state or local historical registers or official inventories, such as the National Register of Historic Places, State Historical Landmarks, State Points of Historical Interest, and city or county registers or inventories of historical or architecturally significant sites, places, historic districts, or landmarks.

As discussed below under the subheading Other Historic Resources in Alameda, the City of Alameda has compiled an Historical Building Study List that lists hundreds of historic resources in the City. The CHBC applies to all properties included on that list.

Senate Bill 18 and Assembly Bill 52

In 2004 the California legislature passed Senate Bill (SB) 18, which requires local governments to contact and consult with California Native American tribes prior to adoption or amendment of a general plan, specific plan, or designation of open space. This requirement was expanded with the passage in 2014 of Assembly Bill (AB) 52, which established a consultation process with all California Native American tribes included on a list maintained by the Native American Heritage Commission (NAHC). For a specific development project, the consultation must be with a tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.

AB 52 established a new class of cultural resources, Tribal Cultural Resources. A Tribal Cultural Resource (TCR) is a site feature, place, cultural landscape, sacred place, or object that is of cultural value to a Native American tribe and is either on or eligible for the CRHR or a local historic register, or the lead agency chooses, at its discretion, to treat the resource as a TCR.

For any development project application deemed complete by a lead agency after July 1, 2015, the lead agency must provide written notification within 14 days to all tribes that have requested placement on the agency’s notification list. The notification must provide the project location, a brief description of the project, the lead agency contact information, and notice that the tribe has 30 days to request consultation. If a tribe requests consultation, it must begin within 30 days.

California Government Code Section 65352.4 defines this consultation as: “the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties’ cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party’s sovereignty. Consultation shall also recognize the tribes’

potential needs for confidentiality with respect to places that have traditional tribal cultural significance.”

According to California Public Resources Code Section 21080.3.2, the consultation may include discussion concerning the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project’s impacts on the tribal cultural resources, and, if necessary, project alternatives or the appropriate measures for preservation or mitigation that the California Native American tribe may recommended to the lead agency.

The lead agency must conduct an assessment of potential TCR impacts. In general, potentially significant impacts to prehistoric archaeological resources may be considered potentially significant impacts to TCRs. Mitigation measures to reduce impacts to TCRs must be developed in coordination with the consulting tribal group. The preferred approach to mitigation is avoidance or preservation in place. If this is not feasible, the mitigation may take the form of interpretive treatment. Mitigation measures agreed to during tribal consultation must then be carried over into the CEQA document (i.e., EIR or Mitigated Negative Declaration) and the associated Mitigation Monitoring and Reporting Program (MMRP) that must be adopted by the lead agency as part of the CEQA process.

The consultation required by AB 52 is considered complete when either the parties agree to measures to mitigate or avoid any significant impact on TCRs, or if one of the parties, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

To ensure full compliance with SB 18, on April 24, 2020 the City proactively requested that the Native American Heritage Commission provide a list of tribal groups that are historically and culturally affiliated with the City of Alameda. The NAHC responded on April 29, 2020 and provided a list of tribal representatives of seven affiliated tribes, with two contacts listed for the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area. The following tribes were identified by the NAHC:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- North Valley Yokuts Tribe
- The Ohlone Indian Tribe
- The Confederated Villages of Lisjan

On May 1, 2020, the City of Alameda mailed letters to the representatives of each of these tribes identified by the NAHC, providing information about the proposed *Alameda General Plan 2040* and inviting them to submit comments or request consultation regarding the project. As of the date of publication of this Draft EIR, no responses had been received from any of the tribal groups.

Local

The proposed *Alameda General Plan 2040* emphasizes restoration and preservation of Alameda's history and the historic urban fabric and architecture that is essential to Alameda's economic, social, and cultural environment. A number of the policies promulgated in the General Plan pertain to cultural resources, including prehistoric archaeological resources, historic resources, and tribal cultural resources. These policies are discussed in relevant discussions of potential impacts to cultural resources, presented in Section 18.4.

The City also has a Historic Preservation Ordinance, promulgated in Chapter 13, Article VII of the Alameda Municipal Code. As stated in Municipal Code Section 13-21.1, the purpose of the ordinance is "to promote the educational, cultural, and economic welfare of the City by preserving and protecting historical structures, sites, parks, landscaping, streets, and neighborhoods which serve as visible reminders of the history and cultural heritage of the City, State or Nation. Furthermore, it is the purpose of this chapter to strengthen the economy of the City by stabilizing and improving property values in historic areas, and to encourage new buildings and developments that will be harmonious with the existing buildings and neighborhoods."

The Historic Preservation Ordinance assigns responsibilities to the Alameda Historical Advisory Board (HAB) pertaining to designation and preservation of historical monuments. The ordinance establishes criteria and procedures for the designation and preservation of historical monuments, and prohibits the demolition, removal, or alteration of any building, structure, group of structures, or site, including trees or plantings, that has been designated a Historical Monument without prior review and approval by the HAB. Among other specific provisions of the ordinance, it requires designated Historical Monuments and buildings or structures included on the City's Historical Building Study List to be maintained in good repair by the owner, and it requires automatic review by the HAB of proposed demolition or removal of any building constructed prior to 1942, which also requires a Certificate of Approval from the HAB. A Certificate of Approval from the HAB is also required for demolition or removal of any non-building structure included on the City's Historical Building Study List.

The ordinance also identifies protected trees and requires a Certificate of Approval from the HAB for their removal. Protected trees include coast live oaks (*Quercus agrifolia*) with a diameter of 10 inches or more, palm trees within the public right-of-way on Burbank Street or Portola Avenue, and any street tree on Thompson Avenue or Central Avenue.

PREHISTORIC AND HISTORICAL SETTING

This section summarizes the cultural history of the study area. Since archaeological regions can represent large geographic areas and display some cultural homogeneity, a discussion of the prehistoric, ethnographic, and historic contexts is useful in the evaluation of potential impacts to cultural resources in the project area.

Prehistoric Period

Prior to the arrival of Europeans in the late 18th Century, much of the San Francisco Bay area was occupied for thousands of years by a collection of Native American tribal groups referred to as Costanoans. The name was derived from the Spanish word for “coast dwellers,” *los costaños*. Subsequently, Costanoans were referred to by ethnographers as Ohlone, which is the term preferred by some of the affiliated tribal groups. Also referred to as Bay Miwok, the Ohlone occupied an area stretching from below Monterey, northward through the Coast Ranges to the Sacramento River Delta, and eastward to the San Joaquin River.

The Ohlone, like other west-central California Native American groups, were organized into autonomous territorial linguistic and political groups. Each territorial group was a community of interrelated families that occupied and occasionally defended a common territory, seasonally cooperated to harvest various food resources, and jointly participated in ceremonies viewed as intrinsic to cosmological maintenance or successful passage through life events. The various Ohlone languages spoken in the region were all a subfamily of the Utian language. The languages spoken in the Ohlone territories included Chochenyo, Matsun, Rumsen, and Tamyen, among others.

The present-day City of Alameda lies within the prehistoric territory of the Chochenyo. The Chochenyo occupied a large area extending from present day Richmond to Mission San Jose, including the entire Alameda Creek watershed, and inland to the Livermore and Pleasanton Valleys.

The Ohlone subsisted on the bountiful natural food resources that characterized the Bay Area at the time of European incursion into the region. Much of their diet was seasonal, focusing on foods that were particularly abundant at different times of the year. Staples of their diet included fish (principally salmon), shellfish, waterfowl, tule elk, and acorns. Acorns were pounded by mortar and pestle to form a mush that was often flavored with berries. Other wild plants and small game such as rabbits also contributed to their diet. The Ohlone fished from creeks using nets and/or basket traps deployed from small rafts constructed of tule rushes, propelled by double-bladed paddles.

The houses of the Bay Ohlone were conical or dome-shaped structures of interlaced poles and twigs covered with brush or tule bulrushes. The houses were grouped together around a central cleared area. The small villages were generally located near sources of fresh water such as creeks and springs, though they were also found on alluvial flats and along the first set of ridges between valleys and mountain ranges.

An extended family household averaging about 15 persons comprised the basic Ohlone social unit, though the size could vary considerably. Ohlone society was divided into moieties and further divided into clans. The largest social unit was the tribelet, which consisted of a group of interrelated villages under the leadership of a single headman. Tribelets ranged in size from 200 to 400 individuals and were politically and socially autonomous.

Infiltration of Europeans into the Bay Area rapidly led to the decimation of the Ohlone people. They were forced into servitude on the Spanish missions and large “rancherías” in northern Alameda and

Contra Costa counties. Disease and overwork, as well as conflicts with other tribal groups, led to their decline. By the beginning of the American historical period (1848), the Ohlone had ceased to exist as an ethnic or linguistic entity.

Archaeologists have divided human history of the San Francisco Bay region into four broad periods: the Paleoindian Period (11,500 to 8000 B.C.), the Early Period (8000 to 500 B.C.), the Middle Period (500 B.C. to A.D. 1050), and the Late Period (A.D. 1050 to 1550). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

Evidence of human habitation during Paleoindian Period, which was characterized by big-game hunters occupying broad geographic areas, has not yet been discovered in the San Francisco Bay Area. During the Early Period (Lower Archaic; 8000 to 3500 B.C.), geographic mobility continued but the period is also marked by the introduction of milling slabs and hand stones for processing acorns and large wide-stemmed and leaf-shaped projectile points for use in hunting weapons. The first cut shell beads and the mortar and pestle are documented in burials during the Early Period (3500 to 500 B.C.), indicating the beginning of a shift to sedentism.

During the Middle Period, which includes the Lower Middle Period (500 B.C. to A.D. 430), and Upper Middle Period (A.D. 430 to 1050), geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich midden sites are recorded from this period. The addition of milling tools, obsidian and chert concave-base projectile points, and the occurrence of sites in a wider range of environments suggest that the economic base was increasingly diverse.

By the Upper Middle Period, highly mobile hunter-gatherers were increasingly settling down into numerous small villages. Around A.D. 430 a dramatic cultural disruption occurred evidenced by the sudden collapse of the Olivella saucer bead trade network. During the Initial Late Period (A.D. 1050 to 1550), social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments.

Historical Period

Spanish colonists began occupying coastal California during the latter part of the 18th century. This region was a small part of New Spain, a Spanish empire begun in 1521 that ultimately encompassed all of the western half of the United States and much of the south, as well as Mexico, large portions of central and south America, numerous Pacific islands, and parts of Asia. The first settlement in "Alta California," was colonized in 1769 with a Presidio in what is now the City of San Diego. Father Junipero Serra founded this as the first of 21 Spanish missions he would subsequently establish in Alta California. The missions were intended to spread Christianity, converting local Native Americans to the religion, while establishing military presidios for the protection of the missions

and the vast land areas they controlled. Missions were also established in Santa Barbara, Monterey, San Jose, and Santa Clara (1777), among other places.

The Spanish colonization began decimating the Native American inhabitants in the region through epidemics of various diseases for which the indigenous peoples had no natural immunity, such as measles and diphtheria. Changes in diet and harsh treatment at the hands of the Europeans also reduced the Native American populations. Between 1770 and 1832, the estimated total Ohlone population in the region had been reduced from 10,000 or more to less than 2,000.

At the end of the 11-year Mexican War of Independence, Spain granted independence to Mexico in 1821 and Alta California became a Mexican province rather than a Spanish colony. Mexico subsequently granted large tracts of land in California to military heroes and loyalists, who went on to run vast ranchos with cattle production and crop cultivation. The Mexican government secularized the missions between 1834 and 1836, and they were eventually abandoned or incorporated into the ranchos. The Indians associated with the missions scattered, some of whom returned to the area of their original villages.

Following 3,500 years of occupation by the Chochenyo subtribe of Ohlone, Spanish colonists began occupying what was then a 2,200-acre peninsula encompassing present-day Alameda. It was first visited by Spanish explorers Pedro Fages and Reverend Juan Crespi, who passed through in 1772. In 1820, the last Spanish governor of California, Governor Pablo Vicente de Solá, granted Rancho San Antonio—a 44,880-acre swath of land that included the Alameda peninsula—to Luís María Peralta, who had been a long-serving sergeant in the Spanish Army, and whose father, Corporal Gabriel Peralta, brought his family to Alta California during the 1775-76 expedition led by Juan Bautista de Anza from present-day Mexico, his second expedition to Alta California on behalf of the King of Spain.

This was one of the largest of numerous California land grants bestowed first by the Spanish government and later by the Mexican government upon favored citizens. It encompassed most of the East Bay, including the present-day cities of Alameda, Oakland, San Leandro, Piedmont, Berkeley, Albany, El Cerrito, and the hills along the eastern edge of these cities. Luís Peralta later divided Rancho San Antonio among his four surviving sons, with Antonio María Peralta receiving all of Alameda and much of Oakland. Luís Peralta, who died in 1851, left his cattle and his Peralta Adobe residence in San José to his five daughters.

Alameda, along with the rest of Alta California, became part of the United States in 1848, acquired from the Mexicans in the treaty to the Mexican-American War of 1846-48. The western part of Alta California was admitted to the Union as the State of California in September 1850.

The discovery of gold in the Sierra Nevada in 1848 produced a huge influx of new immigrants into northern California, primarily prospectors and businessmen from throughout the U.S. and Europe hoping to cash in on the historic Gold Rush or related business opportunities. Among these entrepreneurs were William Worthington Chipman and Gideon Aughinbaugh, who in October 1851 purchased 160 acres on the eastern end of Alameda from Antonio María Peralta for \$14,000. They

established a large peach orchard on this portion of the City, beginning the area's agricultural development.

At that time Alameda supported three separate communities: "Old Alameda" was a small village on the eastern side of Alameda, centered at Encinal and High Streets; "Hibbardsville" (also referred to as "Encinal") was located on the north shore of San Antonio Creek (now the Oakland Estuary), where there was a shipping terminal; and "Woodstock" was located on the west end, which was low-lying and marshy. A main road (now Central Avenue) and a railroad line linked the three communities. In 1853 the residents voted to consolidate the three locales into a single town with the name Alameda, which is Spanish for "tree-lined avenue" or "grove of poplar trees." Alameda was incorporated in 1872. The residents included a mix of Italian, Portuguese, Spanish, Chinese, Japanese, Scandinavian, and German recent immigrants.

Ferry service was established early in Alameda. By 1864 ferry service to San Francisco and Oakland was operating from the west end of the City. The service was operated by the San Francisco and Alameda Railroad, and was used for a brief time by the Central Pacific Railroad as the terminus of the Transcontinental Railroad. As a result of these proximate rail and water connections, an industrial center grew in western Alameda. Two oil refineries were developed: the Alameda Oil Works, which processed castor, coconut, and linseed oils, was established in 1868, and the Pacific Oil Company began production of petroleum products in 1880. Both of these refineries were later acquired by the Standard Oil Company, which operated them until 1903 when the company constructed a large refinery complex in the City of Richmond, at the north end of San Francisco Bay. Another large industry in western Alameda in the 1870s was the Pacific Coast Borax Works, which also took advantage of the local transportation infrastructure to bring in and process borax from Death Valley.

The Park Street district was the commercial center of a rapidly growing Town of Encinal in the 1860s, with suburban residential development flourishing to the east of Park Street. The population of the Town had grown from a few squatters in 1850 to 460 persons in 1860; within 10 years the population had more than tripled to 1,557 residents. The 1864 establishment of the Alameda Station for the San Francisco and Alameda Railroad at Park Street and Railroad Avenue (now Lincoln Avenue) served as a nucleus for new commercial development on what was then the west side of town. Development was further spurred by the relocation of the Post Office from the east end of Alameda Island to the Park Street commercial district when the original building was leveled by an earthquake in 1868.

By 1872 the separate towns of Alameda, Encinal, and Woodstock were linked by railroad and were consolidated into the Town of Alameda, with a population of 2,000 residents. A horse-drawn streetcar line extended along Park Street north into the adjacent City of Oakland. The Park Hotel, completed in 1878 (demolished in 1965), provided a railroad depot for the new narrow-gauge rail line that crossed the peninsula in Oakland along Encinal Avenue.

The U.S. Army Corps of Engineers began dredging the Tidal Canal that now separates Alameda from the City of Oakland in 1874, completing the project in 1902, at which point, Alameda became an

island community. As part of this project, the Corps of Engineers also built the Training Wall, a rubble masonry jetty, designed to “train” the tides to scour a navigational channel between Oakland and Alameda. The Training Wall is still located at the edge of the Estuary in Alameda Point, and has been determined to be eligible for listing in the National Register of Historic Places; it is also included on the Alameda List of Monuments.

The Webster Street bridge was constructed in 1871 to provide a direct connection to neighboring Oakland; the bridge was replaced in 1900 and then in 1926 was replaced by the Posey Tube, a tunnel under the Tidal Canal. In 1874 there were just 30 residents on Bay Farm Island, when a wooden cantilever bridge was constructed to provide a connection from Alameda Island.

The late 1880s to mid-1890s were boom years in the Park Street district, when the streets in the district filled in with new commercial development. The grand Water Works Building, built in 1880, also attracted more civic office buildings. Electric lights were installed throughout Alameda in 1886.

The eventual filling of the tidal marshland in western Alameda that would later be developed by the U.S. Navy as Naval Air Station (NAS) Alameda began with the 1883 construction of a raised railroad causeway that ran along Main Street and then extended 2 miles into San Francisco Bay, terminating at the new Alameda Pier and Ferry Terminal operated by the South Pacific Coast Railroad. In addition to providing faster ferry service to San Francisco, this terminal provided better deep-water access for ships than the creek separating Alameda and Oakland, which suffered from perennial silting problems. The Alameda Pier and Ferry Terminal were demolished when the Navy began constructing NAS Alameda in 1938.

Development in Alameda continued well into the 20th century, with much new construction completed between 1910 and 1930. Following a hiatus during the Great Depression and World War II, renewed growth occurred in the late 1940s. Rail lines were replaced with auto traffic and bus service, and the area continued transitioning into the modern era.

Further filling of wetlands in western Alameda was accomplished in 1927 to accommodate additional development in the area. An airport completed here in 1928 was the first to provide commercial airmail flights across the Pacific on Pan American Airways’ China Clipper plane. During World War I the western portion of Alameda was used for shipbuilding, with facilities operated by the Moore, Bethlehem Steel, and Todd companies. A U.S. Army base, Benton Field, was developed on 100 acres along with 929 acres of submerged tidal lands, all deeded to the U.S. government by the City for \$1 in 1935. NAS Alameda, occupying all of west Alameda, was officially opened on November 1, 1940 to provide World War II fleet support. It remained operational for 56 years; it was decommissioned by the Navy in 1993 and closed in April 1997.

Historical Resources In Alameda

Historical Properties

In 1978 the City of Alameda conducted a survey of Alameda’s architectural and historical heritage, compiling the results into an Historical Building Study List of historic resources. Planning staff,

consultants, and more than 100 volunteers conducted a survey of properties in the City based on field observation, supplemented by archival research, primarily building permit records. The criteria for inclusion on the list was a combination of the criteria for listing in the National Register of Historic Places, for inclusion in the State Historic Resources Inventory, and for designation as an Alameda Historical Monument. These criteria can be divided into the broad categories of architectural significance, historical significance, environmental significance, and design integrity.

- **Architectural Significance** pertains to the style of a historical resource, the reputation and ability of the architect, the quality of the design, its uniqueness and its execution, and the materials and methods of construction.
- **Historical Significance** comes from an association with
 - the lives of persons or important events which have made a significant contribution to the community, State, or nation;
 - the broad patterns of cultural, social, political, economic, or industrial history; or
 - the urban development of Alameda.
- **Environmental Significance** is related to the continuity or character of a street or neighborhood with a historical resource's setting on the block, its landscaping, and its visual prominence as a landmark or symbol of the city, neighborhood, or street.
- **Design Integrity** represents the degree to which alterations that have been made over time adhere to the original materials and design features of the resource.

The Historical Building Study List is maintained by the Historical Advisory Board and includes approximately 4,000 properties in Alameda. The List serves as preliminary evaluation and constitutes a tool in the ongoing process of identification, evaluation, and preservation of Alameda's architectural and historical resources. It also denotes whether a property is eligible for the NRHP, the State Historic Resources Inventory, and/or the list of Alameda Historical Monuments, among other qualifiers. As previously discussed, modifications to or removal of properties on the Historical Building Study List require a Certificate of Approval from the HAB.

Historic Monuments

The City of Alameda has been compiling a list of Historic Monuments since 1976, when City Hall and the Alameda Theater were designated the first and second Historic Monuments, respectively, by City of Alameda Resolution No. 8472. The City's Historical Advisory Board evaluates properties proposed by the City or property owners for Historical Monument designation and then makes a recommendation to the City Council, which is responsible for making a formal designation, which gets recorded with the Office of the County Recorder of Alameda County. There are currently 29 designated Historical Monuments in Alameda; they are listed in Table CR-1.

Historic Districts In Alameda

Two historic districts have been designated in Alameda: (1) the former Naval Air Station Alameda (NAS Alameda), designated as an historic district by the National Park Service in January 2013; and (2) the Park Street Historic Commercial District, added to the NRHP on May 12, 1982.

Naval Air Station Alameda Historic District

The former NAS Alameda on the western half of Alameda Island west of Main Street encompassed approximately 1,750 acres. The NAS Alameda Historic District covers approximately 406.5-acres of the eastern portion of this area. During World War II NAS Alameda served a critical role in naval operations, with thousands of Navy and civilian providing support services to Naval combat operations. Its training facilities prepared service personnel for duties in forward areas, including air crews for flight operations. Workers in its shops and repair facilities assembled aircraft and returned battle-damaged aircraft to duty. It provided a homeport for combat ships and a resupply and service location for their crews and equipment. NAS Alameda made a significant contribution to the U.S. victory in World War II.

The NAS Alameda Historic District was formally listed on the National Register on January 23, 2013. In February 2013, the Alameda City Council approved revisions to the City's Historical Monument designation to ensure consistency with the Navy's nominations of the NAS Alameda Historic District for listing on the National Register. The NAS Alameda Historic District, which includes Seaplane Lagoon, contains 100 contributors to the District, including 99 contributing buildings and structures, and one contributing site, a historic designed landscape (see Figure CR-1). However, none of the individual structures or cultural features was found to be individually eligible for listing on the National Register of Historic Places (NRHP). The historic district also includes 58 non-contributing buildings, structures, and objects.

Park Street Historic Commercial District

The Park Street Historic Commercial District, added to the NRHP on May 12, 1982, has been a place of business and commerce in Alameda for more than 150 years. The District includes street frontages along three blocks of Park Street in the main downtown area of Alameda and on portions of five cross streets: Lincoln Avenue, Webb Avenue, Santa Clara Avenue, Alameda Avenue, and Central Avenue, as shown on Figure CR-2. The District is characterized by one- and two-story, rectangular, brick or wood-frame commercial buildings, with storefronts on the first floor and, if there is a second floor, apartments or other uses at that level. Some examples that were included with the National Register nomination are shown on Figures CR-3 and CR-4; 40 years later, the appearance of some of these buildings has been modified.

This District includes extant commercial buildings dating to at least 1875, and quite a few of them pre-date 1897. Of 72 buildings evaluated in the District, 50 were found to be contributing structures

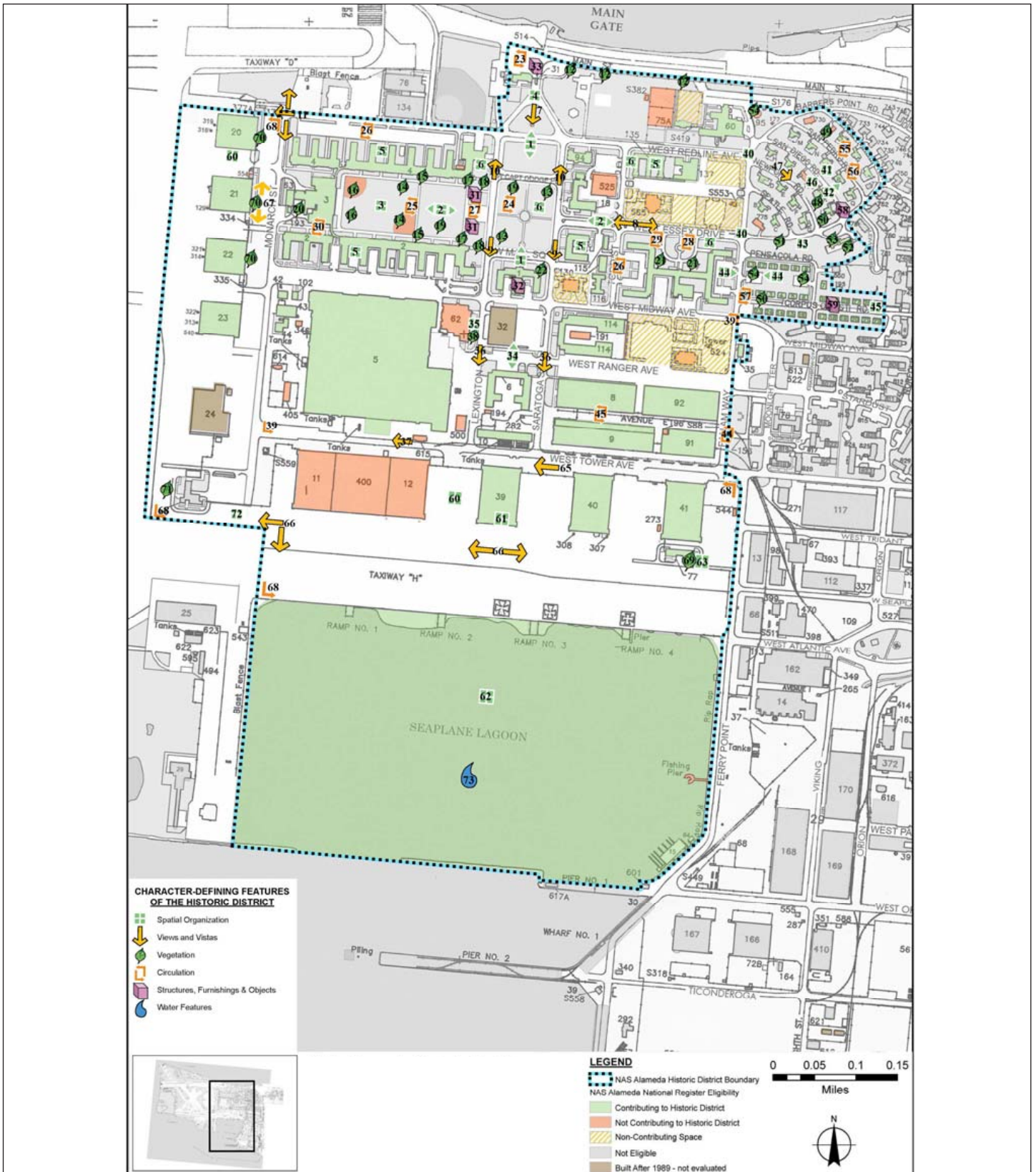


Figure CR-1

Contributing Structures in NAS Alameda Historic District

Source: The Department of the Interior

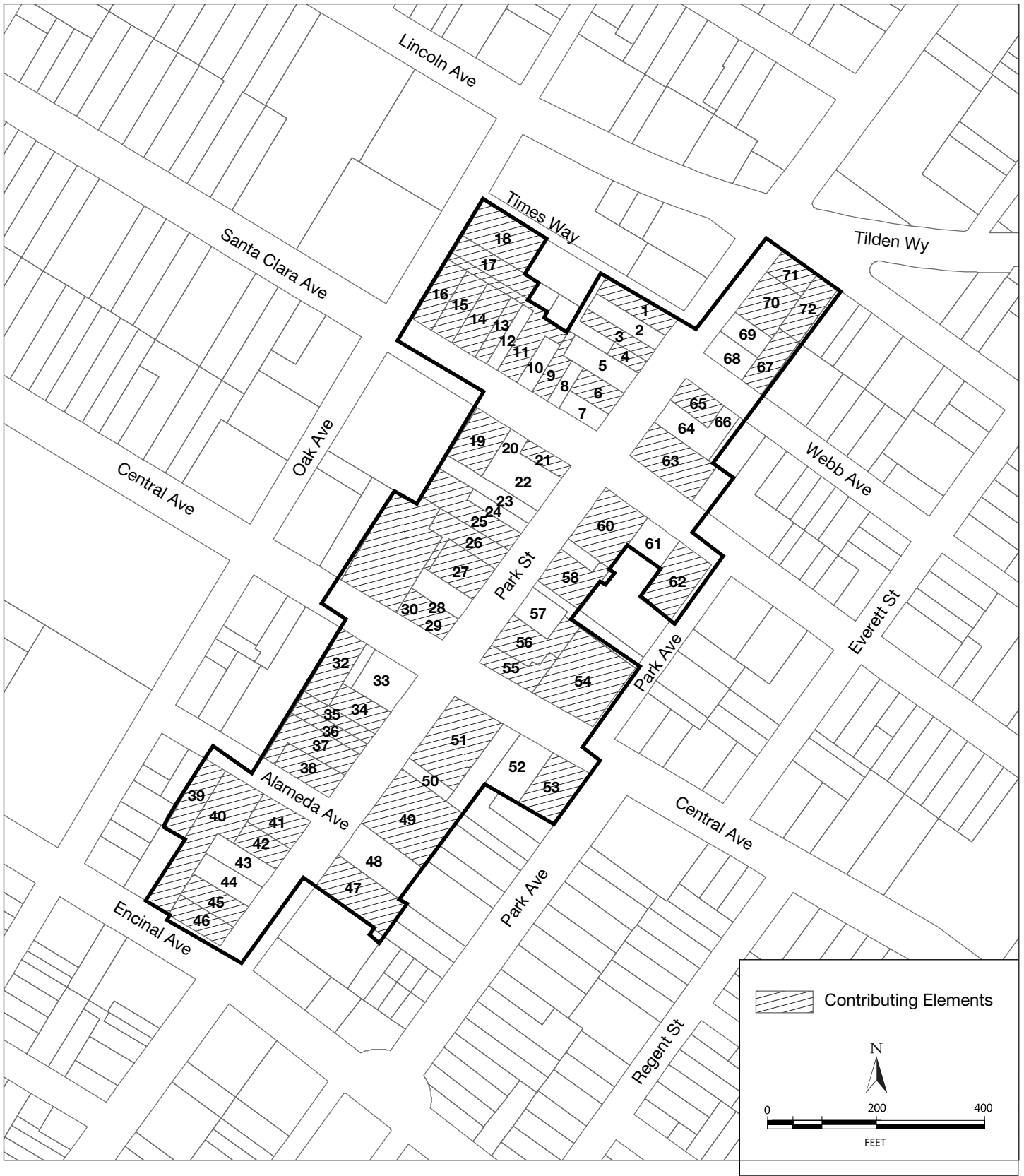


Figure CR-2

Park Street Historic Commercial District

Source: Douglas Herring & Associates



a) 1523-1525 Park Street (1926)



b) 1321-1323 Santa Clara Avenue (before 1897)

Figure CR-3

Contributing Structures to the Park Street Historic Commercial District

Source: Alameda Historic Society and
Alameda Historical Advisory Commission



a) 1326-1328 Santa Clara Avenue (1880s)



b) Old Masonic Temple, 1327-1333 Park Street (1891)

Figure CR-4

Contributing Structures to the Park Street Historic Commercial District

Source: Alameda Historic Society and
Alameda Historical Advisory Commission

(see Figure CR-2) and another eight were deemed non-contributing, but with potential for rehabilitation to the historical appearance.

Historical Landmarks

A California Landmarks Program was initiated by the Department of Natural Resources in 1931 to register and mark buildings or landmarks of historical interest. The first 20 landmarks were officially designated on June 1, 1932. The program is currently administered by the State Historical Resources Commission.

To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The resource must be the first, last, only, or most significant of its type in the State or within a large geographical region (Northern, Central, or Southern California).
- The resource must be associated with an individual or group having a profound influence on the history of California.
- The resource must be a prototype of or an outstanding example of a period, style, architectural movement, or construction, or must be one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

Because landmarks were registered without criteria and minimal documentation during the early years of the program, landmarks numbered from No.1 through No. 769 will be reevaluated in the future using the criteria listed above. Landmarks number 770 and above are automatically listed in the California Register of Historical Resources.

The following California Landmarks are located in the City of Alameda:

- **No. 440 – Alameda Terminal of the First Transcontinental Railroad.** With the Pacific Railroad Act of 1862 authorizing construction of a railroad and telegraph line, the first concentration of activity was east of Sacramento. Subsequently the line was opened from Sacramento to San Jose. During June 1869 construction was started near Niles, and by August a temporary connection had been made at San Leandro with the San Francisco and Alameda Railroad. On September 6, 1869, the first Central Pacific train reached San Francisco Bay at Alameda. **Location:** Naval Air Station Mall, in front of Building No. 1, Alameda Naval Air Station, Alameda.
- **No. 968 – Site of the China Clipper Flight Departure.** Pan American World Airways' fabled China Clipper (Martin M/130 Flying Boat) left Alameda Marina on November 22, 1935. Under the command of Captain Edwin C. Musick, the flight would reach Manila via Honolulu, Midway, Wake, and Guam. The inauguration of ocean airmail service and commercial air flight across the Pacific was a significant event for both California and the world. **Location:** Naval Air Station Mall, in front of Building No. 1, Alameda Naval Air Station, Alameda.

Table CR-1
Alameda Historical Monuments

No.	Name	Address	Year Built	Date Added to Monument List	Date Listed on National Register
1	Alameda City Hall	2263 Santa Clara Avenue	1895	2/4/76	10/14/80
2	Alameda Theater	2315-23 Central Avenue	1931	2/4/76	—
3	Alameda High School	2200 Central Avenue	1925	5/24/77	5/12/77
4	St. Joseph's Basilica	1109 Chestnut Street	1921	7/19/77	9/18/78
5	Sanctuary Building of the First Presbyterian Church	2201 Santa Clara Avenue	1903	10/4/77	11/25/80
6	First Church of Christ Scientist	2164 Central Avenue	1922	10/4/78	—
7	Old Post Office Building	2417 Central Avenue	1914	11/21/78	—
8	First Congregational Church of Alameda	1912 Central Avenue	1904	3/20/79	—
9	Croll Building	1400 Webster Street	1879	5/15/79	10/4/83
10	Old Masonic Hall	1327-33 Park Street	1890	9/18/79	3/23/82
11	Second Empire Residence	2233 Santa Clara Avenue	1880	11/20/79	—
12	Union Iron Works Turbine Machine Shop Building (Demolished)	2200 Webster Street	1918	10/7/80	4/10/80
13	Union Iron Works Power House	2308 Webster Street	1917	10/7/80	1/10/80
14	American Red Cross	2017 Central Avenue	1902	8/4/81	—
15	Lincoln Park – Iron Fence & Garden	High Street	1887	12/15/81	—

18. Cultural Resources

16	Alameda Free Library	2264 Santa Clara Avenue	1902	4/6/82	1982
17	Veterans Memorial Building	2203 Central Avenue	1929	4/6/82	9/27/07
18	Park Street Commercial Historic District	[various]	[various]	—	5/12/82
19	The Dr. Edith Meyers Center (Girls Club)	1724 Santa Clara Avenue	1897	6/26/84	—
20	1,297 Post-top and Pendant-Style Historic Street Lights	[various]		11/17/87	—
21	Bureau of Electricity Central Substation and Battery Building	1828 Grand Street	1936-1939	12/1/87	—
22	The Webster House	1238 Versailles Avenue	1854	4/19/88	—
23	The Adelphian Building	2167 Central Avenue	1908	11/1/88	—
24	1630 Ninth Street	1630 Ninth Street	1878-1879	10/20/88	—
25	Joseph A. Leonard Mansion	891 Union Street	1896	12/3/96	—
26	The Meyers House and Garden	2021/2018 Alameda Avenue and 2018 Central Avenue	1897	5/21/97	—
27	Posey Tube Portal Building	2295 Mariner Square Loop	1928	7/1/97	—
28	NAS Alameda Historic District	Naval Air Station (Alameda Point)	[various]	9/7/99	1/23/13
29	Del Monte Building	1501 Buena Vista Avenue	1920s	2/3/04	—
30	The Bruton House	1240 Saint Charles Street	1897	4/3/12	—

Source: Alameda Historical Advisory Board

- **No. 1036 – USS Hornet.** In 1991 the Hornet was designated a National Historic Landmark both for its service in the Pacific in World War II and as the recovery ship for the Apollo 11 and Apollo 12 astronauts. Involved in several of the heaviest and most critical battles in the Pacific, the Hornet earned seven battle stars and a Presidential Unit Citation. The Hornet or its aircrews were responsible for destroying more than 1,400 enemy aircraft. After undergoing modernization, the ship was called to service in recovering the landing capsules for the Apollo space program. The Apollo 11 mission was the first landing on the moon. The Hornet, with President Nixon on board, picked up astronauts Neil Armstrong, Edwin “Buzz” Aldrin, and Michael Collins from the sea in the summer of 1969, welcoming them to earth from their historic mission. The Hornet recovered the astronauts of Apollo 12 before the carrier was de-commissioned in 1970. **Location:** Pier 3 North, Alameda Point, 707 West Hornet Drive, Alameda.

18.3 Standards of Significance

Based on Appendix G of the *CEQA Guidelines*, a project may be deemed to have a significant effect on the environment with respect to cultural resources if it would result in:

- a substantial adverse change in the significance of a historical resource that is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources;
- a substantial adverse change in the significance of a unique archaeological resource; or
- disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA Guidelines Section 15064.5 defines a “substantial adverse change in the significance of an historical resource” to mean “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.”² *CEQA Guidelines*, Section 15064.5n(b)(2) also provides:

“The significance of an historical resource is materially impaired when a project:

- (A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- (B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

² *CEQA Guidelines*, § 15064.5 (b)(1) (emphasis added).

- (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.”³

Among the mandatory findings of significance defined in Section 15065 of the *CEQA Guidelines*, a significant impact would occur if a project would eliminate important examples of the major periods of California history or prehistory. However, if an archaeological resource is not a unique archaeological resource, an adverse effect on such a resource is not considered a significant impact. Typically, Native American remains are considered a unique archaeological resource.

A special category of cultural resources that was newly introduced to the *CEQA Guidelines* with revisions adopted by the Secretary for the California Natural Resources Agency on December 28, 2018 is tribal cultural resources (TCRs). According to Appendix G of the *CEQA Guidelines*, a project may have a significant effect on tribal cultural resources if it would:

- 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), or
 - 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 resource to a California Native American tribe.

Appendix G of the *CEQA Guidelines* currently groups impacts to paleontological resources under Geology and Soils. Accordingly, paleontological resources are addressed separately in Chapter 14, Geology and Soils.

18.4 Impacts and Mitigation Measures

A number of General Plan policies, listed below, would help reduce potential impacts to historic resources. Some of the supporting actions to specific policies have been omitted if they are not applicable to the protection of historic resources.

³ *CEQA Guidelines*, § 15064.5 (b)(2).

Policy LU-17 Adaptive Reuse and Restoration. Support and encourage rehabilitation, restoration, and reuse of existing structures to retain the structure’s embodied energy and reduce the generation of waste.

Actions:

- **Intensification and Reinvestment in Existing Buildings.** *Promote reinvestment and reuse in existing buildings, including facade improvements, accessibility improvements and additional story height to increase the range of uses and richness of the urban fabric while building on the historic character and form.*
- **Innovative Design Solutions.** *Encourage and support innovative design solutions for the restoration and reuse of older buildings for new uses and avoid design solutions that mimic a prior design style.*

Policy LU-19 Alameda Point Main Street Neighborhood Mixed-Use District. Consistent with the Main Street Specific Plan, provide a variety of housing types and a mix of residential densities with complementary business uses, neighborhood-serving retail, urban agriculture and park uses.

Actions:

- **Mixed-Use.** *Create a mixed-use and mixed-income residential neighborhood with parks and community serving businesses and institutions, child care and family child care homes, supportive housing, assisted living, community gardens, urban farms and agriculture, compatible specialty manufacturing and light industrial uses, life science companies, and community services that complement and support the subdistrict and Alameda as a whole.*
- **Walkable.** *Create a walkable, transit friendly neighborhood with safe streets, common open space areas and greenways, and pedestrian and bicycle friendly development.*
- **Alameda Point Collaborative.** *Support development of a new residential campus for the Alameda Point Collaborative (APC), Building Futures for Women and Children, and Operation Dignity (collectively referred to as the “Collaborating Partners”).*
- **NAS Alameda Historic District.** *Preserve the character defining features of the NAS Alameda Historic District Residential Subarea. Preserve the “Big White” single family homes, and consider the preservation of the Admiral’s House for community and/or City use.*

Policy LU-21 Alameda Point Adaptive Reuse Sub-District. Support the development of the Adaptive Reuse District for employment and business uses, including office, research and development, bio- technology and high tech manufacturing and sales, light and heavy industrial, maritime, commercial, community serving and destination retail, work/live, and other uses that support reinvestment in the existing buildings and infrastructure within the NAS Alameda Historic District.

Actions:

- **Preservation of the NAS Alameda Historic District.** Support and promote a pedestrian, bicycle, and transit supportive urban environment that is compatible with the character-defining features of the NAS Alameda Historic District.
- **Investment Opportunities.** Allow for a wide range of investment opportunities within the district to encourage private reinvestment in the NAS Alameda Historic District.
- **Significant Places.** Encourage the creation of a range of cultural and civic places through the development or adaptive reuse of key civic structures, including libraries, churches, plazas, public art, or other major landmarks to provide a sense of center and unique character.

Policy LU-23 Northern Waterfront Mixed-Use Area. Create a vibrant mixed-use, pedestrian-friendly, transit- oriented neighborhood with a variety of uses that are compatible with the waterfront location.

Actions:

- **Historic Resources.** Preserve the unique historical, cultural, and architectural assets within the area and utilize those assets in the creation of a new, vibrant mixed-use district.
- **Del Monte Warehouse and Alaska Packers Building.** Preserve the Del Monte Warehouse Building consistent with Secretary of the Interior's Standards for Rehabilitation and its City Monument designation, and preserve the Alaska Packers building for maritime and tidelands compliant uses.
- **Encinal Terminals.** Redevelop the vacant property with a mix of uses to create a lively waterfront development with residential, retail and recreational commercial, restaurant and visitor serving, and maritime uses. Ensure the provision of an accessible, safe and well-designed public shoreline promenade around the perimeter of the site adjacent to the Alaska Basin and Fortman Marinas that connects to trail systems. Consider a reconfiguration of the Encinal Tidelands to allow public ownership of the privately held submerged lands and waterfront lands to better provide for public waterfront access and enjoyment and future maritime use.

Policy LU-25 Historic Preservation. Promote the preservation, protection and restoration of historic sites, districts, buildings of architectural significance, archaeological resources, and properties and public works.

Actions:

- **City-Owned Buildings.** Preserve, maintain and invest in all City-owned buildings and facilities of architectural, historical or aesthetic merit.
- **Partnerships.** Work in partnership with property owners, Alameda Unified School District, and non-profit organizations, such as the

Alameda Architectural Preservation Society (AAPS) to ensure that the City's unique and memorable buildings and landscapes are preserved.

- **Property Owner Awareness.** *Continue to work to increase owners' and buyers' awareness of the importance of preservation in protecting community character and identity.*
- **Historic Districts and Monuments.** *Designate additional Historic Districts and Monuments to recognize areas or sites with significant historic architectural design character or cultural history.*
- **Financial and Design Assistance.** *Develop financial and design assistance programs to encourage the restoration or preservation of buildings, structures, and sites with architectural, historic or aesthetic merit, such as a Mills Act Program or the Facade Grant Program*
- **Demolition Controls.** *Maintain demolition controls for historic properties.*
- **Alterations.** *Require that exterior changes to existing buildings be consistent with the building's existing or original architectural design whenever feasible.*
- **Archaeological Resources.** *Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.*

Policy LU-26 Architectural Design Excellence. Promote high quality architectural design in all new buildings and additions to complement Alameda's existing architectural assets and its historic pedestrian and transit-oriented urban fabric.

Actions:

- **Diversity.** *Encourage a broad range of architectural styles, building forms, heights, styles, materials, and colors to enhance Alameda's rich and varied architectural character and create visually interesting architectural landscapes within each neighborhood and district.*
- **Creativity.** *Encourage and support creative and contemporary architectural design that complements, but does not mimic, existing architectural designs in the neighborhood or district.*
- **Harmony.** *Harmonize the architectural design of new buildings with the architectural character of the surrounding buildings to create a visually appealing architectural landscape.*
- **Human Scale.** *Promote accessible, human scaled designs that ensure that ground floors are easily accessible and visually interesting from the public right-of-way by facing buildings toward the street, using higher quality materials at the ground floor, providing pedestrian-scaled lighting, and minimizing the extent of blank walls along ground floor elevations with doorways, windows, art, landscaping, or decorative materials.*

- **Regulations and Guidelines.** *Promote design excellence by ensuring that City development regulations and design guidelines clearly express the intent and support for creative and innovative design solutions. Guidelines should focus on desired outcomes rather than prohibited outcomes.*

Policy LU-27 Neighborhood Design. Protect, enhance and restore Alameda’s diverse neighborhood architecture and landscape design while encouraging design innovation and creativity in new residential buildings and landscapes.

Actions:

- **Architectural and Landscape Design.** *Require that neighborhood infill development and alterations to existing residential buildings respect and enhance the architectural and landscape design quality of the neighborhood.*
- **City Design Regulations.** *Develop regulations, standards and guidelines that express the intended and desired form and functional outcomes as opposed to expressing just the prohibited forms to support and encourage innovative design solutions and high quality design.*

Policy LU-30 Waterfront Design. Preserve and enhance Alameda’s waterfronts as important destinations by maximizing waterfront physical and visual access from adjoining neighborhoods and streets and permitting land uses that complement the waterfront setting. (See also Policies LU-6, OS-8 and HS-22).

Actions:

- **High Quality.** *Design new parks, open spaces, and waterfront buildings of exemplary quality, highlighting visual and physical connections to the water’s edge, preserving waterfront historic resources, and complementing the character of adjacent neighborhoods.*
- **Architecture.** *Require that buildings adjacent to the shoreline provide attractive and varied facades that compliment, but do not mimic, the historic maritime character of the waterfront.*

CONSTRUCTION IMPACTS

Impact 18-1

New development allowed under the *Alameda General Plan 2040* could damage or destroy historical resources. (LTS)

The development of new residential, commercial, mixed-use, and industrial development allowed under the proposed General Plan could require the demolition of historic structures or contributing structures to one of the City’s historic districts, which would be a significant impact to historical resources. Absent total destruction, new development and redevelopment could damage existing historic structures directly, by altering or removing historical elements, or indirectly, such as by causing construction-related vibration damage to a structure adjacent to a construction site, or by

altering the context in which a resource is situated. Additionally, buildings or other existing structures that are currently not historical resources—because they are less than 50 years old—may accrue historic significance with additional passage of time, and thus be subject to future impacts during the planning horizon of the proposed General Plan.

While future development activity that would cause a substantial adverse change in the significance of a historical resource would be a significant, adverse impact on historical resources, including properties listed on or eligible for listing on the NRHP or CHRP and well as City-designated historic monuments and properties, compliance with the General Plan policies listed above and with existing regulations and procedures would ensure that such impacts would be less than significant. As discussed in the Setting section, any future discretionary development proposed within the Naval Air Station Alameda Historic District, Alameda Marina Historic District, or Park Street Historic Commercial District would be required to be submitted for review by the Alameda Historical Advisory Board and obtain a Certificate of Approval from the HAB prior to implementing the project. Project applicants would be required to comply with any conditions intended to preserve and protect historic resources that are identified by the HAB as part of the Certificate of Approval. Similarly, any discretionary project proposing removal of or modification to a resource included on the City's Historical Building Study List, a designated Historical Monument, or a protected tree, as defined in Alameda Municipal Code Section 13-21.7(c), would be required to obtain a Certificate of Approval from the HAB prior to implementing the project.

Impacts to historical resources are highly localized and site-specific, so specific impacts can only be determined once a particular project has been proposed. Modifications to historic properties can be made that avoid significant impacts to historic resources, such as by designing and carrying out renovations or reconstructions in a manner that is consistent with the *Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. When reviewing applications for future development projects, the Alameda Planning Department will make a preliminary determination regarding the potential for the proposed project to adversely affect historical resources. If the Department identifies any potential for effects on historical resources, the Planning Director will require an evaluation of the project's potential impacts to historical resources by a qualified professional architectural historian meeting the Secretary of the Interior's Professional Qualification Standard. If the Historic Resources Evaluation identifies potentially significant impacts to historic resources, the project applicant will be required to either (a) implement all recommendations identified in the Historic Resources Evaluation report to reduce potential impacts to a less-than-significant level, if applicable, or (b) sponsor the preparation of an Environmental Impact Report (EIR) pursuant to CEQA to fully evaluate and disclose the project's potential impacts to historical resources.

Given these existing rules, regulations, and procedures in place to protect historic resources, adoption of the proposed *Alameda General Plan 2040* would have a ***less-than-significant impact*** on historic resources.

Mitigation Measure 18-1

None required.

Impact 18-2

Construction of new development allowed under the *Alameda General Plan 2040* could involve subsurface disturbance that could potentially encounter and damage previously undiscovered buried historical or prehistoric archaeological resources, including tribal cultural resources. (S)

New residential, commercial, mixed-use, and industrial development could be constructed under the proposed General Plan that in many cases would require ground-disturbing grading, trenching, and/or excavation that would penetrate into subsurface soils to varying degrees. These activities could potentially encounter a previously undiscovered significant historical or archaeological resource, including a tribal cultural resource. In general, potentially significant impacts to prehistoric archaeological resources may be considered potential significant impacts to TCRs. Prehistoric archaeological resources have been discovered throughout the Bay Area, including within the City of Alameda. Previously discovered resources in Alameda have included a prehistoric occupation and burial site, shell mounds, historic-period residences, and artifact scatters.

Were one or more significant historical or archaeological resources to be present at the site of a future development project, mechanical construction activity could damage or destroy the resource. This would be a **potentially significant impact** to historical, archaeological, or tribal cultural resources. Implementation of the following mitigation would reduce the impact to a less-than-significant level:

Mitigation Measure 18-2

- a) *During future development activities consistent with the Alameda General Plan 2040, in the event that prehistoric or historic cultural resources are encountered during excavation and/or grading of the project site, all activity within a 100-foot radius of the find shall be stopped, the Director of Planning shall be notified, and a qualified archaeologist shall examine the find. The archaeologist shall evaluate the significance of the encountered resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). (Construction personnel shall not collect any cultural resources.) Recommendations may include collection, recordation, and analysis of any significant cultural materials. The results of any additional archaeological effort required through the implementation of this measure and/or Mitigation Measure 18-3 shall be presented in a professional-quality report, to be submitted to the Alameda Director of Planning and the Northwest Information Center at Sonoma State University in Rohnert Park.*
- b) *During construction of a future development project, in the event that any cultural resources encountered during subsurface disturbance are determined to be historical resources as defined in Section 15064.5 of the CEQA Guidelines, the project sponsor shall implement the mitigation prescribed in Section 15126.4(b) of the CEQA Guidelines, which identifies preservation in place as the preferred manner of mitigating impacts to*

buried historic resources, while data recovery and documentation may be appropriate in some circumstances.

- c) *If any Native American tribal representatives have requested consultation with the City of Alameda regarding general or specific development projects in Alameda, prior to issuance of a grading permit, the City shall notify the tribal representative(s) in writing about the proposed development, soliciting their input regarding the protection of tribal cultural resources (TCRs) during project construction. In accordance with California Public Resources Code Section 21080.3.2, the consultation may include discussion concerning the type of environmental review necessary, the significance of the TCRs, the significance of the project's impacts on the TCRs, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the California Native American tribe may recommended to the lead agency. Mitigation measures to reduce impacts to TCRs must be developed in coordination with the consulting tribal group. The preferred approach to mitigation is avoidance or preservation in place. If this is not feasible, the mitigation may take the form of interpretive treatment. Mitigation measures agreed to during tribal consultation must then be carried over into the CEQA document and the associated Mitigation Monitoring and Reporting Program (MMRP) that must be adopted by the lead agency as part of the CEQA process. The consultation required by Senate Bill (SB) 18 and Assembly Bill (AB) 52 is considered complete when either the parties agree to measures to mitigate or avoid any significant impact on TCRs, or if one of the parties, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.*

Impact 18-3

Construction of new development allowed under the *Alameda General Plan 2040* could involve subsurface disturbance that could potentially encounter and damage human remains, including those interred outside of formal cemeteries. (S)

Ground-disturbing construction activity associated with new development allowed under the proposed General Plan could potentially encounter buried Native American or other unrecorded human remains. Buried Native American remains have previously been discovered in Alameda, and given the City's known prehistoric occupation by Native Americans, the potential remains for future discovery of buried human remains. In addition to potentially causing a significant adverse effect on cultural resources and/or TCRs, disturbance of human remains would be a misdemeanor under State law. California Health and Safety Code Section 7050.5 prohibits the disturbance, mutilation, or removal of human remains from any location other than a dedicated cemetery without legal authority. Disturbance of buried human remains during future development consistent with the General Plan would be a **potentially significant impact**. Implementation of the following mitigation would reduce potential adverse effects to less-than-significant levels:

Mitigation Measure 18-3

- a) *In the event that any human remains are encountered during site disturbance at any future development site, all ground-disturbing work in the vicinity of the remains shall cease immediately until the coroner of Alameda County has been contacted, in accordance with Section 7050.5 of the California Health and Safety Code. Human*

remains may be an inhumation or cremation, and in any state of decomposition or skeletal completeness. If the coroner determines that the human remains are of Native American origin, the Native American Heritage Commission (NAHC) must be contacted within 24 hours, and the project sponsor shall comply with State laws relating to the disposition of Native American burials, regulated by the NAHC (Pub. Res. Code Sec. 5097 et seq.). If any human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the coroner of the County has been informed and has determined that no investigation of the cause of death is required; and*
 - if the remains are of Native American origin, the Coroner's Office will notify the NAHC of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD, in consultation with the archaeological consultant and the project sponsor, will advise and help formulate an appropriate plan for treatment of the remains and any associated grave goods as provided in Public Resources Code Section 5097.98, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial, treatment, or disposal with appropriate dignity.*
- b) If the Native American Heritage Commission is unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission, the project sponsor shall reinter the human remains and any associated burial items with appropriate dignity on the property in a location not subject to further subsurface disturbance in the future. To protect this site, the project sponsor shall do one or more of the following:*
- record the site with the NAHC and the Northwest Information Center at Sonoma State University in Rohnert Park, the regional repository of the California Historical Resources Information System (CHRIS);*
 - establish an open space or conservation easement to protect the resource; and/or*
 - record a document with Alameda County titled "Notice of Reinterment of Native American Remains" that shall include a legal description of the property, the name of the owner of the property, and the owner's acknowledged signature.*

OPERATIONAL IMPACTS

The potential for impacts to cultural resources is associated with disturbance that can occur during construction activity, which can include destruction or removal of a historic resource, alterations that compromise the historical integrity of a historic resource, or damage to buried archaeological artifacts. Once construction of a development project is complete, the potential for this type of disturbance is eliminated. Therefore, no operational impacts to cultural resources, including TCRs, would result from implementation of the proposed General Plan.

CUMULATIVE IMPACTS

Impacts to cultural resources are generally site-specific, and tied to a particular development project. However, when destruction of or damage to cultural resources occurs repeatedly throughout a region, there can be a cumulative loss of cultural heritage, particularly when some of the impacts are to unique cultural sites, or to a last known example of its kind. Therefore, cumulative projects in the City of Alameda and the surrounding region could result in a **significant cumulative impact** to cultural and tribal cultural resources. However, by implementing the project-specific mitigation measures identified in this chapter (Mitigation Measures 18-1 through 18-3), the incremental effects from individual projects implemented in Alameda in accordance with the proposed General Plan would not be cumulatively considerable. The project-specific mitigation measures would require impacts to cultural resources/TCRs to be avoided whenever possible and, where that is not feasible, they include requirements to minimize adverse effects to the greatest extent possible and to record and preserve resources, where applicable. Therefore, implementation of Mitigation Measures 18-1 through 18-3 would reduce cumulative impacts to cultural resources and TCRs to a less-than-significant level.

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19. ENERGY

19.1 Introduction

Future development allowed under the proposed *Alameda General Plan 2040* will consume energy during construction of individual development projects, when gasoline and diesel fuel would be consumed during the transportation of workers and materials to the project sites, and during operation of earth-moving equipment and other construction equipment, including generators. Electricity would be consumed during construction for lights and to power hand tools directly or to recharge their batteries. Once the projects are operational, gasoline and diesel fuels could be used by employees, residents, and/or customers, as applicable, driving to and from the developments, and potentially by a variety of delivery and service trucks bringing necessary supplies and provisions to businesses and homes and providing on-site services, such as landscape care, service of appliances, plumbing repair, etc. Electricity and natural gas would be consumed to provide light and heat to new buildings, power computers and other equipment, and to power kitchen appliances such as refrigerators, freezers, and stoves.

The information presented in this chapter is aimed toward answering the fundamental question of concern under CEQA: would the proposed project result in wasteful or inefficient consumption of energy resources? The chapter describes existing primary energy sources in the State and region, and discusses some of the more pertinent among many federal and State regulations pertaining to energy conservation. The various sources of energy that would be consumed by implementation of the proposed General Plan are identified and estimates of the amounts of each energy source that would be consumed are provided. These factors and the General Plan policies promoting energy conservation are discussed as a basis for determining whether the proposed General Plan would have any adverse effects on energy resources, including the need to develop additional capacity.

Because energy consumption is directly tied to the emissions of greenhouse gases (GHGs), and in fact, is the source of 80 percent of GHG emissions in the State, California's focus on legislation and regulations to reduce GHGs will lead to improved energy efficiency and reduced energy consumption across transportation, building heating and cooling, and power generation sectors of the economy. Over the last decade, regulators focused primarily on developing program-specific targets to advance California's energy system (such as separate targets for renewable energy, energy efficiency, demand response, storage, and other attributes), but the State has begun shifting to a more comprehensive approach aimed at improving the performance of the system and achieving the State's 2030 greenhouse gas reduction goals.

19.2 Setting

REGULATORY FRAMEWORK

This section summarizes the regulatory context for future development that would be facilitated by the proposed General Plan, including the laws, ordinances, regulations, plans, policies, and programs that are implemented at the federal, State, and local levels. There is much legislation, particularly at the State level, aimed at reducing emissions of GHGs, which also affects energy consumption. See Chapter 12, Greenhouse Gases, for discussion of additional laws and regulations not addressed below.

Federal

Energy Policy and Conservation Act

Enacted by Congress on December 22, 1975, the Energy Policy and Conservation Act (EPCA) was passed in response to the oil crisis caused by the oil embargo imposed by the Arab Organization of Petroleum Exporting Countries (OPEC) in 1973 and 1974. Intended to create a comprehensive approach to federal energy policy, the primary goals of EPCA are to increase energy production and supply, reduce energy demand, promote energy efficiency, and provide the executive branch of the federal government additional powers to respond to disruptions in energy supply.

A key provision of EPCA was the establishment of the Strategic Petroleum Reserve, which led to development of underground storage facilities in multiple locations in Texas and Louisiana. According to the U.S. Department of Energy's Office of Petroleum Reserves, it is the largest emergency supply of petroleum in the world, with a January 2021 inventory of 638.1 million barrels of oil.¹

EPCA also established the Corporate Average Fuel Economy regulations—also known as CAFE standards—setting target fuel economy standards for automobiles and requiring fuel economies to be labeled on new cars. Initial fuel economy standards were set at 18 miles per gallon (mpg) for model year 1978 vehicles. These ratcheted up to 19 mpg for model year 1979, 20 mpg for model year 1980, and by 1985, the required average fuel economy was 27.5 mpg. Currently, the CAFE standards are coordinated between the U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA); they are currently set at 37.3 mpg for model year 2021 vehicles. In March 2020, EPA and NHTSA established final passenger car and light truck CAFE standards for model years 2021-2026, which will require a combined average fleet-wide fuel economy in model year 2026 of 40.4 mpg.² This rolled back the previous standards established by the Obama administration that would have required a combined fuel efficiency of 46.7 mpg by

¹ U.S. Department of Energy, Office of Petroleum Reserves, Strategic Petroleum Reserve Inventory, accessed January 23, 2021 at: <https://www.spr.doe.gov/dir/dir.html>.

² Center for Climate and Energy Solutions, Federal Vehicle Standards, Projected 2021-2026 Fleet-wide CO₂ and Fuel Economy Standards, Accessed January 25, 2021 at: <https://www.c2es.org/content/regulating-transportation-sector-carbon-emissions/>.

2025. Phase II standards adopted in August 2016 for medium- and heavy-duty vehicles covering model years 2021-2027 require a variety of percentage reductions, depending on the class of vehicles.

Alternative Motor Fuels Act

The Alternative Motor Fuels Act (AFMA) of 1988 created vehicle manufacturer incentives in the form of CAFE credits for the production of motor vehicles capable of operating on certain alternative fuels. AMFA also required the creation of an alternative fuels education and data resource center, which resulted in the Alternative Fuels Data Center being established in 1991 at the U.S. Department of Energy's National Renewable Energy Laboratory.

Energy Policy Act of 1992

The Energy Policy Act (EPA92) of 1992 (Public Law 102-486) aims to reduce U.S. dependence on petroleum and improve air quality by addressing all aspects of energy supply and demand, including alternative fuels, renewable energy, and energy efficiency. EPA92 encourages the use of alternative fuels through both regulatory and voluntary activities and approaches the U.S. Department of Energy (DOE) carries out. It requires federal, state, and alternative fuel provider fleets to acquire alternative fuel vehicles. EPA92 also defines "alternative fuels" as: methanol, ethanol, and other alcohols; blends of 85 percent or more of alcohol with gasoline; natural gas and liquid fuels domestically produced from natural gas; propane; hydrogen; electricity; biodiesel; coal-derived liquid fuels; fuels, other than alcohol, derived from biological materials; and P-Series fuels, which were added to the definition in 1999. Under EPA92, DOE has the authority to add more alternative fuels to the list of authorized alternative fuels if certain criteria are met. DOE's Clean Cities initiative was established in response to EPA92 to implement voluntary alternative fuel vehicle deployment activities.

Energy Policy Act of 2005

The Energy Policy Act (EPA05) of 2005 (42 U.S.C. §13201 *et seq.*) addresses energy production in the United States, including: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Tribal energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology. It calls for the development of grant programs, demonstration and testing initiatives, and tax incentives that promote alternative fuels and advanced vehicles production and use. EPA05 also amends existing regulations, including fuel economy testing procedures and EPA92 requirements for federal, state, and alternative fuel provider fleets. EPA05 provides loan guarantees for entities that develop or use innovative technologies that avoid the by-production of greenhouse gases. Another provision of EPA05 increases the amount of biofuel that must be mixed with gasoline sold in the United States. EPA05 also expands eligible uses of the Leaking Underground Storage Tank (LUST) Trust Fund and includes provisions regarding inspections, operator training, delivery prohibition, secondary containment and financial responsibility, and cleanup of releases that contain oxygenated fuel additives.

Energy Star Program

The trademarked ENERGY STAR program was launched in 1992, under the authority of the Clean Air Act, as a joint program of the EPA and DOE, with a goal of helping consumers, businesses, and industry save money and protect the environment through the purchase of energy-efficient appliances and equipment. The ENERGY STAR products program sets specifications, testing procedures, and verification testing requirements for various consumer appliances, electronics, and commercial equipment, then publishes quantified ratings on their estimated annual energy consumption and energy cost to operate. The program was expanded in 1995 to include ENERGY STAR rating labels for residential heating and cooling systems and new homes. In May 2011 the EPA and DOE created the ENERGY STAR Most Efficient program, which identifies the most efficient products among those that qualify to an ENERGY STAR rating.

Energy Independence and Security Act

The Energy Independence and Security Act (EISA) of 2007 was intended to move the United States toward greater energy independence and security by increasing the production of clean renewable fuels; improving the energy efficiency of products, buildings, and vehicles; promoting research on and deploying GHG capture and storage options; and improving the energy performance of the U.S. Government. The US EPA is implementing EISA by developing or revising regulations and voluntary programs related to energy. These include increasing the CAFE standards to 35 mpg by 2020, adopting a renewable fuel standard, developing biofuels infrastructure, improving efficiency of federal vehicle fleets, and developing carbon capture and sequestration systems.

American Recovery and Reinvestment Act

The American Recovery and Reinvestment Act (ARRA) of 2009 appropriated nearly \$800 billion towards the creation of jobs, economic growth, tax relief, improvements in education and healthcare, infrastructure modernization, and investments in energy independence and renewable energy technologies. ARRA supports a variety of alternative fuel and advanced vehicle technologies through grant programs, tax credits, research and development, fleet funding, and other measures.

State Regulations

Senate Bill 1389

Senate Bill 1389 (Bowen and Sher, Chapter 568, Statutes of 2002) requires the California Energy Commission (CEC) to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The commission shall use these assessments and forecasts to develop and evaluate energy policies and programs that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety."³

³ State of California, Public Resources Code Section 25301(a).

In compliance with SB 1389, the CEC—in collaboration with federal, State, and local agencies and a wide variety of stakeholders—prepares a biannual Integrated Energy Policy Report (IEPR) that assesses current energy trends and prescribes policies to further the goals established by SB 1389. The most recent IEPR (2019) was adopted in February 2020.

Assembly Bill 758

Assembly Bill 758 (Skinner, Chapter 47, Statutes of 2009) required the CEC to develop a comprehensive program to achieve greater energy savings in the State's existing residential and non-residential buildings by March 1, 2010. The law specified that the CEC consider a broad range of energy assessments, public and private sector financing options for energy efficiency, public outreach and education, and workforce training for retrofit contractors, among other directives. AB 758 also required the CPUC to investigate the ability of investor-owned utilities to provide various energy efficiency financing options to their customers in order to implement the law.

Senate Bill 350: Clean Energy & Pollution Reduction Act

Senate Bill 350 (de León, Chapter 547, Statutes of 2015), signed into law on October 7, 2015, enacted the Clean Energy & Pollution Reduction Act, which increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the State to double Statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs) that must detail how each utility will meet their customers resource needs, reduce greenhouse gas emissions, and ramp up the deployment of clean energy resources.

California Code of Regulations, Title 24

The California Building Code (CBC) is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24. Parts 6 and 11 of Title 24 comprise the Building Energy Efficiency Standards (Standards), designed to reduce wasteful and unnecessary energy consumption in newly constructed and existing buildings. The CEC updates the Standards every three years. The Standards contain energy and water efficiency requirements (and indoor air quality requirements) for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. The Standards include both a prescriptive option, allowing builders to comply by using methods known to be efficient, and a performance option, allowing builders complete freedom in their designs provided the building achieves the same overall efficiency as an equivalent building using the prescriptive option. The most recent version of the Standards, adopted in 2019, added photovoltaic solar power systems into the prescriptive package, as well as improvements for attics, walls, water heating, and lighting.

Part 6 of Title 24 regulates building standards for energy efficiency, and applies to most occupied building types, with different standards for different occupancies. It includes provisions for the

building envelope; heating, ventilation, and air conditioning (HVAC) systems; water-heating systems; indoor and outdoor lighting systems; electrical power distribution systems; and signs located either indoors or outdoors. Part 6 also has mandatory regulations applicable to swimming pools and spas and to solar power systems.

Part 6 of Title 24 also sets energy and/or water efficiency standards for appliances, including refrigerators, freezers, dishwashers, clothes washers and dryers, stoves, room and central air conditioners, space heaters, water heaters, pool heaters, plumbing fixtures, incandescent and fluorescent lamps, emergency lighting, luminaires, traffic signals, computers, televisions, audio and video equipment, battery charger systems, and more. There are also federal regulations pertaining to appliance efficiency, and in many cases, the California standards are the same as the federal standards.

CCR Title 24, Part 11 is referred to as the California Green Building Standards Code (CALGreen Code). Energy efficiency is one of five categories addressed by the CALGreen Code. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a 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.

The CALGreen Code includes mandatory measures for both residential and non-residential development, and an additional set of voluntary measures for both types of development. The general building energy efficiency standards in CALGreen require energy-efficient ceiling and rafter roof insulation, walls, floors, windows, doors, luminaires, heating and cooling systems, appliances, water heaters, and pool and spa systems. The performance standards for energy budgets vary by climate zone (of which there are 16 in California) and building type; thus the Standards are tailored to local conditions, and provide flexibility in how energy efficiency in buildings can be achieved.

Senate Bill 1

Senate Bill 1 (Murray, Chapter 132, Statutes of 2006) enacted Governor Schwarzenegger's Million Solar Roofs Initiative and expanded upon the California Solar Initiative (CSI) and the Energy Commission's New Solar Homes Partnership (NSHP), a program launched as part of the CSI to provide incentives for the integration of solar energy systems in new home construction in investor-owned utility (IOU) territories. The CSI established a goal of creating 3,000 megawatts (MW) of distributed solar power generation in California by 2017.

SB 1 created a monetary incentive program to provide rebates for solar energy systems between 10 kilowatts (kW) and 1.5 MW in size. It required the CEC to establish eligibility criteria, conditions for incentives, and rating standards to qualify for ratepayer-funded incentives provided by the CEC, the California Public Utilities Commission (CPUC), and local publicly owned electric utilities. The rebates were intended to be phased out in 2017.

Assembly Bill 1007

Assembly Bill 1007 (Pavley, Chapter 371, Statutes of 2005) required the State Energy Resources Conservation and Development Commission, in partnership with the California Air Resources Board, and in consultation with specified State agencies, to develop and adopt a State plan to increase the use of alternative non-petroleum transportation fuels, such as ethanol, biodiesel, hydrogen, methanol, or natural gas. The plan was required to be completed and adopted no later than June 30, 2007 and was required to set goals for increased alternative fuel use for the target years of 2012, 2017, and 2022.

Energy Action Strategic Plan

On Sept. 18, 2008, the CPUC adopted the *California Long Term Energy Efficiency Strategic Plan*, which presents a single roadmap to achieve maximum energy savings across all major groups and sectors in California through the year 2020 and beyond. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The CPUC intends to regularly update the Strategic Plan to reflect past successes, failures, and lessons learned and to adjust the visions, goals, and strategies accordingly.

The CPUC's 2005 *Energy Action Plan II* had previously established the goal for California's energy to be adequate, affordable, technologically advanced, and environmentally-sound, with cost-effective energy efficiency identified as the resource of first choice for meeting California's energy needs while minimizing the State's contribution to climate change. The importance of energy efficiency was described in the CEC's 2007 IEPR, which stated that California's building and appliance standards had flattened the State's per-capita electricity use and saved consumers more than \$56 billion in electricity and natural gas costs since 1978 and averted building 15 large power plants. It estimated that then-current standards would save an additional \$23 billion by 2013. Further advances in energy efficiency since that time have realized further financial and environmental benefits.

The Strategic Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. Key goals include (among others):

- transforming single-family and multi-family residential energy use to ultra-high energy efficiency leading to Zero Net Energy (ZNE) in new buildings by 2020;
- achieving an equivalent of 50 percent ZNE in new commercial buildings by 2030;
- establishing energy efficiency certification and benchmarking for industrial businesses in order to reduce energy intensity by at least 25 percent by 2020;
- reducing agricultural production energy intensity by 15 percent between 2008 and 2020;
- transforming the residential and small commercial heating, ventilation, and air conditioning (HVAC) industry to ensure that technology, equipment, installation, and maintenance are of the highest quality to promote energy efficiency and peak load reduction; and

- continually improving and adopting a broad range of aggressive minimum and higher voluntary sets of energy codes and standards to greatly accelerate the widespread deployment of ZNE and highly efficient buildings and equipment.

Senate Bill 100

On September 10, 2018, Governor Jerry Brown signed SB 100 (de León, Chapter 312, Statutes of 2018), California’s most ambitious energy bill, into law. This environmental measure sets a world-leading precedent by committing to 100-percent clean energy in California by 2045, speeding up the State’s timeline for moving to carbon-free power sources that do not cause or contribute to increases of GHG emissions elsewhere in the western electricity grid. It establishes an interim target for 60 percent of the power purchased by California utilities to come from renewable sources by 2030.

SB 100 requires the CEC, CPUC, and the California Air Resources Board (CARB) to complete a joint agency report to the Legislature evaluating the 100-percent zero-carbon electricity policy by January 1, 2021, and at least every four years afterward. The report must evaluate the progress in achieving the goal; the costs and benefits to customers and to electric, gas, and water utilities; any barriers to achieving the policy; and alternative scenarios for achieving the policy, with costs and benefits identified for each scenario.

Senate Bill 1477

Senate Bill 1477 (Stern, Chapter 378, Statutes of 2018) is intended to encourage market-based development and adoption of low-emission, clean energy technologies for buildings. It authorizes the CPUC to allocate up to \$50 million per year (through 2023) in incentives to spur market development of these technologies, with 30 percent of the incentive funds to be earmarked for affordable housing properties. SB 1477 launched the Building Initiative for Low-Emissions Development (BUILD) and the Technology and Equipment for Clean Heating (TECH) Initiative to meet the objectives of the legislation. BUILD will provide incentives for energy storage, solar thermal, and other technologies to help new and retrofitted buildings reduce GHGs, while TECH provides incentives for development of low-emissions space and water heating technologies.

Local Regulations

Alameda Climate Action and Resiliency Plan (CARP)

Alameda’s *Climate Action and Resiliency Plan (CARP)*, adopted in September 2019, is intended to reduce GHG emissions to achieve net-zero carbon emissions as soon as possible, as well as adapting the City to handle the climate change impacts it is currently experiencing. Among its other provisions (discussed in more detail in Chapter 12, Greenhouse Gases), the CARP reinforces the City’s recent shift to 100-percent clean electricity and calls for the elimination of as much natural gas use as possible by fuel shifting—that is, by converting natural gas use to electricity use. This is expected to be accomplished by requiring new residential developments to be all-electric and replacing gas-powered appliances in existing buildings.

Alameda Municipal Code

Alameda Municipal Code Sections 13-10 and 13-11, respectively, adopt the California Green Building Standards Code and the California Energy Code as applicable building codes for the City of Alameda. The California Energy Code, codified at CCR Title 24, Parts 6 and 11, is discussed above under State Regulations.

ENERGY RESOURCES

The composition of California's in-State generation capacity (in megawatts) has increasingly shifted toward renewable resources in recent years. Between 2001 and 2018, the installed electric generation capacity from renewable sources (including rooftop solar) has increased by nearly 80 percent, rising from 6,800 MW in 2001 to 32,313 MW in 2018.^{4, 5} Actual generation from renewable sources, including rooftop solar photovoltaic (PV), more than doubled between 2009 and 2018, rising from 33 GWh to 77 GWh. Generation of electricity from natural gas plants has been declining over the same period, and dropped from 117 GWh in 2009 to 91 GWh in 2018, a reduction of about 22 percent. The State retired more than 8,100 MW of electric generation capacity from natural gas plants between 2009 and 2018, and expected to retire an additional nearly 5,300 MW by the end of 2020.⁶ Over roughly the same period, the State's generation of coal-fired electricity declined from about 50 percent of the State's total generation in 2005 to about 27 percent in 2018.⁷ By approximately 2025, coal-fired electricity is not expected to be a component of the State's energy portfolio. In addition, the State's last remaining nuclear power plant, Diablo Canyon Power Plant, is slated for retirement. The State is exploring the development of renewable natural gas, such as biomethane and biogas.

California continues to demonstrate that it is possible for economic growth to outpace energy consumption. Between 2000 and 2018, California's gross state product (GSP) grew by almost 54 percent while electricity consumption grew by about 10 percent, i.e., the State's economy grew five times faster than electricity consumption. During this period, California's population grew roughly 17 percent from about 34 million in 2000 to almost 40 million in 2018.⁸

The variable nature of renewable resources, which change as the sun rises and sets and as winds blow, requires shifts in how the system is managed. Flexibility with fast responsiveness is needed to accommodate morning and late-afternoon changes (termed ramps) in the net load (total load minus solar and wind generation) to prevent surpluses or shortages on the electricity grid. Although several tools are available to rapidly adjust supply or demand or both to meet flexibility needs,

⁴ California Energy Commission, *2016 Integrated Energy Policy Report Update*, February 28, 2017.

⁵ California Energy Commission, *2019 Integrated Energy Policy Report Update*, February 2020.

⁶ California Energy Commission, *2019 Integrated Energy Policy Report Update*, Natural Gas Consumption/Demand, February 2020.

⁷ *Ibid.*

⁸ California Energy Commission, *2019 Integrated Energy Policy Report Update*, Review of Major Trends in the Electricity Sector, February 2020.

natural gas power plants provide about 75 percent of the available flexible capacity (the ability to quickly ramp energy production up or down as needed to match supply and demand). Smart technologies will be increasingly applied to help shift the timing of energy use in buildings and increase operational flexibility of the electrical grid. Because energy consumption by the State's building stock accounts for almost a quarter of California's GHG emissions, a key strategy for reducing those emissions focuses on leveraging the decarbonization of the electricity system coupled with strategies to enable greater flexibility to shift when energy is consumed.

For the near term, natural gas generation will continue to play an important role in integrating renewable resources and ensuring reliability. As the electricity market grows regionally and resources such as energy storage and demand management grow to help integrate renewables, natural gas generation will decrease further.

Achieving 100 percent zero-carbon electricity and achieving carbon neutrality in the State by 2045, as mandated by SB 100, will require coordinated planning across State agencies, local governments, utilities, and community choice aggregators. This planning must also include provisions for increasing the resiliency of California's electricity system to the effects of climate change. Although California is ahead of schedule in meeting its 33 percent renewable energy target by 2020 and on track to achieve 60 percent renewable energy by 2030, completely decarbonizing the electricity sector to meet climate change objectives will dramatically change the state's electric system. It has already been significantly transformed by the dramatic rise in behind-the-meter (BTM) PV solar and community choice aggregators,⁹ which has changed the energy sector from a vertically-integrated industry to one where energy resources are highly fragmented.

The discussion below addresses the different energy resources that would be consumed by the new development facilitated by the proposed General Plan.

Electricity and Renewable Energy

California's electricity generation capacity is composed of multiple fuel sources, including coal, hydroelectric, natural gas, nuclear, oil, petroleum coke, waste heat, biomass, geothermal, solar photovoltaic, solar thermal, and wind. California's Renewables Portfolio Standard (RPS) calls for 33 percent of the retail sales to be served with renewable resources by 2020, and to comprise 60 percent of the retail sales by 2030. The CEC estimates that in 2019, the State achieved 36 percent of its energy production from renewable resources.¹⁰ When sources of carbon-free energy such as large hydroelectric generation and nuclear are included with RPS-eligible renewables, 63 percent of the State's electricity retail sales came from non-fossil fuel sources in 2019. Solar continues to represent the largest portion of renewable generation serving California, and solar and wind

⁹ Community choice aggregators are formed by local jurisdictions or joint powers authorities to purchase power for their customers.

¹⁰ California Energy Commission, Tracking Progress, Renewable Energy, December 2019, Accessed January 29, 2021 at: https://www.energy.ca.gov/sites/default/files/2019-12/renewable_ada.pdf.

generation together accounted for more than 62 percent of all renewable electricity generation in 2019.

In 2019, California had in-State electric generation from these multiple sources of 200,475 gigawatt-hours (GWh).¹¹ The composition of California's in-State generation capacity has shifted since the 2002 passage of Senate Bill 1078, which required that 20 percent of electric production come from renewable resources by 2017. With the passage of SB X1-2 in 2011, this was increased to 33 percent renewables by 2020; it was raised again to 50 percent renewables by December 31, 2030 by SB 350 (2015). As noted above, 63 percent of total electricity generation, including in-state generation and imported power, came from zero-carbon generation sources in 2019.

Since adoption of the first Renewables Portfolio Standard (RPS) pursuant to SB 1078, the State has significantly increased its portfolio of renewable resources. While natural gas-fired capacity is still the primary source of electricity generation, in the last few years, significant amounts of renewable resources have been brought on-line. Behind-the-meter (BTM) capacity (such as rooftop solar) and facilities smaller than 1 MW have added significantly to the State's installed capacity of 32,313 MW. California is the first state to require PV generation for all new low-rise homes under new building standards that went into effect on January 1, 2020. BTM PV capacity will continue to rise in response to this regulation, and the electrical grid design will need to be adapted to allow for increasing amounts of BTM PV generation being pushed onto the distribution system.

By the end of 2018, there was more than 8,000 MW of installed BTM PV capacity in California. By 2030, the CEC projects installed capacity to reach about 19,900 MW, 23,300 MW, and 26,700 MW in the high-, mid-, and low-energy demand scenarios, respectively. The projected BTM PV capacities will result in an estimated 35,000 to 47,000 GWh of additional energy production.¹²

The most significant increase in renewable sources is from utility-scale solar PV panels. Installed operating capacity, including both new facilities and capacity expansions, rose from roughly 40 MW in 2010 to more than 6,000 MW in 2019. Solar production is projected to grow from more than 6,000 GWh in 2019 to more than 16,000 GWh in 2030.¹³ Wind generation is also projected to increase substantially, rising from 6,278 GWh in 2019 to 10,023 GWh by 2030. With total in-state electricity generation of 277,704 GWh in 2019, 88,032 GWh of them were from renewables.¹⁴ The most recent IEPR published by the CEC states that by 2025, reliance on out-of-state coal generation

¹¹ California Energy Commission, *California Energy Almanac*, Electric Generation Capacity & Energy, In-State Electric Generation by Fuel Type, Accessed January 30, 2021 at: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-generation-capacity-and-energy>.

¹² California Energy Commission, *2019 Integrated Energy Policy Report Update*, California Energy Demand Baseline Forecast, February 2020.

¹³ California Energy Commission, *2019 Integrated Energy Policy Report Update*, Table 24: POU Resources by Type by Year, February 2020.

¹⁴ California Energy Commission, *2019 Total System Electric Generation*, Accessed January 31, 2021 at: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation>.

will be eliminated from the State’s resource mix altogether, and the system is shifting to decreased reliance on fossil natural gas.¹⁵

Alameda Municipal Power

Electric service in Alameda is provided by Alameda Municipal Power (AMP), which has nearly 35,000 residential and commercial customers. Electricity is delivered throughout AMP’s 22.8-square-mile service area in a network of approximately 178.1 circuit miles of underground distribution lines, 86.1 pole miles of overhead distribution lines, 6.8 miles of overhead transmission lines, and 1.9 circuit miles of underground transmission lines.¹⁶

AMP purchases power from a variety of generators, providing 100 percent clean power to Alameda. The renewable sources include hydroelectric (46.5 percent), geothermal (9.6 percent), wind (5.8 percent), and landfill gas-generated turbines (9 percent). The remaining power is provided from unspecified sources, but AMP states that all of its power is 100 percent clean as of January 1, 2020.¹⁷ Based on AMP’s current contracts with multiple hydroelectric, landfill gas, geothermal, wind, and natural gas resources power generators, the combined generation capacity totals 15.4 MW. The utility anticipates that these sources will produce 360.7 GWh of electric power for Alameda in fiscal year 2021.¹⁸

AMP’s *25-Year Integrated Resource Plan (IRP), 2021-2045* provides a roadmap for the utility to continue developing a portfolio of electric power supply resources to meet the City’s growing demand while maintaining its commitment to 100 percent clean power. The IRP incorporates CARP’s electrification goals into the load forecast and identifies the possible portfolio of clean resources to manage Alameda’s future electricity demands. The IRP projects the City’s peak demand to grow from 62 MW in 2021 to over 80 MW in 2045.¹⁹ The push for building electrification will be a primary driver to load growth after 2030, but continued growth in ownership of electric vehicles will also contribute substantially to increased demand.

Based on current projections, AMP currently has enough capacity to meet its load through 2025 with some additional short-term clean purchases to balance short-term variations in load and resources. Beyond 2025, projected load begins to surpass available resources as AMP’s long-term power purchase agreements (PPAs) begin to expire. The IRP projects that AMP will require

¹⁵ California Energy Commission, *2019 Integrated Energy Policy Report Update*, Chapter 1: Electricity Sector, February 2020.

¹⁶ Alameda Municipal Power, Fact Sheet, Accessed January 31, 2021 at: <https://www.alamedamp.com/DocumentCenter/View/482/Alameda-Municipal-Power-Fact-Sheet-PDF>.

¹⁷ Alameda Municipal Power, Power Content Label, Accessed December 28, 2020 at: <https://www.alamedamp.com/336/Power-Content-Label>.

¹⁸ Alameda Municipal Power, *25-Year Integrated Resource Plan (IRP), 2021-2045*, Meeting Resource and Capacity Needs, Table 2: AMP’s Current Resources, July 9, 2020.

¹⁹ Alameda Municipal Power, *25-Year Integrated Resource Plan (IRP), 2021-2045*, Energy and Peak Demand Forecasts, July 9, 2020.

approximately 175,000 megawatt-hours (MWh) by 2030, or 45 percent of projected load, and 16 MW of additional carbon-free resource capacity.²⁰ AMP's resource need will continue to vary by season and time of day, but it generally ranges from an average low of 15 MW during the early morning summer hours to an average high of 43 MW in the evening during peak winter season. Additional information is provided in Chapter 7, Utilities and Service Systems.

Natural Gas

Natural gas represents a third of the energy consumed in California each year. Its use falls mainly into four sectors—residential, commercial, industrial, and electric power generation—but it is also used as an alternative to petroleum for fuel in cars, trucks, and buses. Nearly 45 percent of the natural gas burned in California is used for electricity generation, while residential, industrial, and commercial sectors account for 21 percent, 25 percent, and 9 percent of the consumption, respectively. California relies on out-of-state imports for nearly 90 percent of all natural gas consumed in the State. Statewide consumption of natural gas in 2019 totaled 196.8 billion cubic feet.²¹ In Alameda County, total natural gas consumption in 2019 was 384,150,529 therms,²² including 218,976,191 therms for residential use and 165,174,338 therms for non-residential uses.²³

The proposed project would receive natural gas from PG&E. PG&E has approximately 42,500 miles of natural gas distribution pipelines, 6,700 miles of backbone and local gas transmission pipelines, and various gas storage facilities.²⁴ PG&E delivers about 970 billion cubic feet of natural gas per year to its 15 million natural gas customers.²⁵

Petroleum

During the last quarter of 2020, California's gasoline production capacity was approximately 1.9 million barrels per day, and the State had an inventory of gasoline and blend stocks of about 5.6 to

²⁰ Alameda Municipal Power, *25-Year Integrated Resource Plan (IRP), 2021-2045*, Planning Scenarios and Recommendations, July 9, 2020.

²¹ U.S. Energy Information Administration, Rankings: Natural Gas Marketed Production, 2019, Accessed January 31, 2021 at: <https://www.eia.gov/state/rankings/?sid=CA-series/47>.

²² A therm is equivalent to 100,000 British thermal units (BTUs).

²³ California Energy Commission, Energy Reports: Gas Consumption by County, Accessed January 30, 2021 at: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>.

²⁴ Pacific Gas & Electric Co., *Energy Efficiency Climate Action Plan*, *op. cit.*

²⁵ Pacific Gas & Electric Co., Learn About the PG&E Natural Gas System, Accessed January 31, 2021 at: https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page.

7.6 million barrels per week.^{26, 27} Over the preceding five years, production ranged from about 5.1 to 8.2 million barrels per week, while inventories ranged from about 9.5 to 14.5 million barrels per week.²⁸

The Petroleum Industry Information Reporting Act (PIIRA) requires all retail transportation fueling stations in California to file a Retail Fuel Outlet Annual Report (CEC-A15). These stations report retail sales of gasoline, diesel, and other transportation fuels. The California Energy Commission (CEC) compiles these reports into Statewide data, which it compares to California Board of Equalization data, which tracks all gasoline and diesel sales in California for taxation purposes. Based on the results of this data tracking, the CEC reports that retail sales of gasoline throughout the State in 2019 totaled 13.473 billion gallons; in 2018 sales totaled 13.578 billion gallons.²⁹ In Alameda County, gasoline sales in 2019 were more than 217 million gallons. Sales data reported does not include commercial fleets, government entities, or rental facilities/equipment yards.

The State's diesel fuel production in June 2019 was approximately 2.8 million barrels per week, with an inventory of about 4.3 million barrels per week. Over the preceding five years, production ranged from roughly 2.3 to 3.2 million barrels per week, while inventories ranged from about 3.3 to 4.9 million barrels per week.³⁰ Statewide retail diesel sales in 2018 and 2019 totaled 1.6 billion gallons and 1.56 billion gallons, respectively.³¹

19.3 Standards of Significance

The significance of potential impacts was determined based on State *CEQA Guidelines*, Appendix F and Appendix G. Appendix F states that CEQA requires EIRs to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

²⁶ California Energy Commission, *Petroleum Watch*, Refining Capacity and Associated Combined Heat and Power (CHP) Generation Capacity, January 2021, Accessed January 31, 2021 at: https://www.energy.ca.gov/sites/default/files/2021-01/2021-01_Petroleum_Watch.pdf.

²⁷ California Energy Commission, Weekly Refinery Production and Stocks, Weekly Fuels Water Report, 2020, Accessed January 31, 2021 at: https://ww2.energy.ca.gov/almanac/petroleum_data/fuels_watch/index_cms.html.

²⁸ California Energy Commission, Energy Assessments Division, Supply Analysis Office, *Petroleum Watch December 2015*, Figure 8: Gasoline Production and Inventories, January 15, 2016.

²⁹ California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, Retail Sales Volumes, Accessed January 31, 2021 at: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>.

³⁰ California Energy Commission, Energy Assessments Division, Supply Analysis Office, *Petroleum Watch December 2015*, Figure 8: Diesel Production and Inventories, July 2019.

³¹ California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, Retail Sales Volumes, Accessed January 31, 2021 at: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>.

Appendix G of the *CEQA Guidelines* states that a project would be considered to have a significant adverse energy impact if it were to:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation; and/or
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

These standards of significance are adopted for use in this EIR.

19.4 Impacts and Mitigation Measures

The assessment of energy impacts identified in this chapter is based on the standards of significance listed in Section 19.3. This section identifies energy impacts that could result from the construction and/or operation of new land use developments that would be allowed under the proposed General Plan.

The proposed Conservation and Climate Action Element of the *Alameda General Plan 2040* identifies the policies and strategies for reducing energy consumption, among other environmental benefits. It includes numerous policies intended to reduce Alameda's GHG emissions, which would also contribute to reduced energy consumption and improved energy efficiency. Policies from the Conservation and Climate Action Element that explicitly address energy consumption are listed below, and the reader is referred to Chapter 12, Greenhouse Gases, for additional policies from this element that would help reduce energy consumption in the community. Other relevant policies from the Land Use and City Design Element and Mobility Element are also listed above. Additional Mobility Element policies that would indirectly reduce energy consumption are presented in Chapter 10, Traffic and Transportation.

Conservation and Climate Action Element

Policy CC-4 Net Zero Green House Gas Emissions. Take actions to make Alameda a net zero GHG community.

Actions:

- **Partnerships.** Continue to partner on greenhouse gas emission reduction and adaptation strategies with other agencies, including, but not limited to, Caltrans, AC Transit, Bay Conservation and Development Commission, Water Emergency Transit Agency, East Bay Regional Park District, Port of Oakland, East Bay Municipal Utility District, Pacific Gas & Electric, and the US Department of Veterans Affairs.
- **Alameda Climate Action and Resiliency Plan.** Implement and update as necessary Alameda's Climate Action and Resiliency Plan (CARP) to reducing GHG to 50 percent below 2005 levels by 2030 and achieve net zero GHG emissions as soon as possible. Implement adaptation strategies to address sea level and ground water rise, storm surges,

inland stormwater system flooding, drought, extreme heat, and unhealthy wildfire smoke.

- **100% Renewable.** *Support powering Alameda with 100% renewable energy by promoting the generation, transmission and use of a range of renewable energy sources such as solar, wind power and waste to meet current and future demand. Support Alameda Municipal Power’s efforts to provide power from 100% clean, non-fossil fuel sources to all residential and commercial users in Alameda.*
- **On-Island Generation.** *Support development of on-island solar power generation and on-island wind power with appropriately sized generation, storage, and microgrid distribution infrastructure to be able to provide power for a range of uses, including essential functions. Permit renewable energy generation facilities by right in zones with compatible uses and remove financial disincentives associated with the installation of clean energy generation and storage equipment.*
- **Local Climate Impact Mitigations.** *Require any carbon neutral goals and initiatives to reduce or sequester greenhouse gas emissions locally and not use taxpayer money to purchase carbon credits from outside the City of Alameda.*

Policy CC-5 Clean Energy Infrastructure. Actively support and advocate for improvements to the regional and local electric power infrastructure to reduce its vulnerability to high winds and other climatic conditions.

Action:

- **Undergrounding Utilities.** *Underground utilities to increase resilience of the electric grid, reduce conflicts with street trees and contribute to enhancing neighborhood character.*

Goal 2 Reduce the community’s greenhouse gas emissions which are contributing to global warming, climate change, and environmental and social impacts.

Policy CC-6 Climate-Friendly Vehicles and Equipment. Reduce transportation greenhouse gas emissions by promoting, and when appropriate, requiring the use of low and zero emission vehicles and equipment and taking action to support use of micro-mobility devices to reduce energy use and carbon emissions from personal vehicles

Actions:

- **EV Charging.** *Support the increase in supply of publicly accessible electric vehicle charging stations in Alameda.*
- **New Development.** *Require electric vehicle charging stations in all new development.*
- **Permitting.** *Streamline local permitting for hydrogen fueling and electric vehicle charging infrastructure.*
- **City Fleet Vehicles.** *Replace public fleet vehicles with zero emission vehicles.*

- **Buses.** Encourage AC Transit to continue its efforts to replace diesel buses with clean zero emission buses.
- **Ferries.** Encourage WETA to replace diesel ferries with low or zero emission ferries.
- **EV Action Plan.** Prepare and adopt an Electric Vehicle Adoption Plan that provides a path forward for increased EV adoption in Alameda, including:
 - Bolstering charging infrastructure availability,
 - Driving community awareness,
 - Facilitating EV adoption, and
 - Supporting EV services and innovation.

Policy CC-7 Climate-Friendly Active Modes of Transportation. Reduce greenhouse gas emissions from transportation by improving the local roadway network to support all mobility choices while specifically encouraging walking and bicycling.

Policy CC-9 Vehicle Sharing. Support and encourage vehicle sharing to reduce the demand for vehicle parking and increase access to mobility.

Policy CC-10 Climate-Friendly, Transit-Oriented Development. Reduce reliance on automobile use and reduce vehicle miles traveled by prioritizing walkable, transit-oriented, medium and high density mixed-use development in transit-oriented areas and commercial corridors.

Policy CC-11 Climate-Friendly Employment Commute Behavior. Encourage residents to telecommute or work from home to reduce vehicle miles traveled, greenhouse gas emissions, and commute hour congestion.

Actions:

- **Home Occupations:** Implement municipal code amendments to allow for a wider variety of “home occupation permit” types in residential zoning districts.
- **Support Telecommuting Professionals.** Allow and encourage cafes, restaurants, and similar uses that specifically cater to telecommuting professionals in all zoning districts.
- **Flexible Home Office Spaces.** Allow for and actively encourage the construction of flexible spaces, such as Accessory Units and outdoor spaces to facilitate telecommuting from home in residential zoning districts.
- **Promote Work-Live Environments.** Support and encourage “work-live” developments in commercial zoning districts.
- **Telecommuting Work Sites.** Encourage and permit remote work sites, telecommuting workplaces, and shared work locations within Alameda.

Policy CC-12 User Fees and Congestion Pricing. Advocate for changes to State law that would allow local jurisdictions to implement program such as congestion pricing or tolling

to actively manage roadway use to reduce vehicle miles travelled and greenhouse gas emissions.

Policy CC-13 Alameda’s Building Stock. Reduce greenhouse gas emissions from natural gas combustion and natural gas leaks.

Actions:

- **Construction Regulations.** Prepare and adopt citywide regulations limiting use of natural gas and encouraging the use of clean energy electricity.
- **New Construction Reach Codes.** Adopt reach codes that ban the use of fossil-fuels in all new buildings constructed in Alameda.
- **Renovation to Clean Energy.** Develop regulations and incentives to facilitate the conversion of existing buildings with natural gas infrastructure to clean energy alternatives.
- **Development on City Land.** Limit the use and expansion of natural gas infrastructure on city land to the extent feasible and practicable.
- **Rebate Programs.** Support programs that encourage homeowners/commercial building owners to implement electrification retrofits, with an emphasis on Alameda’s most vulnerable residents.
- **Partners.** Partner with PG&E and other utility companies to plan for the safe transition from natural gas to clean energy alternatives, including removal of infrastructure that pose hazards when not in use.

Policy CC-14 Energy Efficiency and Conservation. Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.

Actions:

- **Weatherization and Energy Efficient Building Renovations.** Streamline permitting requirements for energy-efficient building renovations such as weatherization.
- **Public Facilities.** Incorporate renewable energy and energy efficiency into public facility capital improvements.
- **Low Carbon Materials.** Require or promote the use of low-carbon building materials where available.
- **Energy Audits.** Consider requirements for energy audits or updates at major renovations or time of sale.
- **Incentives.** Incent the use of the Living Community Challenge, LEED for Neighborhood Development, or similar third-party certification system to certify climate friendly construction.
- **Solar Panels.** Encourage installation of solar panels and energy storage equipment in new development.

- **Low Carbon Materials.** *Seek low-carbon alternatives to conventional construction materials.*

Policy CC-15 Neighborhood Resilience Coordination. Consider piloting building electrification, water conservation and other climate initiatives at a block or neighborhood level to more cost effectively transition to climate friendly energy, water, and resource use similar to the EcoBlocks model in Oakland.

Policy CC-16 Water Efficiency and Conservation. Minimize water use in new construction and landscaped areas to make Alameda more resilient to drought and generate less wastewater.

Policy CC-18 Building Renovation and Reuse. To reduce construction waste and GHG emissions associated with construction material manufacture and transportation, encourage and facilitate renovation and rehabilitation of existing buildings instead of demolition and new construction.

Land Use and City Design Element

Policy LU-13 Green Economy. Promote a green economy that reduces greenhouse gas emissions generated by Alameda businesses.

Policy LU-16 Climate-Friendly, Transit-Oriented Mixed-Use Development. Permit higher-density, multi-family and mixed-use development on sites within walking distance of commercial and high quality transit services to reduce automobile dependence, automobile congestion, greenhouse gas emissions, and energy use; provide for affordable housing; make efficient use of land; and support climate friendly modes of transportation, such as walking, bicycling, and transit use.

Policy LU-34 Parking Design. To maintain the historic character of Alameda and reduce the impact of automobile parking and automobile trips on the environment and character of Alameda, design parking facilities in a manner that decreases their visibility in the urban environment.

Mobility Element

Policy ME-14 Active Transportation. Reduce traffic, improve public health, increase transportation equity, reduce greenhouse gas emissions, air and noise pollution, increase access to transit, enhance quality of life, and improve the efficiency of the transportation system by making Alameda a city where people of all ages and abilities can safely, conveniently, and comfortably walk, bike, and roll to their destinations.

Policy ME-22 Environmentally Friendly Transportation. Reduce traffic, pollution, and greenhouse gas emissions by reducing reliance on the single occupancy vehicle and reducing vehicle miles traveled (VMT).

Actions:

- **Climate-Friendly Vehicles and Equipment.** *Reduce pollution and transportation greenhouse gas emissions by promoting, and when appropriate, requiring the use of low and zero emission vehicles and*

equipment and taking action to support use of micro mobility devices to reduce energy use and carbon emissions from personal vehicles.

- **Clean Transit.** *Support and encourage use of hydrogen fuel cells and other alternative energy sources for transit vehicles.*
- **Climate-Friendly Modes of Transportation.** *Reduce greenhouse gas emissions from transportation by improving the local roadway network to support environmentally sensitive mobility choices such as transit, walking and bicycling.*
- **Transit Use.** *Reduce automobile greenhouse gas emissions by increasing transit use.*
- **Vehicle Sharing and Carpooling.** *Reduce automobile greenhouse gas emissions by supporting and encouraging vehicle sharing and carpooling.*
- **Climate-Friendly, Walkable and Transit-Oriented Development.** *Reduce reliance on automobile use and reduce vehicle miles traveled by requiring walkable, transit-oriented, medium and higher-density mixed-use development in transit-rich areas and along commercial corridors such as much of Park Street, Webster Street and Otis Drive, as well as near ferry terminals.*
- **Climate-Friendly Employment Commute Behavior.** *To reduce vehicle miles travelled, greenhouse gas emissions, and commute hour congestion, make Alameda an ideal location to work from home in the Bay Area by collaborating with employers, Island businesses, and improving work-from-home infrastructure.*

IMPACTS

Impact 19-1

Implementation of the Alameda General Plan 2040 would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. (LTS)

Energy resources would be consumed both during construction and operation of new development facilitated by the proposed General Plan. Each of these phases is discussed separately below.

Energy Consumption During Project Construction

Construction of future development allowed under the proposed General Plan would entail consumption of gasoline and diesel fuel by construction workers travelling to and from project sites, by trucks delivering construction materials and supplies to the sites, and by earthmoving, paving, and other construction equipment operating on the sites. Additional energy would be consumed on sites where demolition of existing structures is required and where import or export of fill material is necessary. Electricity would be consumed during the finishing phase of construction for power tools and work lighting, but this usage would be relatively minor compared to normal

building operations. Furthermore, electric equipment would be powered off when not in use so as to avoid unnecessary energy consumption. Construction contractors would be required by Mitigation Measure 11-2 (see Chapter 11, Air Quality) to minimize equipment idling time and maintain equipment in proper operating condition, which would ensure that fuel powering the equipment would not be used in an inefficient or wasteful manner. Natural gas would not be used during construction.

It is not possible to accurately model energy consumption for a large number of currently undefined future construction projects. However, since construction projects are temporary and of relatively short duration, the consumption of energy resources—primarily diesel fuel and gasoline—would also be temporary and short-term, with demand ceasing once construction of a project is completed. Relative to ongoing region-wide and statewide fuel consumption, the incremental construction-related fuel consumption would be readily accommodated by existing supplies.

Off-road diesel-fueled construction equipment and heavy-duty diesel trucks are regulated by the California Air Resources Board (CARB) under its In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation), which applies to all self-propelled off-road diesel vehicles 25 horsepower or greater used in California and most two-engine vehicles (except on-road two-engine sweepers), including vehicles that are rented or leased. The Off-Road Diesel Regulation includes a variety of requirements that equipment operators must adhere to, including mandatory reporting to CARB; restrictions on adding older vehicles into fleets after January 1, 2014; requirements to retire, replace, or repower older engines or install Verified Diesel Emission Control Strategies (VDECS) i.e., exhaust retrofits; limits on idling; and more. The regulation requires the phasing out of older Tier 1 and Tier 2 engines with Tier 3 and Tier 4 engines, which have lower emissions of nitrogen oxides (NO_x) and particulate matter (PM). Effective January 1, 2018, owners of large and medium fleets are prohibited from adding vehicles with Tier 2 engines to their fleets; they must be Tier 3 or higher. The same ban takes effect on January 1, 2023 for small fleets. Fleet size is determined by the combined horsepower of the fleet, with small fleets being under 2,500 horsepower.

Although the intent of the Off-Road Diesel Regulation is to reduce emissions of NO_x and PM from off-road diesel vehicles operating within California, the newer engines are also more fuel efficient. For example, the EPA conducted a comparative study on the fuel efficiency of Tier 2 versus Tier 3 engines and found the Tier 3 engines to be 2.98 percent more fuel efficient than the Tier 2 engines.³² Consequently, mandatory compliance with CARB's Off-Road Diesel Regulation would help reduce diesel fuel consumption during construction of future development projects allowed under the proposed General Plan.

Each future development proposal would be subject to additional environmental review pursuant to CEQA, and would be required to assess and disclose any potential construction-related energy impacts, and identify project-specific mitigation requirements to reduce any significant impacts to insignificance. Construction projects would be required to comply with the CALGreen Code (as

³² U.S. Environmental Protection Agency, Tier 3 Certification Fuel Impacts Test Program, Accessed February 17, 2021 at: <https://www.epa.gov/moves/tier-3-certification-fuel-impacts-test-program>.

reinforced by the Alameda Municipal Code), which is explicitly intended to encourage sustainable construction practices in energy efficiency and other environmental parameters, and includes provisions for energy conservation during construction activities. Project sponsors will be required to submit construction documents to the Alameda Building Department that indicate the location, nature, and scope of the proposed green building features and show that project construction will conform to the applicable provisions of the CALGreen Code, the California Building Standards Code, and other relevant laws, ordinances, rules, and regulations as determined by the Building Department. As part of CALGreen Code requirements, project sponsors would be required to prepare and implement a construction waste management plan that would contribute to energy conservation. Therefore, future construction facilitated by the *Alameda General Plan 2040* would have a ***less-than-significant energy consumption impact***.

Energy Consumption During Project Operation

Once construction of future development is complete and the projects are operational, there would be continued, ongoing consumption of energy resources to provide heating, cooling, cooking, illumination, and operation of appliances and equipment. Gasoline and diesel fuel would be consumed by residents, employees, visitors, deliveries, and service vehicles traveling to and from the sites. Electricity would be consumed to charge electric vehicles (EVs) that could be utilized by these groups, which would increase over time as the community continues to adopt EVs. This shift in the transportation sector—which is encouraged by the City’s CARP and by proposed General Plan policies CC-6, LU-13, and ME-22—would progressively lead to reduced consumption of fossil fuels.

While the shift to EVs will result in increased demands on the electric grid, and create new challenges during peak demand periods that will likely require modification of the electric power generation and distribution systems throughout California and the rest of the U.S., the shift is expected to result in an overall reduction in consumption of energy resources because EVs are so much more efficient than gasoline-powered vehicles, and the savings will offset the increased energy consumption associated with producing additional electric power for EV charging. It is beyond the scope of this EIR to evaluate future effects on regional energy resources beyond the analysis presented below.

Future consumption of gasoline for vehicular transportation facilitated by the proposed General Plan was calculated using the amount of greenhouse gases reported as carbon dioxide equivalents (CO₂e) in Alameda’s CARP for 2020 in the transportation sector (204,506 metric tons) compared to the projected growth in VMT determined in the traffic analysis presented in Chapter 10, which projects VMT to grow by 32 percent by 2040. Because the traffic analysis determined that the City’s service population would increase by 24.65 percent due to General Plan implementation, 25 percent of the total 2040 VMT in Alameda was applied to determine the 2040 GHG emissions attributable to General Plan buildout. The GHG emissions were converted to gallons of gasoline

using a conversion factor (8.89 kilograms CO₂/gallon) provided by the U.S. Energy Information Administration (EIA).³³

The CARP estimated Alameda's GHG emissions in 2020 to be 204,506 metric tons of CO₂e, representing consumption of approximately 23,004,049 gallons of gasoline. As reported in Chapter 12, Greenhouse Gases, GHG emissions are projected to be 207,352 metric tons of CO₂e in 2040, representing gasoline consumption of 23,324,184 gallons. The relatively small increase over the 20-year time frame reflects the assumption that vehicle fuel economy will continue improve.

The 2040 GHG emissions attributable to growth facilitated by the proposed General Plan would be 50,732 metric tons of CO₂e. Applying the EIA's gasoline conversion factor, it is estimated that vehicular transportation facilitated by the proposed General Plan would consume 5,706,629 gallons of gasoline. For the purpose of this analysis it was assumed vehicle fuels would all be gasoline, although it is acknowledged that a portion of transportation fuels consumed would be diesel fuel. However, the fuel estimate is conservative since it assumes the future VMT would be generated by fossil-fueled vehicles, while there are expected to be more electric vehicles than gasoline-fueled vehicles on the road by 2040.

The City's 2015 GHG inventory was used as a basis for estimating current energy consumption in Alameda, which was then scaled to project the energy consumption expected from new buildings and associated transportation under *Alameda General Plan 2040* buildout conditions.³⁴ The City's consumption of electricity in 2015 was estimated to be 342,202,785 kWh for the year, including 125,431,220 kWh in the residential sector and 216,771,565 kWh in the commercial/industrial sectors.³⁵ Because the City's CARP projects building energy demand to increase 7.26 percent between 2015 and 2020, this growth factor was applied to estimate annual electric power demand in 2020 to be 367,048,672 kWh. Electrical demand is projected to increase by 33 percent by 2040, based on projected population and job growth; additional details are provided in Appendix C. Thus, the City's electrical demand is forecast to be 488,174,734 kWh at General Plan buildout in 2040. An estimated 121,126,062 kWh would be attributable to growth facilitated by the proposed General Plan.

Consumption of natural gas in Alameda was estimated to be 14,004,743 therms in 2015 and, applying the same 7.26-percent growth factor used for electric demand, is estimated to be 15,021,568 therms in 2020. Based on the projected 33-percent growth in Alameda's service population between 2020 and 2040, natural gas consumption is projected to grow by 4,957,117 therms during this time period, resulting in total citywide demand of 19,978,685 therms in 2040. Since Alameda's population may grow by 25,000 residents during this timeframe, representing a 31.6-percent increase over the current population of roughly 79,000 people, the projected growth

³³ U.S. Energy Information Administration, Carbon Dioxide Emissions Coefficients, Accessed February 17, 2021 at: https://www.eia.gov/environment/emissions/co2_vol_mass.php.

³⁴ City of Alameda, *2015 Community-Wide Greenhouse Gas Inventory and Projection to 2020 Goal*, October 2017.

³⁵ *Ibid*, Table 6: Building Energy Use Consumption and Emissions 2005-2015.

in energy demand is comparable to projected population growth for the same period. However, the proposed General Plan includes policies intended to continue shifting the City's energy demand to clean, renewable sources, such as PV solar, wind, and waste-to-energy, including policies CC-4, CC-5, CC-6, CC-7, CC-13, CC-15, and LU-12. It also includes policies designed to increase sustainable building design and construction practices, which will result in a reduction in overall energy demand. These policies include CC-15, CC-16, CC-17, LU-13, and LU-34. Alameda's CARP also reinforces the City's recent shift to 100-percent clean electricity and calls for the elimination of as much natural gas use as possible by fuel shifting to electricity.

The proposed General Plan also includes policies promoting the shift from fossil fuel-powered vehicles to electric vehicles, including policies CC-6, LU-34, and ME-22. Although this will increase electrical demand for battery charging, it will result in an overall reduction in energy demand.

The 2019 California Code of Regulations Title 24 Part 6 standards now require all homes built in California to have zero-net-energy use, which is achieved through energy-efficiency measures as well as required rooftop solar photovoltaic systems. The 2019 California Code of Regulations Title 24 Part 6 standards also apply to non-residential buildings and require a variety of energy efficiency measures to be implemented during construction of the structures to reduce energy usage as well as GHG emissions. Subsequent environmental review of future development projects would be required to assess potential impacts under BAAQMD's project-level thresholds.

Implementation of the *Alameda General Plan 2040* policies cited above would ensure that future residential, commercial, and industrial development facilitated by the General Plan would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project operation. Therefore, operational energy impacts of the *Alameda General Plan 2040* would be ***less than significant***.

Mitigation Measure 19-1

None required.

Impact 19-2

Implementation of the *Alameda General Plan 2040* would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. (LTS)

The *Alameda General Plan 2040* has been developed with the explicit intention of reducing energy use and transitioning to renewable sources of energy in order to reduce environmental impacts, including greenhouse gas emissions and associated climate change. Proposed policies in support of these objectives include policies CC-1 through CC-18, LU-13, LU-14, LU-15, LU-16, LU-17, LU-34, ME-14, and ME-16 through ME-22, while numerous other policies are indirectly supportive of the objectives. The General Plan promotes the implementation of the City's *Climate Action and Resiliency Plan*, which is effectively the City's local plan for renewable energy and energy efficiency. Policy CC-4 specifically calls for implementation of, and updating as necessary, the CARP.

Similarly, the *Alameda General Plan 2040* is supportive of the *California Long Term Energy Efficiency Strategic Plan*, the State's primary plan for energy efficiency. The goals and strategies adopted in the Strategic Plan were reviewed and no conflicts between the proposed General Plan and the Strategic Plan's goals and strategies were identified, while the policies cited above would be supportive of and contribute to the achievement of the State's energy efficiency goals.

In addition, the 2019 California Code of Regulations Title 24 Part 6 standards also now require all homes built in California to demonstrate zero-net-energy use, which can be achieved through energy-efficiency measures as well as required rooftop solar photovoltaic systems. The 2019 California Code of Regulations Title 24 Part 6 standards also apply to non-residential buildings and require a variety of energy efficiency measures to be implemented during construction of the structures to reduce energy as usage as well as air emissions.

While adoption of the proposed *Alameda General Plan 2040* will lead to the development of new residential, commercial, and industrial land uses that will increase demand for energy resources, required compliance with building code regulations and General Plan policies intended to improve energy efficiency would ensure that future development allowed under the General Plan would not conflict with or obstruct implementation of a State or local plan for renewable energy or energy efficiency. This would therefore be a ***less-than-significant impact***.

Mitigation Measure 19-2

None required.

CUMULATIVE IMPACTS

Future development facilitated by the proposed *Alameda General Plan 2040* would contribute to an incremental cumulative increase in energy demand in the San Francisco Bay Area. However, as discussed under Impacts 19-1 and 19-2, development facilitated by the proposed General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy. As such, development anticipated under the proposed General Plan would not create substantial impacts related to energy resources. Regional growth in the Bay Area would result in an increased cumulative demand for energy resources but, similar to new development in Alameda, other new development throughout the region would be required to comply with city or county ordinances and General Plan policies that address energy conservation and energy efficiency. They would also be required to comply with CCR Title 24 Building Energy Efficiency Standards and the current CALGreen Code energy efficiency requirements. The State's implementation of the *California Long Term Energy Efficiency Strategic Plan* and other laws and regulations discussed in Section 19.2 would further reduce the cumulative impacts from increased regional energy demand. Therefore, implementation of the proposed *Alameda General Plan 2040* would result in cumulatively considerable demand for energy resources. The proposed General Plan would have a less-than-significant cumulative impact on energy.

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20. OTHER ENVIRONMENTAL ISSUES

20.1 Introduction

An EIR should focus primarily on the potential physical changes in the environment that could result from implementation of the project being evaluated. Accordingly, this EIR is focused on the project's potential impacts to land use and planning, traffic, air quality, greenhouse gases, noise, biological resources, cultural resources, geology and soils, hydrology and water quality, hazards and hazardous materials, visual quality, public services, parks and recreation, energy, and utilities and service systems, which are evaluated in Chapters 4 through 19, respectively. If the Lead Agency determines that an EIR is required for a project, which is the case for the proposed *Alameda General Plan 2040*, it may, but is not required to, prepare an Initial Study to determine if the project may have a significant effect on the environment.

In accordance with Section 15060(d) of the *CEQA Guidelines*, the City of Alameda decided to proceed directly to preparation of an EIR without first preparing an Initial Study. However, in the absence of an Initial Study, the Lead Agency is required to indicate briefly its reasons for determining that other effects would not be significant or potentially significant. This chapter of the EIR documents the reasons the City has determined that there would be no impacts to the environmental resources discussed in the chapter. With the exception of topics addressed in detail in Chapters 4 through 19, all of the environmental topics identified in the Environmental Checklist presented in Appendix G of the *CEQA Guidelines* are discussed in this chapter. The chapter is organized by topic, presented in the order in which the topics are listed in the Environmental Checklist.

20.2 Agricultural and Forestry Resources

The California Department of Conservation's (DOC) Division of Land Resource Protection tracks the conversion of agricultural land to other uses. The Department categorizes agricultural land as grazing land or one of four categories of farmland: Prime Farmland, Farmland of Statewide Significance, Unique Farmland, and Farmland of Local Importance. The DOC's Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance.

With the exception of planned Doolittle Park on Bay Farm Island (see Chapter 8, Figure PR-1), the entire City of Alameda is designated "Urban and Built-Up Land" on the most recent map of

important farmland published by the Department of Conservation, a department of the California Resources Agency.¹ As defined by the DOC, urban and built-up land is 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. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

The site on Bay Farm Island where a park is planned is designated “Other Land.” Other land is land not included in any other mapping category, and can include low-density rural developments, brush, timber, wetlands, strip mines, borrow pits, water bodies smaller than 40 acres, and other land uses. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land.

There is no designated farmland or grazing land in the City of Alameda. Therefore, there is no potential for new development facilitated by the *Alameda General Plan 2040* to adversely affect important farmland.

Appendix G of the *CEQA Guidelines* includes forestry resources among the environmental resources that should be considered during environmental review conducted pursuant to CEQA. Appendix G asks whether a project being evaluated would conflict with zoning for, or cause rezoning of, any of the following:

- forest land, as defined in Public Resources Code Section 12220(g);
- timberland, as defined in Public Resources Code Section 4526; or
- timberland zoned Timberland Production, as defined in Government Code Section 51104(g).

Public Resources Code Section 12220(g) defines forest land as 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.

Public Resources Code Section 4526 defines timberland as land, other than land owned by the federal government and land designated by the State Board of Forestry and Fire Protection as experimental forest land, that 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.

The definition of a timberland production zone in Government Code Section 51104(g) is lengthy and somewhat complicated, but it is essentially land that is zoned for and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber along with compatible uses, such as for hunting, fishing, grazing, or managing wildlife habitat.

¹ California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, “Alameda County Important Farmland 201” (map), August 2018.

There is no forest land or land zoned as forest land in Alameda. Implementation of the proposed General Plan would therefore have no impact on forest land or timber land.

20.3 Mineral Resources

Although regionally significant mineral deposits are located in the range of coastal mountains that extends along the coast of California, including the East Bay Hills located to the east of Alameda, such deposits have not been identified anywhere in the City of Alameda. The entire city as well as neighboring areas in Oakland, San Leandro, and Emeryville, are classified Mineral Resource Zone (MRZ) category MRZ-1 by the California Department of Conservation's Division of Mines and Geology (DMG). The MRZ-1 designation is assigned to areas where available information is adequate to determine that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. It can therefore be assumed that mineral resources that would be of value to the region and the residents of the State are absent from Alameda. In addition, Alameda is a developed urbanized area, where extraction of minerals, were they to be present, would be impractical and highly disruptive to surrounding established land uses. This is reinforced by a statement in the DMG report published with the MRZ maps for the Bay Area that mineral lands located within areas that have already been urbanized are not considered viable for extraction, and are deemed incompatible.² Therefore, Implementation of the proposed General Plan would therefore have no impact on the availability of mineral resources.

20.4 Wildfire

Government Code Section 51178 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of high fire hazard within Local Responsibility Areas (LRAs) that are not under the direct jurisdiction of CAL FIRE, where local fire-fighting agencies have primary responsibility for fire response. CAL FIRE's mapping of Very High Fire Hazard Severity Zones (VHFHSZs) is based on data and models of potential fuels over a 30- to 50-year time horizon and their expected fire behavior and burn probabilities. All of the City of Alameda is within an LRA and is designated as a non-VHFHSZ.³ The entire city is an urbanized area and there are no wildlands in close proximity to the site. Therefore, there is no potential for wildfire in Alameda.

² California Department of Conservation, Division of Mines and Geology, *Update of Mineral Land Classification: Aggregate Materials in the South San Francisco Bay Production-Consumption Region*, Concepts Used in Identifying Available Aggregate Resources (page 7), 1996.

³ California Department of Forestry and Fire Protection (CAL FIRE), Alameda County Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL FIRE [map], September 3, 2008.

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21. ALTERNATIVES

21.1 Introduction

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the project that could feasibly attain most of the objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and to evaluate the comparative merits of the alternatives.¹

An EIR is also required to focus the discussion of alternatives on those that could reduce to a less-than-significant level or eliminate any significant adverse environmental effects of the project, even if those alternatives may be more costly or could otherwise impede to some degree the attainment of the project objectives.² The range of alternatives considered must include those that offer substantial environmental advantages over the project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors.

ALTERNATIVES

The *CEQA Guidelines* suggest that an EIR briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination.³

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- the extent to which the alternative would accomplish most of the basic goals and objectives of the project (see Chapter 3, Project Description);
- the extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project;
- the feasibility of the alternative, taking into account consistency with the General Plan and other relevant factors, including economic feasibility;
- the appropriateness of the alternative in contributing to a reasonable range of alternatives necessary to permit a reasoned choice; and

¹ *CEQA Guidelines*, Section 15126.6 (a).

² *CEQA Guidelines*, Section 15126.6 (b).

³ *CEQA Guidelines*, Section 15126.6 (c).

- the CEQA requirement to consider a No-Project Alternative⁴ and, if the No-Project Alternative is the environmentally superior alternative, the requirement to identify an environmentally superior alternative among the other alternatives.

For the purpose of this analysis, three alternatives were selected for evaluation:

The No Project Alternative. In this alternative, the City of Alameda City Council would not adopt *Alameda General Plan 2040*, and the City of Alameda would continue to be governed by the current General Plan, which was last comprehensively updated 30 years ago in 1991.

The Reduced-Density Alternative. In the Reduced-Density Alternative, *Alameda General Plan 2040* would be amended to limit residential growth by 50 percent (approximately 5,000 units over 20 years) and to limit employment growth by 50 percent (approximately 5,000 new jobs added over 20 years).

The Environmentally Superior Alternative: In this alternative, *Alameda General Plan 2040* would be amended to include a stronger commitment to protecting the environment and addressing global warming and climate change.

Each of these alternatives is described and evaluated below in Section 21.2.

Alternatives Considered But Rejected

Notably absent from the selected alternatives is an alternative project site. *CEQA Guidelines* Section 15126.6(f)(2) specifically addresses the requirements for consideration of alternate locations. The *CEQA Guidelines* specifically note that there may be no feasible alternative locations for some types of projects, such as a project that is governed by the location of natural resources critical to the project. Due to the programmatic and citywide nature of the proposed *Alameda General Plan 2040*, it is not feasible to evaluate an alternative project site. The General Plan does not identify any site-specific projects; rather, it designates broad areas for certain types of residential, commercial, and other development via land use designations. By definition, the City of Alameda's proposed General Plan must govern development within Alameda, so alternative locations are not applicable.

21.2 Alternatives Evaluation

The evaluation of alternatives is focused on the environmental benefits or impacts of each alternative and the ability of each alternative to meet the project objectives, which are to:

- Provide a comprehensive, internally consistent, up-to-date General Plan for the City of Alameda as required by State Planning Law.
- Establish consistency between the City of Alameda General Plan, *City of Alameda Climate Action and Resiliency Plan (CARP)*, the 2023-2031 Regional Housing Needs Allocation, and *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment.

⁴ *CEQA Guidelines*, Section 15126.6 (e).

- Protect the environment, respond to the climate crisis and meet regional responsibilities.
- Enhance mobility and accessibility on an island city.
- Promote a healthy, equitable and inclusive city.
- Preserve and enhance Alameda’s distinctive character.

THE NO-PROJECT ALTERNATIVE

Under the No-Project Alternative, the City of Alameda City Council would not adopt the *Alameda General Plan 2040*. Future development and decision making in the City of Alameda would continue to be governed by the current General Plan, which was last comprehensively updated in 1991.

The No Project alternative would not meet the first two project objectives which are to:

- Provide a comprehensive, internally consistent, up-to-date General Plan for the City of Alameda as required by State Planning Law.
- Establish consistency between the City of Alameda General Plan, City of Alameda Climate Action and Resiliency Plan (CARP), the 2023-2031 Regional Housing Needs Allocation, and the *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment.

The No Project alternative would not do as well as *Alameda General Plan 2040* at meeting the following three objectives, which are to:

- Protect the environment, respond to the climate crisis, and meet regional responsibilities.
- Enhance mobility and accessibility on an island city.
- Promote a healthy, equitable and inclusive city.

As described in more detail below, the No Project alternative would be equal to the proposed project at meeting the final objective:

- Preserve and enhance Alameda’s distinctive character.

Land Use and Planning—(Greater Impact)

The No-Project Alternative would result in a greater land use impact than the proposed General Plan because it would conflict with a regional land use plan adopted to protect the environment. The currently-adopted Land Use Element of the Alameda General Plan includes a policy restricting new residential development to single-family homes and duplexes at residential densities below 21 units to the acre. These policies are in direct conflict with State Housing Law, and they conflict with *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment. Because the No-Project Alternative would conflict with State General Plan Law and *Plan Bay Area 2040*, it would have greater land use/planning impacts than the proposed project.

Population and Housing—(Greater Impact)

As an inner Bay Area community, the current General Plan policies restricting multi-family, higher-density, mixed-use, transit-oriented housing places a greater demand on the larger region to provide for affordable housing, which contributes to regional sprawl, increased automobile emissions, and associated affordable housing and environmental impacts. Accordingly, the No-Project Alternative would have greater population and housing impacts on the region than the proposed project.

Public Services—(Equal Impact)

While new residential and commercial growth under both the current General Plan and Alameda General Plan 2040 would result in increased calls for police and fire protection services and residential growth would increase demand for schools, the providers of these services are required by law to maintain adequate services, which are funded by the City's development impact fees or, in the case of schools, by the State-approved school impact fee adopted by the Alameda Unified School District. With lower local population growth, the regional need for public services to serve the region's slightly larger population would be distributed among the region's cities and counties. The No Project alternative would place a greater need in other communities for increased demand for services, which would have similar environmental impacts to the less-than-significant environmental impacts associated with Alameda General Plan 2040.

Utilities and Service Systems—(Equal Impact)

Similar to the Public Service analysis, the No-Project Alternative would place a greater need in other communities to expand utilities and service system as the result of increased demand for services. Increasing utilities and service systems in the outer Bay Area communities would introduce similar or worse environmental impacts compared to the less-than-significant impacts on utilities and service systems associated with *Alameda General Plan 2040*.

Parks and Recreation—(Equal Impact)

As described in the General Plan and in this EIR, Alameda has ample parks and open spaces to accommodate the additional population associated with *Alameda General Plan 2040*; the challenge is raising the financial resources needed to maintain the facilities that exist or are already planned on City owned property. To address this challenge, the proposed General Plan includes policies calling for:

- securing adequate and reliable funding for development, rehabilitation, programming, and maintenance of parks, recreation facilities, trails, and open spaces;
- developing partnerships with federal, regional, and local non-profits, agencies, organizations, and districts to reduce the costs borne by the City for the acquisition, construction, operations, and or maintenance of parks, open space, facilities and programs;
- developing revenue-generating approaches to financing recreational facilities;
- pursuing grant opportunities with federal, regional, and local agencies for the expansion of

the City's park and open space network; and

- promoting an interconnected system of parks, open space, commercial recreation, trails, and urban forest that frames and complements the City's waterfronts, neighborhoods, and commercial areas.

With the exception of policies related to grant opportunities, none of these proposed policies are mirrored by similar policies in the 1991 General Plan. In addition, although both the existing and proposed General Plans include policies supporting shoreline access to residents, the policies in the proposed General Plan are more comprehensive and rigorous. From the standpoint of potential environmental impacts associated with the development of new park and recreation facilities, the No-Project Alternative would have equal potential impacts in comparison with the proposed project, because the lands identified for future parks are already owned by the City and planned for park use.

Biological Resources—(Greater Impact)

As a largely built out urban community, the majority of Alameda's sensitive or special-status biological resources, including habitats and plant and wildlife species, are located along the shoreline and in the Bay and Estuary waters surrounding the City. Therefore, while the type and density of development would vary from the proposed project under the No-Project Alternative, the impacts of new inland development on biological resources would be very similar to the proposed project; both would involve development on under-utilized parcels surrounded by urban development or redevelopment of existing parcels. The greatest potential for impacts to biological resources would be from new shoreline development, which could adversely affect shoreline and Bay water habitats and the species that depend on them such as the least tern nesting colony, burrowing owl habitat, and Caspian tern and western gull nesting colonies.

Many of the policies in the proposed General Plan intended to protect biological resources reflect similar policies adopted in the existing General Plan, so the two alternatives are also similar in this regard. However, the proposed Conservation and Climate Action Element does include some key policies that are not included in the existing General Plan. While the existing General Plan calls for the protection and preservation of Bay waters and vegetation as nurseries and spawning grounds for fish and other aquatic species, proposed Policy CC-34 requires consultation with the National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW) to identify the need for any permits and to identify appropriate measures to protect aquatic species and habitats during any in-water construction requiring pile driving, providing extra protection to these habitats. It also requires a pre-construction eelgrass and native oyster survey prior to any construction activities involving any disturbance to the shoreline or adjacent waters in accordance with guidance provided by the NMFS, thereby providing further added protection.

Other requirements included in Policy CC-34 that are not present in the current General Plan include required bat surveys in coordination with CDFW for any demolition of buildings or removal of large trees; required pre-construction eelgrass and native oyster surveys prior to any construction activities involving any disturbance to the shoreline or adjacent waters in accordance

with guidance provided by NMFS; and nesting bird surveys in coordination with CDFW for any disturbance or removal of large trees during the general bird breeding season.

Although the impacts of the No-Project Alternative on biological resources would be similar to the proposed General Plan in many regards, due to the additional protections and more rigorous policies in the proposed Conservation and Climate Action Element, the No-Project Alternative would have greater biological impacts than the proposed project.

Transportation—(Greater Impact)

Alameda General Plan 2040 differs from the existing General Plan significantly due to the focus on the need to reduce automobile vehicle miles traveled (VMT). By reducing VMT, implementation of *Alameda General Plan 2040* would reduce greenhouse gas emissions, reduce the impacts of climate change on Alameda, and reduce vehicle congestion in Alameda. Data from the Alameda Countywide Travel Demand Model maintained by the Alameda County Transportation Commission (Alameda CTC) was used as a basis for comparing the transportation effects of the existing General Plan to General Plan 2040. The Alameda CTC model estimates that Alameda's household VMT in 2020 is 16.0 per capita, while the traffic analysis of the proposed General Plan indicates that the City's household VMT will drop to 15.6 per capita by 2040. The projected reduction would be even greater for the commute VMT per worker, which would drop from 18.3 under the existing General Plan to 17.0 under the proposed General Plan. The analysis under the Alameda CTC model demonstrates that the No-Project Alternative would have greater transportation impacts than the proposed project.

Air Quality—(Greater Impact)

Automobile trips and the associated emissions from automobile travel are a significant source of air pollutants in Alameda. By reducing VMT, *Alameda General Plan 2040* would result in reduced air quality impacts in comparison with the current General Plan. The other source of air pollutants is construction. *Alameda General Plan 2040* encourages higher density, mixed-use development on transit corridors. The current General Plan encourages low-density, single-family home and duplex development. While the density of development under the proposed General Plan could be higher, the same number of projects could potentially be developed under either alternative. Consequently, the temporary construction air quality impacts could be similar under the two alternatives. While a denser project could take longer to construct, resulting in a longer duration of construction, the proposed General Plan includes policies intended to reduce construction air quality impacts that are not present in the existing General Plan. Therefore, although the construction air quality impacts of the two alternatives could differ, they would be roughly equivalent.

Because *Alameda General Plan 2040* would result in less automobile-related air quality impacts, the No-Project Alternative should be expected to generate greater air quality impacts.

Greenhouse Gases—(Greater Impact)

Alameda General Plan 2040 is specifically designed to reduce greenhouse gases through implementation of a wide variety of goals, policies, and actions found in the Land Use Element, Mobility Element and Climate Action and Conservation Element. The current General Plan does not include any of these policies. The No Project Alternative would therefore have a greater impact on greenhouse gas emissions and climate change.

Noise—(Equal Impact)

While the No-Project Alternative would result in the development of fewer jobs and housing units than the proposed project, and would therefore result in less construction and less automobile related noise associated with such development, the two alternatives would have essentially the same operational noise impact because vehicular traffic is the primary generator of noise from new development. As explained in Chapter 13, Noise, a doubling of traffic volumes is necessary to produce a just-perceptible increase in ambient noise levels. Since no development project anticipated under either general plan would cause a doubling of traffic, new development is expected to have a less-than-significant operational noise impact. Thus, the No-Project Alternative would have an equivalent operational noise impact to the proposed project. While the density of development under the proposed General Plan could be higher, the same number of projects could potentially be developed under either alternative. Consequently, the temporary construction noise impacts could be similar under the two alternatives. While a denser project could take longer to construct, resulting in a longer duration of construction noise, the proposed General Plan includes policies intended to reduce construction noise impacts that are not present in the existing General Plan. For example, Policy SN-56 requires noise-reduction strategies in all construction projects, and requires a vibration impact assessment for proposed projects in which heavy-duty construction equipment would be used (e.g., pile driving, bulldozing) within 200 feet of an existing structure or sensitive receptor, a requirement that doesn't exist in the current General Plan. Therefore, although the construction noise impacts of the two alternatives could differ, they would be roughly equivalent.

Geology and Soils—(Equal Impact)

Although greater density of development would be allowed under the proposed General Plan than under the existing General Plan, for the most part, the same parcels could be developed under either general plan and, therefore, impacts related to ground disturbance would be roughly comparable between the two general plans. Compliance with existing regulatory requirements would reduce or avoid potential impacts related to seismic ground shaking, liquefaction, and ground failure under both general plans. Accordingly, the No-Project Alternative would have equal impacts to paleontological resources than the proposed project.

Hydrology and Water Quality—(Greater Impact)

Due to the rigorous existing regulations pertaining to protection of water quality and prevention of flooding and inundation impacts, no significant hydrology or water quality impacts were identified

for the proposed General Plan. However, the *Alameda General Plan 2040* includes numerous policies and supporting actions—not included in the current General Plan—intended to reduce the potential for injury, property damage, and loss of natural habitat resulting from sea level rise and rising groundwater. Due to the greater protections that would be provided by the implementation of these policies, the No-Project Alternative would have greater hydrology or water quality impacts than the proposed project.

Hazards and Hazardous Materials—(Equal Impact)

There are many federal, State, and local laws and regulations described in Chapter 16, Hazards and Hazardous Materials, that provide protections against accidental spills, improper handling and storage, transport, and disposal of hazardous materials and wastes. Due to the protections afforded by existing regulations, no significant hazards or hazardous materials impacts were identified for the proposed project. Although the existing General Plan does not include all of the Health and Safety Element policies included in the proposed General Plan, new development allowed under the existing General Plan would still be required to comply with existing laws and regulations pertaining to hazardous materials and hazardous wastes. Therefore, the potential hazards and hazardous materials impacts of the No-Project Alternative would be very comparable to those of the proposed project.

Visual Quality—(Equal Impact)

Visual impacts under the No-Project Alternative would be very similar to those of the proposed *Alameda General Plan 2040*. The proposed General Plan includes numerous policies in the Land Use and City Design Element intended to improve urban and architectural design throughout Alameda. However, the policies with the greatest potential benefit with respect to enhancing the visual quality of the City, such as policies calling for the preservation of visual access to shoreline areas, reflect similar policies in the existing General Plan. While adoption of the proposed General Plan could result in improved aesthetics of future development at some locations, on the whole, the visual impacts of the No-Project Alternative would be quite similar to those of the proposed project.

Cultural and Tribal Resources—(Equal Impact)

Because Alameda is already substantially built out, and future development will mostly occur as redevelopment of sites that have been previously developed, the potential for cultural impacts associated with construction of new development would be similar between the proposed project and the No Project Alternative even though the amount of developed space on a particular site could be greater under the proposed project. Although this EIR identifies mitigation requirements for these potentially significant impacts, there are policies in the current General Plan requiring protection and preservation of historic and prehistoric archaeological resources. Additionally, CEQA includes such requirements that are applicable to individual development projects. Therefore, potential impacts to cultural resources under the No-Project Alternative would be equal to the impacts identified for the proposed project.

Energy—(Greater Impact)

The proposed General Plan includes numerous policies aimed at improving energy efficiency and reducing energy consumption; many of these policies target GHG emissions, but would have the ancillary benefit of reducing energy consumption. These policies represent new policy initiatives for the City in comparison with the current General Plan. While there is likely to be a greater amount of new development under the proposed General Plan than under the existing plan, it would largely consist of higher-density residential development and a shift from medium-density residential development to mixed-use development that would both allow greater density in residential uses and provide new job-generating commercial uses. It is not feasible in this programmatic EIR to calculate total energy consumption for the No-Project Alternative for comparison to the proposed project. However, the standards of significance for energy impacts include: (1) resulting in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, and (2) conflicting with or obstructing a State or local plan for renewable energy or energy efficiency. Implementation of the *Alameda General Plan 2040* would lead to more efficient use of energy and greater consistency with the State’s Long-Term Energy Efficiency Strategic Plan and with the City’s *Climate Action and Resiliency Plan*, which are, respectively, the State and local plans for renewable energy and energy efficiency. Therefore, the No-Project Alternative would have a greater energy impact than the proposed project.

REDUCED-DENSITY ALTERNATIVE

In the reduced density alternative (“RD Alternative”), *Alameda General Plan 2040* would be amended to limit residential growth by 50 percent (approximately 5,000 units over 20 years) and to limit employment growth by 50 percent (approximately 5,000 new jobs added over 20 years).

The RD alternative would not meet the first two project objectives which are to:

- Provide a comprehensive, internally consistent, up-to-date General Plan for the City of Alameda as required by State Planning Law.
- Establish consistency between the City of Alameda General Plan, *City of Alameda Climate Action and Resiliency Plan (CARP)*, the 2023-2031 Regional Housing Needs Allocation, and the *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment.

As described in more detail below, the RD Alternative would not do as well as *Alameda General Plan 2040* at meeting the following three objectives, which are to:

- Protect the environment, respond to the climate crisis and meet regional responsibilities.
- Enhance mobility and accessibility on an island city.
- Promote a healthy, equitable and inclusive city.

As described in more detail below, the RD alternative would be equal to the proposed project at meeting the final objective:

- Preserve and enhance Alameda’s distinctive character.

Land Use and Planning—(Greater Impact)

Limiting residential and employment growth by 50 percent would be inconsistent with the *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment. Assuming a residential growth rate of 5,000 housing units over 20 years, the RD General Plan would also be in conflict with the City’s State mandated Regional Housing Needs Allocation (RHNA) for the 2023-2031 Housing Cycle. The RD General Plan would prevent the City of Alameda from completing the Housing Element update in conformance with State Law by December 2022, which would cause the City’s General Plan to be out of compliance with State Law. Because the No-Project Alternative would conflict with State Planning Law and *Plan Bay Area 2040*, it would have greater land use/planning impacts than the proposed project.

Population and Housing—(Greater Impact)

As noted above, under the Reduced-Density Alternative, the City would be unable to meet its RHNA and therefore would not be supportive of or consistent with *Plan Bay Area 2040* to the degree the proposed project would. Similarly, it would be unable to adequately accommodate jobs and population growth assumed for Alameda in *Plan Bay Area 2040*. Due to the reduced consistency with *Plan Bay Area 2040* and the reduced ability to meet the City’s RHNA, the Reduced-Density Alternative would have greater population and housing impacts than the proposed project.

Public Services—(Equal Impact)

While new residential and commercial growth under both alternatives would result in increased calls for police and fire protection services and residential growth would increase demand for schools, the providers of these services are required by law to maintain adequate services, which are funded by the City’s development impact fees or, in the case of schools, by the State-approved school impact fee adopted by the Alameda Unified School District. The regional need for public services to serve the region’s population must be distributed among the region’s cities and counties. The RD alternative would place a greater need in other communities in the region to provide for increased demand for services, which would have similar environmental impacts to the less-than-significant environmental impacts associated with *Alameda General Plan 2040*.

Utilities and Service Systems—(Equal Impact)

Similar to the Public Service analysis, the RD Alternative would place a greater need in other communities to expand utilities and service systems as the result of increased demand for services. Increasing utilities and service systems in the outer Bay Area communities would introduce similar or worse environmental impacts compared to the less-than-significant impacts on utilities and service systems associated with *Alameda General Plan 2040*.

Parks and Recreation—(Equal Impact)

As described in the General Plan and in this EIR, Alameda has ample parks and open spaces to accommodate the additional population associated with *Alameda General Plan 2040*; the challenge is raising the financial resources needed to maintain the facilities that exist or are already planned on City owned property. With the RD Alternative, the City would still need to find the resources to build and maintain the parks that are planned and on which the City already owns the land. One source for those resources is the Citywide Development Impact Fee, which provides funding for parks on publicly owned lands. With 50 percent less development, there would be 50 percent less Development Impact Fees collected for the provision of Parks. From the standpoint of potential environmental impacts associated with the development of new park and recreation facilities, the RD Alternative would have equal potential impacts in comparison with the proposed project, because the lands identified for future parks are already owned by the City and planned for park use.

Biological Resources—(Equal Impacts)

While the residential and commercial density of development under the Reduced-Density Alternative would be reduced in comparison with the proposed project, it would not be expected to substantially alter the locations of future development, even though it could mean that some parcels would not be redeveloped with greater-intensity uses. Since the majority of the parcels likely to be developed under either alternative have been previously developed and exist within Alameda's largely built out urban community, potential impacts to vegetation and wildlife would be the same with lower- or higher-density development. Therefore, the Reduced-Density Alternative would have roughly equal impacts on biological resources as the proposed project.

Transportation—(Greater Impact)

As described above, limiting residential and employment growth by 50 percent would be inconsistent the *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment. Assuming a residential growth rate of 5,000 housing units over 20 years, the RD General Plan would also be in conflict with the City's State mandated Regional Housing Needs Allocation (RHNA) for the 2023-2031 Housing Cycle.

By limiting growth locally, the RD Alternative would place a larger housing burden on the rest of the region, which would result in more of the regional population growth occurring further from the job centers of Oakland, San Francisco, and San Jose. By limiting infill housing development at the center of the Bay Area, the RD Alternative would be contributing to an increase in regional traffic, an increase in the distance of the average commute, and an increase in regional per-capita vehicle miles traveled. For Alameda workers, it would be more difficult to live in Alameda, due to 50 percent less housing development, which would limit the ability for Alameda workers to live close to their jobs.

Further, reducing the number of people in Alameda would not reduce per-capita VMT in Alameda. It would likely increase per-capita VMT, as well as worker VMT. Because higher VMT is considered to have a greater environmental impact under CEQA, the Reduced-Density Alternative would have greater transportation impacts than the proposed project.

Air Quality—(Greater Impact)

Automobile trips and the associated emissions from automobile travel are a significant source of air pollutants in Alameda and in the Bay Area region. By reducing VMT, *Alameda General Plan 2040* would result in less air quality impacts regionally than the RD Alternative. *Alameda General Plan 2040* would encourage higher density, mixed-use development on transit corridors. The RD Alternative would encourage lower density development in the same locations. Therefore, although the construction air quality impacts of the two alternatives could differ, they would be roughly equivalent. Because *Alameda General Plan 2040* would result in less automobile-related air quality impacts, the RD alternative should be expected to generate greater air quality impacts.

Greenhouse Gases—(Greater Impact)

Automobile trips and the associated emissions from automobile travel are a significant source of greenhouse gas emissions in Alameda and in the Bay Area region. By reducing VMT, *Alameda General Plan 2040* would result in less greenhouse gas emissions regionally than the RD Alternative. As described above, limiting residential and employment growth by 50 percent would be inconsistent the *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment. By working in opposition to the regional Sustainable Communities Strategy for the protection of the regional and global environment, the RD Alternative would have a greater impact on greenhouse gas emissions.

Noise—(Equal Impact)

While the RD Alternative would result in the development of fewer jobs and housing units than the proposed project, and would therefore result in less automobile noise associated with such development, the two alternatives would have essentially the same operational noise impact because vehicular traffic is the primary generator of noise from new development. As explained in Chapter 13, Noise, a doubling of traffic volumes is necessary to produce a just-perceptible increase in ambient noise levels. Since no development project anticipated under *Alameda General Plan 2040* would cause a doubling of traffic, neither would any development under the RD Alternative. Thus, the RD Alternative would have an equivalent operational noise impact to the proposed project.

While the density of development under the proposed General Plan could be higher, the same number of projects could potentially be developed under either alternative. While a denser project could take longer to construct, resulting in a longer duration of construction noise, the proposed General Plan includes, and the RD Alternative could include, policies to reduce construction noise impacts.

Although the construction period for higher-density projects could be longer, thereby potentially extending temporary construction noise impacts at individual development sites, this alternative would not be expected to result in substantially greater construction noise impacts than the proposed project for two reasons. First, the noisiest phases of construction projects are during the initial site clearing, grading, and, in some cases, excavation. On some sites, demolition of existing structures could be required prior to redevelopment of the site, another potentially noisy phase of construction. Since a potential development/redevelopment site would be the same size with lower-density development as with higher-density development, the noisiest phases of construction would typically be very similar under either scenario. Later phases of construction, including erection of the structure and interior buildout, do not tend to be particularly noisy.

In addition, all construction projects would be required to comply with the City's Noise Ordinance, which restricts the hours during which construction activity can occur, and which is the primary mechanism for minimizing the disruption on neighboring residents from noisy construction activity. The Noise Ordinance would apply equally to this alternative as to the proposed project.

Based on the preceding considerations, the Reduced-Density Alternative and the proposed General Plan would have roughly equal noise impacts.

Geology and Soils—(Equal Impact)

Although greater density of development would be allowed under the proposed General Plan than under the Reduced-Density Alternative, for the most part, the same parcels could be developed under either general plan and, therefore, impacts related to ground disturbance would be roughly comparable between the alternatives. Compliance with existing regulatory requirements would reduce or avoid potential impacts related to seismic ground shaking, liquefaction, and ground failure under both general plans. Mitigation has been identified for the potential impact to paleontological resources, and it is assumed this mitigation would also be adopted for this alternative. Therefore, the Reduced-Density Alternative would have equal geology and soils impacts in comparison with the proposed General Plan.

Hydrology and Water Quality—(Equal Impact)

Because this alternative is not expected to result in development or redevelopment of more, fewer, or different parcels than would occur under the proposed project, the potential hydrology impacts or impacts on water quality are not expected to differ materially for this alternative. No significant hydrology or water quality impacts were identified for the proposed General Plan due to the rigorous existing regulations pertaining to protection of water quality and prevention of flooding and inundation impacts. Therefore, the Reduced-Density Alternative would have equal hydrology and water quality impacts in comparison with the proposed General Plan.

Hazards and Hazardous Materials—(Equal Impacts)

Fewer jobs would be created under this alternative than under the proposed General Plan, which could mean that fewer businesses that transport, use, and dispose of hazardous materials might be

created in Alameda over the next 20 years. This could result in a smaller amount of hazardous materials stored and used in Alameda and a smaller amount of hazardous waste generated than would occur under the proposed General Plan. While there would therefore be less potential for incidents involving accidental spills or accidental exposure, there are many laws and regulations described in Chapter 16, Hazards and Hazardous Materials, that provide protections against accidental spills, improper handling and storage, transport, and disposal of hazardous materials and wastes that would apply equally to this alternative and the proposed project. This alternative would not result in a substantial reduction in the hazards and hazardous materials impacts identified for the proposed General Plan. Therefore, the potential hazards and hazardous materials impacts of the Reduced-Density Alternative would be similar to those of the proposed project.

Visual Quality—(Equal Impact)

Visual impacts under the Reduced-Density Alternative would be very similar to those of the proposed project. While there would be lower-density development potential on many parcels in Alameda under this alternative, the alternative is not expected to result in development of more or different parcels than would occur under the proposed General Plan. It is likely that the visual character of individual sites could vary between the two alternatives, but denser development would not in and of itself create any significant visual impacts. There were no significant visual impacts identified for the proposed General Plan, and implementation of the Reduced-Density Alternative is not expected to result in new visual impacts or in a substantial difference in the impacts identified for the proposed project. The Reduced-Density Alternative would have roughly equal visual impacts as the proposed General Plan.

Cultural and Tribal Resources—(Equal Impact)

Because Alameda is already substantially built out, and future development will mostly occur as redevelopment of sites that have been previously developed, the potential for cultural impacts associated with construction of new development would be similar between the proposed project and the RD Alternative even though the amount of developed space on a particular site could be greater under the proposed project. Individual development projects would be subject to additional review pursuant to CEQA and would be required to demonstrate that potential impacts to cultural resources would be reduced to less than significant through implementation of required mitigation measures. Because this alternative would not result in more or less ground disturbance than the proposed General Plan, it would have roughly the same potential for impacts cultural resources.

Energy—(Greater Impacts)

The Reduced-Density Alternative would result in lower total energy consumption in and around Alameda because it would create less development density and fewer new jobs and homes, and would result in reduced growth in the City's population. However, the CEQA standards of significance for energy impacts are not based on total energy consumption but, rather, on whether a project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, or would conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Whether under this alternative or the proposed General Plan, the City would continue to implement its *Climate Action and Resiliency Plan (CARP)*, which is intended to reduce GHG emissions, but would have the ancillary benefit of improving energy efficiency and reducing overall energy consumption. Because this alternative would result in higher household and commute VMT than would occur under the proposed General Plan, as previously discussed for this alternative under Transportation, it would be less consistent with the CARP, which is the adopted local plan for renewable energy and energy efficiency. For the same reason, it would be less consistent with *Plan Bay Area 2040*, which also aims to reduce VMT in the region, and which functions as the regional plan for renewable energy and energy efficiency. Therefore, the Reduced-Density Alternative would conflict with the applicable renewable energy/energy efficiency plans, and would accordingly have a greater energy impact than the proposed project.

THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In the Environmentally Superior Alternative (the “ES Alternative”), *Alameda General Plan 2040* would be amended with a stronger commitment to protecting the environment and addressing global warming and climate change. For example, the ES Alternative would include stronger and more aggressive action to reduce VMT, reduce greenhouse gas emissions, reduce the use of fossil fuels, increase the use of transit through programs such as congestion pricing, and mandate the conversion of all homes and businesses to electric power on a prescribed schedule. Although the ES Alternative General Plan would have stronger environmental policies, for this evaluation, the ES Alternative would be comparable to *Alameda General Plan 2040* in terms of housing growth and employment growth.

As described in more detail below, the ES Alternative could meet the project objectives which are to:

- Provide a comprehensive, internally consistent, up-to-date General Plan for the City of Alameda as required by State Planning Law.
- Establish consistency between the City of Alameda General Plan, *City of Alameda Climate Action and Resiliency Plan (CARP)*, the 2023-2031 Regional Housing Needs Allocation, and the *Plan Bay Area 2040*, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the protection of the regional and global environment.
- Protect the environment, respond to the climate crisis and meet regional responsibilities.
- Enhance mobility and accessibility on an island city.
- Promote a healthy, equitable and inclusive city.
- Preserve and enhance Alameda’s distinctive character.

As described in more detail below, the limitations on the ES Alternative are political and financial feasibility.

Land Use and Planning—(Equal Impact)

The ES Alternative would be comparable to *Alameda General Plan 2040* with respect to land use and planning impacts. Both alternatives would be consistent with State, Regional, and local land use plans to protect the environment.

Population and Housing—(Equal Impact)

The ES Alternative would be comparable to *Alameda General Plan 2040* in terms of population and housing.

Public Services—(Equal Impact)

The less-than-significant impacts of the ES Alternative on public services would be comparable to less-than-significant impacts of the *Alameda General Plan 2040* on public services.

Utilities and Service Systems—(Equal Impact)

The less-than-significant impacts of the ES Alternative on utility and service systems would be comparable to less-than-significant impacts of the *Alameda General Plan 2040* on utilities and public service systems.

Parks and Recreation—(Equal Impact)

The impacts of the ES Alternative on parks and recreation would be comparable to the less-than-significant impacts of *Alameda General Plan 2040* on parks and recreation.

Biological Resources—(Less Impact)

To improve upon the environmental protections in the *Alameda General Plan 2040*, the ES Alternative would include stronger policies intended to increase protections for local and migrating waterfowl and other protected birds as well as for marine wildlife utilizing the near-shore waters surrounding Alameda. These policies could prohibit any construction in the vicinity of wetlands or endangered species habitat, and could require that the City acquire these adjacent lands at fair market value for public purposes.

Transportation—(Less Impact)

To improve upon the transportation policies in the *Alameda General Plan 2040*, the ES Alternative would include stronger and more aggressive policies and actions to reduce VMT, reduce greenhouse gas emissions, increase the use of transit through programs such as congestion pricing, mandatory transportation demand management programs, and strict parking management and pricing programs to disincentivize single occupancy vehicle trips. These stronger policies would require new State legislation (to allow local congestion pricing and mandatory imposition of TDM programs on existing businesses). Establishing more aggressive parking pricing and management strategies to disincentivize automobile trips could cause conflicts with economic development policies to support local retail businesses and attract new businesses to Alameda.

Air Quality—(Less Impact)

To improve upon the air quality protections in the *Alameda General Plan 2040*, the ES Alternative would include stronger and more aggressive policies and actions to reduce VMT, reduce greenhouse gas emissions, increase the use of transit through programs such as congestion pricing, mandatory transportation demand management programs, and strict parking management and pricing programs to disincentivize single occupancy vehicle trips. In addition, the ES Alternative would include stronger policies requiring electric vehicle use and prohibiting the use of fossil fuel equipment, and requiring the electrification of existing commercial and residential buildings at point of sale or with any discretionary permit or building permit. As described above, adoption and implementation of these stronger policies would be dependent on changes in State law (e.g. congestion pricing and TDM) and a willingness to conflict with existing economic development strategies. Requiring electrification of existing residential units and commercial buildings in Alameda at point of sale or prior to issuance or approval of any discretionary permit or building permit, would significantly increase costs for all property owners in Alameda. To successfully implement such electrification requirements would likely require financial support from the City of Alameda.

Greenhouse Gases—(Less Impact)

To improve upon the greenhouse gas reduction policies in the *Alameda General Plan 2040*, the ES Alternative would include stronger and more aggressive policies and actions to reduce VMT, reduce greenhouse gas emissions, increase the use of transit through programs such as congestion pricing, mandatory transportation demand management programs, and strict parking management and pricing programs to disincentivize single occupancy vehicle trips. In addition, the ES Alternative would include stronger policies requiring electric vehicle use, prohibiting the use of fossil fuel equipment, and requiring the electrification of existing residential units and commercial buildings at point of sale or prior to issuance or approval of any discretionary permit or building permit. As described above, adoption and implementation of these stronger policies would be dependent on changes in State law (e.g. congestion pricing and TDM) and a willingness to conflict with existing economic development strategies. Requiring electrification of existing homes and commercial buildings in Alameda at point of sale or prior to issuance or approval of any discretionary permit or building permit, would significantly increase costs for all property owners in Alameda. To successfully implement such electrification requirements would likely require financial support from the City of Alameda.

Noise—(Equal Impact)

The ES Alternative noise impacts would be comparable to less-than-significant noise impacts of *Alameda General Plan 2040*.

Geology and Soils—(Equal Impact)

All geology and soils impacts identified for the ES Alternative and *Alameda General Plan 2040* would be less than significant. Since the amount, types, and locations of future development allowed in

Alameda would be the same under the ES Alternative as under the proposed General Plan, the potential impacts related to seismic ground shaking, liquefaction, and ground failure would also be the same.

Hydrology and Water Quality—(Equal Impact)

Due to the rigorous existing regulations pertaining to protection of water quality and prevention of flooding and inundation impacts, no significant hydrology or water quality impacts were identified for the proposed General Plan. Those same regulations would ensure that the ES Alternative impacts on hydrology and water quality would also be less than significant.

Hazards and Hazardous Materials—(Equal Impact)

Because the locations, types, and amounts of future residential and commercial development facilitated by the ES Alternative would not differ from the proposed General Plan, both construction and operational impacts on the environment and on people from exposure to hazards or hazardous materials/wastes would be identical under the two alternatives. No significant hazards or hazardous materials impacts would occur under either alternative.

Visual Quality—(Equal Impact)

The ES Alternative visual quality impacts would be comparable to less-than-significant visual quality impacts of *Alameda General Plan 2040*.

Cultural and Tribal Resources—(Equal Impact)

Because Alameda is already substantially built out, and future development will mostly occur as redevelopment of sites that have been previously developed, the potential for cultural impacts associated with construction of new development would be similar between the proposed project and the ES Alternative. Individual development projects would be subject to additional review pursuant to CEQA and would be required to demonstrate that potential impacts to cultural resources would be reduced to less than significant through implementation of required mitigation measures. The ES Alternative cultural resource impacts would be comparable to the cultural resource impacts of *Alameda General Plan 2040*.

Energy—(Equal Impact)

No significant energy impacts were identified for the proposed General Plan. Energy consumption would be associated with construction and operation of new development, including all transportation that would be associated with construction and operation of new development. Because the locations, types, and amounts of future residential and commercial development facilitated by the ES Alternative would not differ from the proposed General Plan, this alternative would have the same energy impacts as the proposed project.

COMPARISONS AND CONCLUSIONS

Table 21-1 provides a summary of the evaluation of the alternatives compared to the proposed project. For each resource area, Table 21-1 summarizes whether the impact would be greater, equal, or less than the impact to that resource area associated with *Alameda General Plan 2040*.

Table 21-1
Project Alternatives Comparison

EIR Chapter/Project Impact	No-Project Alternative	Reduced-Density Alternative	Environmental Superior Alternative
Land Use and Planning	Greater	Greater	Equal
Population and Housing	Greater	Greater	Equal
Public Services	Equal	Equal	Equal
Utilities and Service Systems	Equal	Equal	Equal
Parks and Recreation	Equal	Equal	Equal
Biological Resources	Greater	Equal	Less
Transportation	Greater	Greater	Less
Air Quality	Greater	Greater	Less
Greenhouse Gases	Greater	Greater	Less
Noise	Equal	Equal	Equal
Geology and Soils	Equal	Equal	Equal
Hydrology and Water Quality	Greater	Equal	Equal
Hazards and Hazardous Materials	Equal	Equal	Equal
Visual Quality	Equal	Equal	Equal
Cultural and Tribal Resources	Equal	Equal	Equal
Energy	Greater	Greater	Equal

As shown in Table 21-1, the No-Project Alternative would have greater impacts than the proposed General Plan in the environmental resource areas of land use and planning, population and housing, biological resources, traffic and transportation, air quality, greenhouse gases, hydrology and water quality, and energy. In all other resource areas the impacts would be equal between the No Project and the proposed project. Thus, the No-Project Alternative would have greater impacts than the

project in more environmental resource areas, and the No-Project Alternative is not an environmentally superior alternative.

The Reduced-Density Alternative would have greater impacts than the proposed project to the following resource areas: land use and planning, population and housing, traffic and transportation, air quality, greenhouse gases, and energy. In all other resource areas, the impacts would be equivalent to the proposed project. For these reasons, the Reduced-Density Alternative would not be environmentally superior to the proposed project.

The Environmentally Superior Alternative would not impact any environmental resources to a greater extent than the proposed project, and it would result in less environmental impact in a number of resource areas, including: biology, traffic and transportation, air quality, and greenhouse gases. For these reasons, the ES Alternative would be environmentally superior to the proposed project. However, as described above, the ES Alternative is limited by a variety of financial and political constraints that could cause the Alternative to be infeasible.

22. OTHER CEQA CONSIDERATIONS

22.1 Growth-Inducing Impacts

The California Environmental Quality Act (CEQA) requires EIRs to address the growth-inducing impacts of the project. The *CEQA Guidelines* (Section 15126.2(e)) requires that EIRs discuss the ways 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 that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities, so consideration must be given to this impact. Section 15126.2(e) of the *CEQA Guidelines* also calls for EIRs to discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, whether individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The proposed *Alameda General Plan 2040* is intended to guide and manage growth in population, housing, and jobs in Alameda over the next 20 years. Plan policies are intended to accommodate economic and population growth consistent with the *Plan Bay Area*, which is the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) for the San Francisco Bay Area. *Plan Bay Area* and the regional Sustainable Communities Strategy is the region's plan to address climate change and protect the global, regional and local environment. To be consistent with *Plan Bay Area* and State Housing Law, the General Plan must also accommodate the local share of the Regional Housing Needs Allocation (RHNA). Therefore, to be consistent with the region's Sustainable Communities Strategy and future RHNA housing obligations, *Alameda General Plan 2040* is designed to accommodate approximately 10,000 to 12,000 new housing units and 10,000 to 12,000 new jobs over the next 20 years.

While the proposed General Plan would facilitate economic and population growth, the General Plan includes a wide variety of policies intended to allow the City to accommodate its share of the region's growth while minimizing local environmental impacts. As described throughout this environmental evaluation of the General Plan, the Plan includes policies that reduce greenhouse gases, reduce vehicle miles traveled, reduce automobile associated pollutants, reduce the use of fossil fuels, protect natural habitat, and increase the safety of the City streets and roads for the City's most vulnerable.

Although implementation of the proposed General Plan is not expected to create burdens on the provision of public services and utilities—as discussed in detail in Chapter 6, Public Services, and Chapter 7, Utilities and Service Systems—it promulgates policies that would improve the City’s utility infrastructure and reduce impacts on service providers. Service levels would be maintained in accordance with State law, and impact fees would offset the costs of accommodating development growth.

The General Plan is a plan for environmentally sensitive, urban in-fill redevelopment consistent with the region’s plan to protect the environment and address climate change. It does not propose or anticipate construction of new roads to areas not currently served, extension of utilities to areas not currently served, or expansion of water or wastewater treatment plants to urban areas not already served. In fact, it is a plan that if implemented, will reduce the need for suburban communities to create the environmental impacts of extending the urban development into formerly undeveloped farmlands and wildlands. Alameda General Plan 2040 would not directly or indirectly induce significant population growth in the City beyond that already anticipated in the Regional Plan or as required by State Housing Law. Therefore the growth-inducing impacts of the project would not be significant.

22.2 Unavoidable Adverse Environmental Impacts

Section 15126.2(c) of the *CEQA Guidelines* requires an EIR to describe any unavoidable significant impacts that would occur if the project is implemented. Unavoidable adverse environmental impacts are those that cannot be reduced to a level of insignificance, even with implementation of recommended mitigation measures. If the City of Alameda decides to approve the proposed General Plan, a Statement of Overriding Considerations must be adopted by the City Council for any identified significant and unavoidable impacts, as required by the State *CEQA Guidelines*, Section 15093(b). In deciding to approve a project that would result in one or more significant unavoidable impacts, a lead agency must determine in writing that specific economic, social, technical, or other considerations outweigh the unavoidable adverse environmental effects identified in the EIR, and that such effects may therefore be considered “acceptable.” This Statement of Overriding Considerations must be supported by substantial evidence in the record of the project.

In the case of the proposed *Alameda General Plan 2040*, one unavoidable significant impact has been identified in this EIR related to work trip vehicle miles traveled. Although the average home to work vehicle miles traveled (VMT) per worker in Alameda is projected to decline by about 7 percent as the result of the General Plan, the home to work VMT per worker will still not be 15 percent below the Bay Area Regional average, which is the applicable significance threshold. As discussed in detail in Chapter 10, Transportation and Circulation, while there are many proposed General Plan policies intended to reduce employment and commute related VMT, it is not possible at this time to quantify the actual reduction in VMT that may result from policies to improve transit, support telecommuting, improve bicycle and pedestrian access to Oakland and BART, improve the jobs/housing balance in Alameda by supporting growth of employment in Alameda and increase the availability of jobs in Alameda for Alameda residents, who are currently commuting off-island

for employment. Because it is not feasible to project a quantified result of the implementation of these policies 20 years into the future, the impact has been conservatively assumed to be significant and unavoidable, even though it's possible that implementation of policies such as Policies ME-13, ME-14, ME-16, ME-17, ME-20, ME-21, and ME-22 to reduce the commute VMT per worker in the City of Alameda may be sufficient to reduce the home-work VMT per worker to 15 percent below the Bay Area Regional average by 2040. Accordingly, the Alameda City Council will need to make a Statement of Overriding Considerations prior to certifying this EIR and approving the proposed project.

22.3 Effects Found Not to be Significant

As required by Section 15143 of the *CEQA Guidelines*, this Draft EIR focuses on expected significant or potentially significant environmental effects. However, Section 15128 of the Guidelines requires an EIR to provide a brief statement indicating the reasons that various possible significant effects of a project were determined not to be significant, and were therefore not discussed in detail in the EIR.

When prepared for a proposed project prior to preparation of an EIR, the Initial Study can identify environmental effects that would be clearly insignificant or clearly would not occur, and screen them out from further consideration in the EIR. An Initial Study may also be used to make a determination as to whether or not an EIR is required for a proposed project, or whether a Negative Declaration may instead be prepared.

In the case of the proposed *Alameda General Plan 2040*, the City of Alameda determined at the outset that an EIR was required. Therefore, in accordance with Section 15060(d) of the *CEQA Guidelines*, the City elected to move directly to preparation of the EIR and forego preparation of an Initial Study. However, in the interest of thoroughness, Chapter 20 of this EIR, Other Environmental Issues, was prepared. This chapter provides analysis of potential impacts in all of the environmental resource issues covered in the Environmental Checklist (Appendix G of the *CEQA Guidelines*)—which forms the basis of an Initial Study—that have not been evaluated in detail in a dedicated chapter of this EIR. The environmental issues covered in Chapter 20 include:

- Agricultural and Forestry Resources
- Mineral Resources
- Wildfire

As documented in Chapter 20, the proposed project's potential impacts to these environmental resources would clearly be insignificant, and require no mitigation. Other impacts, (i.e., those which are considered to be significant) can be reduced to a less-than-significant level with the implementation of the proposed mitigation measures. Such impacts are identified in the dedicated topical chapters of this EIR. All of the impacts analyzed in this EIR, including those considered to be less-than-significant, are summarized in Table 2-1 in Chapter 2, Summary, of this document.

22.4 Significant Irreversible Environmental Changes

Section 15126.2(d) of the *CEQA Guidelines* requires an EIR to describe significant irreversible environmental changes that would occur if a proposed project is approved and implemented. The Guidelines further state that:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can also result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.¹

Construction of new development facilitated by the *Alameda General Plan 2040* would use non-renewable fuel resources during construction to power grading and other construction equipment as well as trucks delivering materials and importing fill or exporting excess fill. While new residential, commercial, and industrial development would also consume non-renewable fuel and energy resources throughout the life of each development to provide heating, cooling, and electric power to new buildings and to power the transportation of residents, workers, and visitors to and from the projects, the proposed General Plan includes many policies specifically intended to shift to renewable energy resources, reduce consumption of non-renewable energy resources, and reduce per-capita and per-worker vehicle miles traveled. These and other proposed policies would also reduce emissions of criteria air pollutants and greenhouse gases. The commitment to the use of non-renewable energy resources is inherent and common to most development projects, but the *Alameda General Plan 2040* has been developed specifically to minimize consumption of non-renewable energy resources while allowing for smart growth that is concentrated near public transit and in higher-density residential development, and that accommodates the San Francisco Bay Region's need for more housing, including affordable housing. This policy direction will contribute substantially to the reduced consumption of non-renewable resources.

The depletion of non-renewable energy resources is a global problem that cannot be solved or effectively addressed at the level of an individual local jurisdiction or development project. As society continues to grapple with the problem of consuming non-renewable resources and continues to develop new technologies for energy conservation and alternative energy sources, it is expected that a shift to more alternative energy and transportation technologies will occur society-wide, and that such improvements will be adopted as feasible by the City of Alameda. The City is demonstrating its commitment to this shift with the many policies set forth in the proposed General Plan and in its recent success in shifting to 100-percent clean electricity by its electric utility, Alameda Municipal Power (AMP).

¹ Governor's Office of Planning and Research, *CEQA Guidelines*, Section 15126.2(d), as amended December 28, 2018.

23. REPORT PREPARATION

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24. BIBLIOGRAPHY

24.1 BIBLIOGRAPHY

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APPENDICES

Appendix A

Notice Of Preparation And NOP Comment Letters



City of Alameda • California

**Notice of Preparation (NOP) of an
Environmental Impact Report for Alameda General Plan 2040**

Notice is hereby given that the City of Alameda, Lead Agency, will prepare an Environmental Impact Report (EIR) for the *Alameda General Plan 2040* (the “Project”). The City has determined that an EIR must be prepared for the project prior to making any final decision regarding whether to approve the project, in accordance with the California Environmental Quality Act (CEQA). The EIR will cover all issues listed in Appendix G of the CEQA Guidelines: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services and Recreation, Transportation and Traffic, Tribal Cultural Resources, Utilities, and Wildfire.

The City has issued this NOP to Responsible Agencies, Trustee Agencies, federal agencies, transportation planning agencies and agencies with transportation facilities that may be affected, and other interested parties. Responsible Agencies are those public agencies, other than the City, that have a role in approving or carrying out the Project.

PROJECT TITLE

Alameda General Plan 2040

PROJECT LOCATION

City of Alameda, encompassing approximately 10.6 square miles of land and 12.3 square miles of submerged lands (total of 23.0 square miles) in western Alameda County, California

LEAD AGENCY

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Planning, Building and Transportation
Department
2263 Santa Clara Room 190

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DATE OF THIS NOTICE:

March 24, 2021

PROJECT DESCRIPTION

Alameda General Plan 2040 is a statement of goals, objectives, policies and actions to guide and manage change to the physical, environmental, economic, and social conditions in Alameda, California. The General Plan has been prepared to comply with the requirements of California Government Code section 65300 which mandates that each city and county adopt a comprehensive, long-range, internally consistent plan for future development. Alameda General Plan 2040 is a draft update to the Alameda General Plan, which was last comprehensively updated in 1991. The update does not include an update to the Housing Element, which will be updated in 2022. The General Plan Element and their associated policies and actions provide a policy framework to guide future decisions to achieve four overarching themes: 1) To promote a healthy, equitable and inclusive city, 2) to protect the environment, respond to the climate crisis and meet regional responsibilities, 3) to enhance mobility and accessibility, and 4) to preserve and enhance Alameda's distinctive character. The Alameda General Plan 2040 includes the following elements:

Land Use + City Design Element. The Land Use and City Design Element establishes goals, policies, and actions to ensure the orderly development of the community and provide a sustainable and high quality of life for current and future generations of Alameda residents.

Conservation + Climate Action Element. The Conservation and Climate Action Element establishes the City's goals, objectives, policies, and actions necessary to conserve and protect Alameda's natural resources, reduce the community's greenhouse gas emissions and energy use, and to prepare for and address the threats of climate change promulgated in the previously adopted 2019 *Alameda Climate Action and Resiliency Plan* (CARP), which aligns with State goals for reducing greenhouse gas emissions, as established by AB 32 and subsequent executive orders from the Governor.

Mobility Element. The Mobility Element is not part of the current General Plan update. It will be prepared in 2021 and, once adopted, will become part of the *Alameda General Plan 2040*.

Open Space, Recreation + Parks Element. The Open Space, Recreation and Parks Element provides for a well-designed and maintained interconnected network of neighborhood and community parks, waterfront open spaces, recreational facilities, and natural habitat areas, which are essential to supporting the health and well-being of the community, sustaining and preserving the quality of the natural environment, sequestering greenhouse gases, and withstanding the impacts of climate change.

Health + Safety Element. The Safety and Noise Element identifies the policies and strategies necessary to reduce the risk of death, injuries, property damage, environmental degradation, economic and social dislocation, and excessive and harmful noise from the natural and man-made hazards and noise sources in the City of Alameda.

Housing Element. The Housing Element, which was adopted in 2014, is not being updated at this time; it will be updated in 2022, as required by State Housing Law.

Additional documents relating to the proposed project are available for review at the Alameda Planning, Building and Transportation Department. The Draft General Plan can be found at the City's website for the project (<https://www.alameda2040.org>) and additional elements and updates will be posted to the website from time-to-time as they become available.

PUBLIC REVIEW AND SCOPING MEETING

Comments on the proposed scope and content of the EIR may be submitted in writing to the attention of Andrew Thomas, City of Alameda, at the address indicated above for Lead Agency Contact. Comments may also be emailed to Andrew Thomas at the email address shown above by **April 27, 2021**. If you are an authorized representative of a Responsible Agency, a Trustee Agency, a transportation planning agency, or an agency with transportation facilities that may be affected, the City needs to know the views of your agency as to the scope and content of the environmental information that is relevant to your agency's statutory responsibilities in connection with the project. Your agency will need to use the EIR when considering your permit or other approval for the project. We will also need the name, address, telephone number and email address of the contact person for your agency.

The Planning Board will hold a scoping meeting will be held on **April 26, 2021** at 7:00 p.m. However, pursuant to Governor Executive Order N-29-20 and Urgency Ordinance No. 3271, City Hall will NOT be open to the public during the meeting. The City will allow public participation via Zoom. Register in advance for this webinar:
https://alamedaca.gov.zoom.us/webinar/register/WN_4_BIQ2sqT9qPdiDq6HPjGw

Questions about the proposed scope of the EIR or the upcoming scoping meeting may be referred to Andrew Thomas at athomas@alamedaca.gov or by phone at 510-747-6881.



Andrew Thomas, Planning, Building and Transportation Department Director



City of Alameda • California

**Notice of Preparation (NOP) of an
Environmental Impact Report for the *Alameda General Plan 2040***

Notice is hereby given that the City of Alameda, Lead Agency, will prepare an Environmental Impact Report (EIR) for the *Alameda General Plan 2040* (“Project”). The City has determined that an EIR must be prepared for the project prior to making any final decision regarding whether to approve the project, in accordance with the California Environmental Quality Act (CEQA). The EIR will cover all issues listed in Appendix G of the CEQA Guidelines: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services and Recreation, Transportation and Traffic, Tribal Cultural Resources, Utilities, and Wildfire.

The City has issued this NOP to Responsible Agencies, Trustee Agencies, federal agencies, transportation planning agencies and agencies with transportation facilities that may be affected, and other interested parties. Responsible Agencies are those public agencies, other than the City, that have a role in approving or carrying out the Project.

PROJECT TITLE

Alameda General Plan 2040

PROJECT LOCATION

City of Alameda, encompassing approximately 10.6 square miles of land and 12.3 square miles of submerged lands (total of 23.0 square miles) in western Alameda County, California

LEAD AGENCY

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PROJECT SPONSOR/DEVELOPER:

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DATE OF THIS NOTICE:

July 20, 2020

PUBLIC REVIEW AND SCOPING

Comments on the proposed scope and content of the EIR may be submitted in writing to the attention of Andrew Thomas, City of Alameda, at the address indicated above for Lead Agency Contact. Comments may also be emailed to Andrew Thomas at the email address shown above. If you are an authorized representative of a Responsible Agency, a Trustee Agency, a transportation planning agency, or an agency with transportation facilities that may be affected, the City needs to know the views of your agency as to the scope and content of the environmental information that is relevant to your agency's statutory responsibilities in connection with the project. Your agency will need to use the EIR when considering your permit or other approval for the project. We will also need the name, address, telephone number and email address of the contact person for your agency.

ADDITIONAL INFORMATION

The attached Project Site, Surroundings, and Description includes additional information about the proposed project. Additional documents relating to the proposed project are available for review at the Alameda Community Development Department. The Draft General Plan can be found at the City's website for the project (<https://www.alamedaca.gov/Departments/Planning-Building-and-Transportation/Planning-Division/2020-General-Plan-Update>) and additional elements and updates will be posted to the website from time-to-time as they become available.



Andrew Thomas, Assistant Community Development Director
City of Alameda Community Development Department

Date: July 20, 2020

Attachments: Project Site, Surroundings, and Description

ALAMEDA GENERAL PLAN 2040

PROJECT SITE, SURROUNDINGS, AND DESCRIPTION

The project site, the City of Alameda, is located at the western edge of Alameda County, California. The City of Alameda is located approximately 15 miles east of San Francisco in Alameda County (see **Figure 1: Regional Location Map**). Regional access to the City is provided by Interstate 880 (I-880) connected via Interstate 80 (I-80), and Interstate 980 (I-980). As an island community, the City consists of Alameda Island and Bay Farm Island, which is actually a peninsula connected to the cities of Oakland and San Leandro. Alameda Island is bounded on the west and south by San Francisco Bay, on the north and northeast by the Oakland-Alameda Estuary, and on the southeast by San Leandro Bay. Bay Farm Island is bounded to the east and south by Oakland International Airport, to the northeast by San Leandro Bay, and to the north and west by San Francisco Bay (see **Figure 2: Proposed Land Use Diagram**). The City of Alameda encompasses 23.0 square miles, including 10.6 square miles of land area and 12.3 square miles of submerged lands/water.

The City of Oakland lies approximately 300 to 1,000 feet to the north and east of the City of Alameda, depending on location, separated by the Oakland-Alameda Estuary. The peninsula on which Bay Farm Island is located is connected on the southeast portion of the peninsula to the City of Oakland and, to the south of Oakland, the City of San Leandro. Although open Bay waters extend to the south and west of both Alameda Island and Bay Farm Island, Yerba Buena Island and Treasure Island are located approximately 1.8 miles to the northwest of Alameda Island. Mainland public transportation connections such as the Fruitvale Bay Area Rapid Transit (BART) Station and AC Transit lines are within one-half mile of the City.

PROJECT DESCRIPTION

The proposed *Alameda General Plan 2040* is a statement of goals, objectives, policies and actions to guide and manage change to the physical, environmental, economic, and social conditions in Alameda, California. The General Plan has been prepared to comply with the requirements of California Government Code section 65300 which mandates that each California city and county adopt a comprehensive, long-range, internally consistent plan for future development. It will replace the previous General Plan adopted in 1991.

The Alameda General Plan is organized by chapters or “elements”. Each chapter or element addresses a different subject matter and identifies the community’s goals in respect to that subject matter while setting forth a series of policies, and in some cases, actions to achieve those goals. The Alameda General Plan includes the following elements:

Land Use + City Design Element. The Land Use and City Design Element establishes goals, policies, and actions to ensure the orderly development of the community and provide a sustainable and high quality of life for current and future generations of Alameda residents. This element includes an updated Land Use Diagram (see Figure 2) that designates allowed land use types across the City, by parcel. Proposed future development that is not consistent with the land use designation for the site would require approval of a General Plan Amendment.

Conservation + Climate Action Element. The Conservation and Climate Action Element establishes the City’s goals, objectives, policies, and actions necessary to conserve and protect Alameda’s natural resources, reduce the community’s greenhouse gas emissions and energy use, and to prepare for and address the impacts of climate change. The policies are intended to enable the City to act locally and regionally to implement comprehensive climate action; reduce greenhouse gas emissions generated by vehicle trips in Alameda; reduce greenhouse gas emissions generated by buildings in Alameda; reduce greenhouse gas emissions and conserve natural resources by making Alameda a Zero Waste Community; make Alameda a resilient community that will be able to adapt to the impacts of climate change; and conserve and enhance Alameda’s natural resources, water quality, and wildlife habitat. It is supplemented by more specific plans, programs, and tools needed to address the threats of climate change promulgated in the previously adopted 2019 *Alameda Climate Action and Resiliency Plan* (CARP), which aligns with State goals for reducing greenhouse gas emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, as established by AB 32 and subsequent executive orders from the Governor.

Mobility Element. The Mobility Element is not part of the current General Plan update. It will be prepared in 2021 and, once adopted, will become part of the *Alameda General Plan 2040*.

Housing Element. The Housing Element, which was adopted in 2014, is not being updated at this time; it will be updated in 2022, as required by State Housing Law.

Open Space, Recreation + Parks Element. The Open Space, Recreation and Parks Element provides for a well-designed and maintained interconnected network of neighborhood and community parks, waterfront open spaces, recreational facilities, and natural habitat areas, which are essential to supporting the health and well-being of the community, sustaining and preserving the quality of the natural environment, sequestering greenhouse gases, and withstanding the impacts of climate change. The policies in this element are intended to ensure that existing parks and community and recreation facilities and programs are well operated and maintained; ensure that every resident is within a safe and convenient 10-minute walk or 6-minute bike ride of an interconnected citywide network of parks, open spaces, trails, and recreational facilities by 2040; and expand and improve the system of parks, open spaces, and recreational facilities in Alameda to accommodate population growth, provide for evolving community recreational needs, prepare for climate change, and protect the natural environment.

Safety + Noise Element. The Safety and Noise Element identifies the policies and strategies necessary to reduce the risk of death, injuries, property damage, environmental degradation, economic and social dislocation, and excessive and harmful noise from the natural and man-made hazards and noise sources in the City of Alameda. The policies address issues pertaining to emergency preparedness, geologic hazards, sea level rise, flooding, storm water runoff, fire hazards, hazardous materials, hazardous wastes, vehicular and industry noise, and air pollution.

INTENDED USES OF THE EIR

The EIR will fully evaluate the environmental effects associated with the implementation of the *Alameda General Plan 2040*. The EIR is intended for use for a number of approvals and

entitlements from the City, State, and Federal governments that could be required for future development consistent with the General Plan. The EIR could be utilized by the City for review of capital improvement projects, rezoning of property consistent with the General Plan, approval of conditional use permits and other discretionary planning approvals, approval of development agreements, and as a general reference document. Approvals from other agencies could include the following:

- Bay Conservation and Development Commission (BCDC) – Design Review Board and Engineering Criteria Review Board Review, and “major permit” for elements within BCDC jurisdiction;
- US Army Corps of Engineers (USACE) – Clean Water Act Section 10 and 404 permit for work and fill in waters of the U.S.; lead for federal Endangered Species Act (ESA) and Essential Fish Habitat (EFH) and EFH consultations;
- Dredged Material Management Office (DMMO) – Review of dredging in the Oakland-Alameda Estuary, Seaplane Lagoon, San Leandro Bay, or other waters surrounding Alameda; would include dredged material characterization requirements and a separate permit for dredging (separate from USACE);
- Regional Water Quality Control Board (RWQCB) – Clean Water Act Section 401 water quality certification, Waste Discharge Requirements, and construction National Pollutant Discharge Elimination System (NPDES) approvals, as well as other approvals/permits that might be necessary for operations of future development projects;
- California Department of Fish and Wildlife (CDFW) – Fish and Game Code Section 1600 streambed alteration agreement; CDFW could also review and comment on specific sensitive species aspects of proposed development projects if potential effects are found; and
- State Lands Commission – for approval of uses within the tidelands leasehold for consistency with the Public Trust and approval of tidelands exchange, if pursued.

DRAFT 8-26-20

Alameda General Plan Environmental Impact Report AAPS response to the Notice of Preparation (NOP)

1. **The draft Land Use and City Design Element is too vague to provide a basis in the EIR for identifying significant effects of any increase in development intensity.** The proposed development intensities are not clearly defined in the land use map on page 14. The land-use classification definitions beginning on Page 15 appear to describe only existing conditions, not what is proposed, and seem to leave proposed intensities very open ended. The proposed maximum intensities must be clearly identified in the General Plan and EIR and the impacts evaluated.

The updated Land Use and City Design Element and/or EIR should include an analysis of the updated plan's impacts on transportation and infrastructure and the maximum number of residential units and maximum non-residential floor area ratio that could be achieved under build-out according to different land-use scenarios involving various densities. A "holding capacity" analysis should be provided similar to the analysis on pages 5–11 of the existing Land-Use Element. See attached Table 2-6 of the existing Land-Use Element that shows existing development levels by area compared to potential build out development levels. The existing development levels should also indicate the overall existing residential density for each area or other geographic unit, such as census tract or block.

The impacts of the state density bonus law on height limits, other development regulations and overall future density also need to be considered. For example, a density bonus project in an area zoned for a 40 foot height limit could end up with a 50 foot or greater height (one or more additional stories).

2. **LU-16. City Charter Amendments.** Land Use and City Design Policy LU-16 states "...consider amendments to Article 26 of the City Charter..." and describes various related changes to the zoning ordinance.¹ This Article 26 statement is already somewhat obsolete, since the Alameda City Council (over AAPS objections) voted on July 7, 2020 to put repeal of Article 26 on the November ballot. For purposes of review and for the EIR, it should be assumed at least for now that Article 26 will be repealed, which will open the door to a wide range of development options. Related to this, are several problematic statements in LU-16:

- a. ***Architectural Character.*** *Prohibit the demolition of residential buildings constructed prior to 1942 for the purpose of increasing the number of housing units on the property, unless the property is ~~a~~ designated in the Housing Element as a Housing Opportunity Site ~~necessary~~ **without the use of which the to meet the***

¹ Article 26 has two main parts: Section 26–1 limits the number of residential units in a building to two; Section 26-3 requires at least 2000 sf of lot area per unit.

*City's will be unable to meet its regional housing needs allocation **and** ~~or~~ the structure lacks architectural merit.*

As written, this policy suggests that the current requirement for Historical Advisory Board (HAB) approval of demolition for all pre-1942 buildings will be limited to just pre-1942 residential buildings that are proposed to be demolished for the purpose of increasing the number of housing units on the property, and providing an automatic exception to the demolition prohibition if the property is “designated in the Housing Element as a Housing Opportunity Site necessary to meet the City’s Regional Housing Needs Allocation (RHNA) or the structure lacks architectural merit”.

AAPS considers any such limitation of the scope of the existing demolition ordinance to be highly objectionable. If this policy is actually included in the General Plan, the EIR must consider the impacts of removing existing demolition protections from: (a) pre-1942 residential buildings where demolition is not for the purposes of increasing the number of housing units on the property; (b) pre-1942 non-residential buildings; and (c) pre-1942 residential buildings that are designated in the Housing Element as Housing Opportunity sites necessary to meet the RHNA or lack architectural merit.

- b. ***Transit-Oriented Mixed Use Development.*** *Remove existing zoning prohibitions on multifamily buildings and residential zoning density limits in the transit oriented areas of the Medium Density, Mixed Use, Community Mixed Use and Neighborhood Mixed Use areas to allow for new multifamily and mixed use transit oriented buildings, subject to Alameda Municipal Code Zoning District height, setback, lot coverage, setback, and parking standards. Transit oriented areas defined as areas within a ¼ mile radius of a daily commute transit line or ferry terminal.*

This statement calls for elimination of all residential zoning density limits in the transit oriented areas of the medium density, mixed use, community mixed use and neighborhood mixed use areas and relying on the building envelope provisions of the zoning ordinance to determine building size.

As noted in Item 1 above, it is not clear what the maximum intensity might be within the transit oriented areas and elsewhere, leaving the question of maximum intensity open ended.

The medium density land-use classification (MDLUC) applies to much of central Alameda. Since the 51 and 19 bus lines are considered “commute transit lines”, eliminating density limits on properties within a quarter-mile of these lines in the MDLUC could open up much of central Alameda to more intense development.

The MDLUC includes a very large number of buildings on the City’s Historic Building Study List which forms by far the greatest portion of the City’s list of

historic properties for CEQA purposes. The other land use classification areas also contain substantial numbers of historic properties, including the Park Street National Register District and, in the case of the mixed use classification, the Naval Air Station Alameda National Register District National Register District and the Del Monte Building.

The impacts of the zoning changes, including additional density increases resulting from application of the state density bonus law, on these historic buildings must be evaluated in the EIR as well as on transportation and other infrastructure, and, in all cases, project alternatives and mitigation measures identified to avoid or reduce these impacts.

3. ***Housing Opportunity Areas.*** *Provide opportunities for new housing and appropriately zoned property to accommodate the regional and local housing need consistent with the regional Sustainable Communities Strategy, in Mixed-Use, Community Mixed-use, and Medium-Density Residential areas. **Such opportunities shall not require the up-zoning of any existing residential areas.***

Identifying housing opportunity areas within the listed land use classifications would be a major expansion of the geographic scope of housing opportunity areas, which under the current Housing Element and zoning map are limited to the Multi-Family Overlay Zone, which is mostly along the northern waterfront.

The impacts of this expansion, including additional density increases resulting from application of the state density bonus law, on the numerous historic buildings in the listed land use classifications must be evaluated in the EIR as well as on transportation and other infrastructure, and, in all cases, project alternatives and mitigation measures identified to avoid or reduce these impacts.

4. ***LU-18 Balancing Regional Housing Needs and Business Needs.*** *When meeting regional housing needs, **prioritize** there will be no up-zoning of existing residentially zoned sites. Up-zoning will be limited to **over-rezoning of** business and employment zoned areas in Business and Employment, Maritime Commercial, and Industrial lands on the Land Use Diagram.*

It is not clear why upzoning of existing residentially zoned areas is necessary given the availability of the existing mixed use zoned areas. The Land Use and City Design Element and/or EIR need to explain this.

In any case, including LU-18 opens up all existing residential areas, including R-1, to upzoning. The impacts of the resulting potential zoning changes must be evaluated in the EIR as well as on transportation and other infrastructure, and, in all cases, project alternatives and mitigation measures identified to avoid or reduce these impacts.

5. **Project alternatives:**

- a. To minimize impacts on historic properties and existing built-up residential neighborhoods and minimize overall impacts on transportation facilities and other infrastructure, limit any intensity increases only to areas outside the R-1 through R-6 Zones, the NP-R and NP-MU Zones (portions of the North Park Street area), the C-1 Zone (which includes the “Stations”) the historic portions of the Park and Webster Street business districts, and properties that are City of Alameda Historical Monuments or on the Historic Building Study List, provided that the maximum allowable density outside these areas will not exceed 30 units per net acre unless said limitation is superseded by State Law.

EIRs for proposed projects shall include assessment of the potential impact on the entire City of Alameda and shall not be limited to the immediate vicinity of the project. Each study shall assess, but not be limited to, the potential impact on available transportation, traffic congestion, creation and/or expansion of safety and hazard risks for the immediate vicinity of the project in addition to that for the entire City of Alameda, diversity, effect on job opportunity not limited to the construction itself, education opportunity and impact on such existing facilities and/or the need for additional facilities, factors related to public safety including police, fire and other safety personnel, and additional factors not enumerated herein.

August 18, 2020

Mayor Ezzy Ashcraft and Members of Alameda City Council
2263 Santa Clara Ave.
Alameda, CA 94501
TRANSMITTED VIA EMAIL

RE: Article 26 (Measure A) Repeal, Sea Level Rise, and Housing Affordability

Dear Mayor Ezzy Ashcraft and Members of the Alameda City Council,

Article 26 of the Alameda City Charter, which bans building multi-family housing, except under certain circumstances, no longer serves the needs of Alameda in the 21st Century. We have endorsed the repeal measure on the November ballot and recommend voters repeal the article in November's election. We also want to emphasize that climate action and building affordable housing should frame the discussion of any future housing development in Alameda.

While the inconvenient truths of industrialization were not fully understood in 1973 when Article 26 was adopted, today they are widely understood and must be factored into city planning. Alameda is surrounded by water, and city planners should not, if the housing restriction is lifted, act as if it's 1973 again and anything goes.

The Sierra Club's 2020 policy guidelines on sea level rise call for a true accounting of a project's life cycle costs, and that future generations are not the ones stuck with flood-protection costs. Any new shoreline development should first consider natural infrastructure as the environmentally superior adaptive strategy. If that option is not practical, then plan for managed retreat to higher ground.

If neither natural adaptation nor managed retreat is feasible, then a stringent set of guidelines should apply. For example, any new development must have full protection from future coastal flooding for the lifetime of the structure. The developer, not local taxpayers or FEMA, must provide for all costs associated with future sea level rise. These include financial instruments that would assure there is capability for managed retreat, structure removal and remediation of hazardous material. Hard infrastructure, such as sea walls and levees, have impacts on surrounding habitats and communities and thus should be carefully considered only as a last resort.

Along with understanding rising sea level, we have also witnessed the rising cost of housing, regardless of unfettered density, to the point where its crushing impact on millions of households is an injustice we can no longer ignore as a society. Repealing Article 26 will not magically produce hundreds of affordable housing units. Therefore, planning for future housing should emphasize affordable housing as the highest priority. New projects in Alameda call for only 15 percent affordable units. At this rate, the deficit of affordable housing only grows larger.

New initiatives to offset the limitations of a for-profit housing industry need to be implemented. State and federal funding for Alameda Housing Authority projects is one option. For example, the housing authority owns 12 acres next to Alameda Landing where 489 units of 100 percent affordable housing is planned but still remains unfunded.

Public and private partnership is another option. Alameda Point, for example, offers opportunities for achieving more ambitious affordable housing goals, given that the City owns suitable land there. An infrastructure plan to protect the developed area against sea level rise has already been adopted.

Wise use of limited space is good for the environment, good for the economy, and good for the community. The repeal of Article 26 is one step on the road to better planning. It will remove bureaucratic roadblocks to the feasibility of renovating Alameda's struggling business districts and other underutilized land with the addition of apartment and condo choices.

Sincerely,

A handwritten signature in black ink, appearing to read 'Igor Tregub', written in a cursive style.

Igor Tregub
Chair, Northern Alameda County Group
Sierra Club



August 31, 2020

Andrew Thomas
Building and Transportation Department Director
City of Alameda
2263 Santa Clara Room 190
Alameda, CA 94501
Athomas@alamedaca.gov

via email

Subject: Comments on the Notice of Preparation of an Environmental Impact Report for Alameda General Plan 2040

Dear Mr. Thomas:

The Port of Oakland (Port) appreciates the opportunity to provide comments on Alameda's *Notice of Preparation (NOP) of an Environmental Impact Report for Alameda General Plan 2040*.

The Port is an independent department of the City of Oakland, California. The Port manages three lines of business: Aviation, Maritime, and Commercial Real Estate (CRE). Port facilities include (a) Oakland International Airport (OAK or Airport); (b) the Seaport, which is comprised of marine terminals, rail facilities for intermodal and bulk cargo handling and areas for truck staging, container storage, and maritime support services; (c) commercial, industrial, recreational, and other land under lease or available for lease or sale; (d) undeveloped land; and (e) water area. The Port is located in the City of Oakland, along approximately 19 miles of waterfront on the Oakland Estuary and San Francisco Bay.

The Airport, which is located adjacent to Alameda's eastern boundary, is the most centrally located airport in the Bay Area and is the closest airport to the East Bay region's wealth of business and tourism venues. In 2019, OAK served approximately 13.4 million passengers.

The Seaport has served as the principal ocean gateway for international containerized cargo shipments in Northern California, since 1927. The Seaport manages 1,300 acres of maritime-related facilities serving a local market of over 14.5 million consumers. Seaport facilities, including the Port's busiest shipping terminal, the federally maintained Inner Harbor navigation channel, and the Inner Harbor Turning Basin, are located directly across the Oakland Estuary from the City of Alameda.

CRE includes 837 acres of land not used for Maritime or Aviation purposes. Much of this land, particularly Jack London Square, is used for entertainment, hotels, offices, shops, restaurants, industrial developments, as well as public recreational areas.

Due to the fact that the Port's operations are located either adjacent to, and/or across from the City of Alameda, the Port has a vested interest in the outcome of the City's planning efforts. As such, the Port submits the following comments for the City of Alameda to consider as it prepares its Environmental Impact Report ("EIR") for the Alameda General Plan 2040.

1. Land Use and City Design Element – Land uses in the Alameda General Plan are adjacent to the Port. Ships travel across San Francisco Bay and along the federal channel to dock at terminals, and turn in the Inner Harbor Turning Basin, with the assistance of tugs 24 hours a day, 7 days a week. The EIR should analyze the compatibility of proposed land uses with existing Seaport uses to ensure that Seaport uses and maritime navigational safety are maintained.

The Airport is located next to Bay Farm Island, which includes the Harbor Bay Isle Associates (HBIA). The EIR should also analyze the compatibility of proposed land uses with the Airport to ensure there are no conflicts with the Covenant Running with Land between the Port and HBIA (Alameda County Document No. 92048969 and 2005456), the Alameda County Airport Land Use Compatibility Plan, or any other existing aviation-related uses.

2. Safety and Noise Element – The Port has made continuous efforts to develop programs that minimize noise on surrounding communities at OAK, including the City of Alameda. The Airport meets regularly with aircraft operators, Federal Aviation Administration (FAA), and community representatives, including representatives from Alameda, to collaboratively discuss public concerns and the development of noise abatement procedures. The Port requests that the EIR review the current OAK noise management and abatement programs to ensure the proposed land uses do not conflict with the existing programs.
3. Conservation and Climate Action Element – The Port and the City of Alameda also have worked collaboratively on addressing sea level rise, which includes compliance with FEMA flood hazard requirements and review of the effects of a 100-year storm event at OAK. Port recommends that the EIR review Port projects that are currently underway or planned at OAK, or any other Port properties, where proposed land uses could be impacted by Port development.

Port staff appreciate the opportunity to provide comments on the NOP for the EIR for the Alameda General Plan 2040 and looks forward to continuing the collaboration and coordination of Port operations and Alameda land uses and development. Please contact me at (510) 627-1198 or cliang@portoakland.com if you would like to discuss any of these comments.

Mr. Andrew Thomas
Port of Oakland Comments on NOP Alameda General Plan 2040
Page 3 of 3

Sincerely,

Colleen Liang
Colleen Liang (Aug 31, 2020 17:11 PDT)

Colleen Liang

Port Environmental Supervisor

CC: Kristi McKenney, Chief Operating Officer
Richard Sinkoff, Director of Environmental Programs and Planning
Matt Davis, Director of Government Affairs







Comments on Alameda GP Update - CC

Final Audit Report

2020-09-01

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"Comments on Alameda GP Update - CC" History

-  Document created by Port of Oakland Engineering Services (engrservices@portoakland.com)
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August 27, 2020

Andrew Thomas, Planning, Building, and Transportation Director
City of Alameda, Planning, Building, and Transportation Department
2263 Santa Clara Avenue, Room 190
Alameda, CA 94501

Re: Notice of Preparation of an Environmental Impact Report – Alameda General Plan
2040, Alameda

Dear Mr. Thomas:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Alameda General Plan 2040 in the City of Alameda (City). EBMUD has the following comments.

GENERAL

Pursuant to Section 15155 of the California Environmental Quality Act (CEQA) Guidelines and Sections 10910-10915 of the California Water Code, if any individual project within the General Plan area meets the threshold requirement for a Water Supply Assessment (WSA), then a WSA will be required and a written request submitted to EBMUD to prepare a WSA. EBMUD requires the project sponsor to provide water demand data and estimates for the project site for the analysis of the WSA. Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received.

WATER SERVICE

Effective January 1, 2018, water service for new multi-unit structures shall be individually metered or sub-metered in compliance with California State Senate Bill 7 (SB-7). SB-7 encourages conservation of water in multi-family residential, mixed-use multi-family and commercial buildings through metering infrastructure for each dwelling unit, including appropriate water billing safeguards for both tenants and landlords. EBMUD water services shall be conditioned for all development projects that are subject to SB-7 requirements and will be released only after the project sponsor has satisfied all requirements and provided evidence of conformance with SB-7.

EBMUD's Central Pressure Zone, with a service elevation range between 0 and 100 feet, serves the City. Main extensions that may be required to serve individual projects within the General Plan area to provide adequate domestic water supply, fire flows, and system redundancy will be installed at the project sponsor's expense. Pipeline and fire hydrant

relocations and replacements, due to modifications of existing streets, and off-site pipeline improvements, also at the project sponsor's expense, may be required depending on EBMUD metering requirements and fire flow requirements set by the local fire department. When development plans are finalized, individual project sponsors should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions of providing water service to their projects within the General Plan area. Engineering and installation of new and relocated pipelines and services require substantial lead time, which should be provided for in the project sponsor's development schedule.

A minimum 20-foot wide right-of-way is required for installation of new and replacement water mains. Additional utilities installed in the right-of-way with the water mains must be located such that the new water mains meet the minimum horizontal and vertical separation distances as set forth in the California (Waterworks Standards) Code of Regulations, Title 22, Section 64572 (Water Main Separation) and EBMUD requirements for placement of water mains within a right-of-way. The minimum horizontal separation distance requirements include, but are not limited to, 10 feet between the water main and sewer, 5 feet between the water main and storm drain, 7 feet from the face of the curb, and 5 feet from the edge of the right-of-way. In addition, water mains must be vertically located a minimum of one foot above sewers and storm drains.

EBMUD will not design piping or services until soil and groundwater quality data and remediation plans have been received and reviewed. In addition, underground work will not start until remediation has been carried out and documentation of its effectiveness has been received and reviewed. If no soil or groundwater quality data exists, or the information supplied by the project sponsor is insufficient, EBMUD may require the project sponsor to perform sampling and analysis to characterize the soil and groundwater that may be encountered during excavation, or EBMUD may perform such sampling and analysis at the project sponsor's expense. If evidence of contamination is discovered during EBMUD work on the project site, work may be suspended until such contamination is adequately characterized and remediated to EBMUD standards.

WASTEWATER SERVICE

EBMUD's Main Wastewater Treatment Plant (MWWTP) and interceptor system are anticipated to have adequate dry weather capacity to accommodate the proposed wastewater flows from this project and treat such flows provided that the wastewater generated by the project meets the requirements of the EBMUD Wastewater Control Ordinance. However, wet weather flows are a concern. The East Bay regional wastewater collection system experiences exceptionally high peak flows during storms due to excessive infiltration and inflow (I/I) that enters the system through cracks and misconnections in both public and private sewer lines. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide primary treatment and disinfection for peak wet weather flows that exceed the treatment capacity of the MWWTP. Due to reinterpretation of applicable law, EBMUD's National Pollutant Discharge Elimination

System (NPDES) permit now prohibits discharges from EBMUD's WWFs. Additionally, the seven wastewater collection system agencies that discharge to the EBMUD wastewater interceptor system ("Satellite Agencies") hold NPDES permits that prohibit them from causing or contributing to WWF discharges. These NPDES permits have removed the regulatory coverage the East Bay wastewater agencies once relied upon to manage peak wet weather flows.

A federal consent decree, negotiated among EBMUD, the Satellite Agencies, the Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB), requires EBMUD and the Satellite Agencies to eliminate WWF discharges by 2036. To meet this requirement, actions will need to be taken over time to reduce I/I in the system. The consent decree requires EBMUD to continue implementation of its Regional Private Sewer Lateral Ordinance (www.eastbaypsl.com), construct various improvements to its interceptor system, and identify key areas of inflow and rapid infiltration over a 22-year period. Over the same time period, the consent decree requires the Satellite Agencies to perform I/I reduction work including sewer main rehabilitation and elimination of inflow sources. EBMUD and the Satellite Agencies must jointly demonstrate at specified intervals that this work has resulted in a sufficient, pre-determined level of reduction in WWF discharges. If sufficient I/I reductions are not achieved, additional investment into the region's wastewater infrastructure will be required, which may result in significant financial implications for East Bay residents.

To ensure that the projects within the City contribute to these legally required I/I reductions, the lead agency should require projects to comply with EBMUD's Regional Private Sewer Lateral Ordinance. Additionally, it would be prudent for the lead agency to require the following mitigation measures for future proposed projects: (1) replace or rehabilitate any existing sanitary sewer collection systems, including sewer lateral lines, to ensure that such systems and lines are free from defects or, alternatively, disconnected from the sanitary sewer system, and (2) ensure any new wastewater collection systems, including sewer lateral lines, for the project are constructed to prevent I/I to the maximum extent feasible while meeting all requirements contained in the Regional Private Sewer Lateral Ordinance and applicable municipal codes or Satellite Agency ordinances.

WATER RECYCLING

EBMUD's Policy 9.05 requires that customers use non-potable water, including recycled water, for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant, fish and wildlife to offset demand on EBMUD's limited potable water supply. Appropriate recycled water uses include landscape irrigation, commercial and industrial process uses, toilet and urinal flushing in non-residential buildings, and other applications.

EBMUD does not currently have any recycled water service in the City; however, the General Plan area is located within EBMUD's East Bayshore Recycled Water Project

service boundaries. As part of EBMUD's long term water supply planning, future expansion plans will extend recycled water to the City and could potentially serve a significant portion of the General Plan area. EBMUD will assess and consider the feasibility of providing recycled water to projects within the General Plan area for appropriate uses including landscape irrigation, commercial and industrial process uses, toilet and urinal flushing.

As EBMUD continues to implement its recycled water supply expansion to the City, EBMUD requires the City and project sponsors to continue to coordinate closely with EBMUD during the planning phases of the various General Plan components to further explore the options and requirements relating to recycled water use.

WATER CONSERVATION

Individual projects within the General Plan may present an opportunity to incorporate water conservation measures. EBMUD requests that the City include in its conditions of approval a requirement that the project sponsor comply with Assembly Bill 325, "Model Water Efficient Landscape Ordinance," (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense.


If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

Sincerely,



David J. Rehnstrom
Manager of Water Distribution Planning

DJR:VDC:sjh
sb20_182.doc

From: Andrew Thomas <athomas@alamedaca.gov> 
Subject: Fwd: [EXTERNAL] Comment on the Scope and content of the EIR
Date: September 1, 2020 at 6:45 AM
To: Nancy McPeak <nmcpeak@alamedaca.gov>, Doug Herring <doug@douglasherring.us>

AT

FYI. For gp EIR NOP file.

Andrew Thomas,
510-774-5361 (c)

Begin forwarded message:

From: Patricia Lamborn <patricia.lamborn@aol.com>
Date: August 31, 2020 at 2:14:49 PM PDT
To: Andrew Thomas <athomas@alamedaca.gov>
Cc: Nancy McPeak <nmcpeak@alamedaca.gov>
Subject: [EXTERNAL] Comment on the Scope and content of the EIR
Reply-To: Patricia Lamborn <patricia.lamborn@aol.com>

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Dear Mr. Thomas, Alameda Planning Building and Transportation Director,

Re: Scope and Content of the EIR (Environmental Impact Report for the Alameda General Plan 2040

I am writing regarding the Alameda General Plan for 2040, posted on the Alameda Website. My comments are concerning the section: Conservation and Climate Action Element. I think it is critical that the EIR include elements that the proposed Plan does not address which were clearly identified in the CARP (Climate Action and Resiliency Plan) adopted by the City in 2019.

- Sea level rise predicted at 3 feet by 2030 will flood/overtop Shoreline Drive
- Crown Beach and Elsie Rhoemer Bird Sanctuary will be underwater
- Houses along the East Shore will flood
- Groundwater during the rainy season, King Tides are both critical issues that also cause flooding
- What are the infrastructure measures that will be needed and what is the cost of different measures

If we agreed the CARP was a factual analysis of climate action/ sea level rise realities--their analysis should be included in the EIR- which is a legal document. The EIR should identify and include the measures that the CARP identified --- managed retreat, natural resiliency measures, buffers of dunes, purchase of waterfront land, sea walls. There needs to be a truthful and legal assessment of sea level rise impact on the hundreds of multifamily housing units located on Shoreline Drive.

There were many laudable policies in the Alameda 2040 General Plan concerning the Alameda Community commitment to reduce our own greenhouse gas emissions and change our approach to energy use and zero waste. Unfortunately those actions will not prevent the global impact of sea level rise on our waterfront.

We're out of time.

Sincerely,
Patricia Lamborn
Alameda Resident, 29 years and Sierra Club Member

Additional Comment attached: The City of Alameda sent the Sierra Club the Notice of Preparation. Attached is the letter sent on Aug. 18, 2020 to the Alameda City Council RE: Article 26 (Measure A) Repeal, Sea Level Rise, and Housing Affordability.



Alameda
Measur...(1).pdf



August 31, 2020

Andrew Thomas, Planning, Building and Transportation Director
City of Alameda
2263 Santa Clara Avenue, room 190
Alameda, CA 94501

Subject: Alameda General Plan Environmental Impact Report (EIR) - -AAPS response to the Notice of Preparation (NOP)

Dear Andrew,

The Alameda Architectural Preservation Society (AAPS) has the following comments on the scope and content of the EIR in response to the NOP:

1. **EIR Scope.** The scope of the EIR assessment shall include, but not be limited to, potential impacts on available transportation facilities, traffic congestion, creation and/or expansion of safety and hazard risks, diversity, effect on job opportunities, education opportunities and impact on existing educational facilities and/or the need for additional facilities, factors related to public safety including police, fire and other safety personal.
2. **The draft Land Use and City Design Element is too vague to provide a basis in the EIR for identifying significant effects of any increase in development intensity.** The proposed development intensities are not clearly defined in the land use map on page 14. The land-use classification definitions beginning on Page 15 appear to describe only existing conditions, not what is proposed, and seem to leave proposed intensities very open ended. The proposed maximum intensities must be clearly identified in the General Plan and EIR and the impacts evaluated.

The updated Land Use and City Design Element and/or EIR should include an analysis of the updated plan's impacts on transportation and infrastructure and the maximum number of residential units and maximum non-residential floor area ratio that could be achieved under build-out according to different land-use scenarios involving various densities. A "holding capacity" analysis should be provided similar to the analysis on pages 5–11 of the existing Land-Use Element. See attached Table 2-6 of the existing Land-Use Element that shows existing development levels by area compared to potential build out development levels. The existing development levels should also indicate the overall existing residential density for each area or other geographic unit, such as census tract or block.

The impacts of the state density bonus law on height limits, other development regulations and overall future density also need to be considered. For example, a density bonus project in an area zoned for a 40 foot height limit could end up with a 50 foot or greater height (one or more additional stories).

3. **LU-16. City Charter Amendments.** Land Use and City Design Policy LU-16 states “...consider amendments to Article 26 of the City Charter...” and describes various related changes to the zoning ordinance.¹ This Article 26 statement is already somewhat obsolete, since the Alameda City Council (over AAPS objections) voted on July 7, 2020 to put repeal of Article 26 on the November ballot. For purposes of review and for the EIR, it should be assumed at least for now that Article 26 will be repealed, which will open the door to a wide range of development options. Related to this, are several problematic statements in LU-16:

- a. ***Architectural Character.** Prohibit the demolition of residential buildings constructed prior to 1942 for the purpose of increasing the number of housing units on the property, unless the property is a designated in the Housing Element as a Housing Opportunity Site necessary to meet the City’s regional housing needs allocation or the structure lacks architectural merit.*

As written, this policy suggests that the current requirement for Historical Advisory Board (HAB) approval of demolition for all pre-1942 buildings will be limited to just pre-1942 residential buildings that are proposed to be demolished for the purpose of increasing the number of housing units on the property, and providing an automatic exception to the demolition prohibition if the property is “designated in the Housing Element as a Housing Opportunity Site necessary to meet the City’s Regional Housing Needs Allocation (RHNA) or the structure lacks architectural merit”.

AAPS considers any such limitation of the scope of the existing demolition ordinance to be highly objectionable. If this policy is actually included in the General Plan, the EIR must consider the impacts of removing existing demolition protections from: (a) pre-1942 residential buildings where demolition is not for the purposes of increasing the number of housing units on the property; (b) pre-1942 non-residential buildings; and (c) pre-1942 residential buildings that are designated in the Housing Element as Housing Opportunity sites necessary to meet the RHNA or lack architectural merit.

- b. ***Transit-Oriented Mixed Use Development.** Remove existing zoning prohibitions on multifamily buildings and residential zoning density limits in the transit oriented areas of the Medium Density, Mixed Use, Community Mixed Use and Neighborhood Mixed Use areas to allow for new multifamily and mixed use transit oriented buildings, subject to Alameda Municipal Code Zoning District height, setback, lot coverage, setback, and parking standards. Transit oriented areas defined as areas within a ¼ mile radius of a daily commute transit line or ferry terminal.*

This statement calls for elimination of all residential zoning density limits in the transit oriented areas of the medium density, mixed use, community mixed use and neighborhood mixed use areas and relying on the building envelope provisions of the zoning ordinance to determine building size.

¹ Article 26 has two main parts: Section 26–1 limits the number of residential units in a building to two; Section 26-3 requires at least 2000 sf of lot area per unit.

As noted in Item 2 above, it is not clear what the maximum intensity might be within the transit oriented areas and elsewhere, leaving the question of maximum intensity open ended.

The Medium Density Land-Use Area (MDLUA) applies to much of central Alameda. Since the 51 and 19 bus lines are considered “commute transit lines”, eliminating density limits on properties within a quarter-mile of these lines in the MDLUA could open up much of central Alameda to more intense development.

The MDLUA includes a very large number of buildings on the City’s Historic Building Study List which forms by far the greatest portion of the City’s list of historic properties for CEQA purposes. The other land use classification areas also contain substantial numbers of historic properties, including the Park Street National Register District and, in the case of the Mixed Use Land Use Area, the Naval Air Station, Alameda, National Register District and the Del Monte Building.

The impacts of the zoning changes, including additional density increases resulting from application of the state density bonus law, on these historic buildings must be evaluated in the EIR, as well as on the other parameters listed in Item 1 above, and, in all cases, project alternatives and mitigation measures identified to avoid or reduce these impacts.

4. LU-17. Housing Opportunity Areas. Policy LU-17 states:

Provide opportunities for new housing and appropriately zoned property to accommodate the regional and local housing need consistent with the regional Sustainable Communities Strategy, in Mixed-Use, Community Mixed-use, and Medium-Density Residential areas.

Identifying housing opportunity areas within the listed land use classifications would be a major expansion of the geographic scope of housing opportunity areas, which under the current Housing Element and zoning map are limited to the Multi-Family Overlay Zone, which is mostly along the northern waterfront.

The impacts of this expansion, including additional density increases resulting from application of the state density bonus law, on the numerous historic buildings in the listed land use classifications must be evaluated in the EIR, as well as on the other parameters listed in Item 1 above, and, in all cases, project alternatives and mitigation measures identified to avoid or reduce these impacts.

5. LU-18 Balancing Regional Housing Needs and Business Needs. Policy LU-18 states:

When meeting regional housing needs, prioritize up-zoning of existing residentially zoned sites over rezoning of business and employment zoned areas in Business and Employment, Maritime Commercial, and Industrial lands on the Land Use Diagram.

It is not clear why upzoning of existing residentially zoned areas is necessary given the availability of the existing mixed use zoned areas. The Land Use and City Design Element and/or EIR need to explain this.

In any case, including LU-18 opens up all existing residential areas, including R-1, to upzoning. The impacts of the resulting potential zoning changes must be evaluated in the EIR, as well as on

the other parameters listed in Item 1 above, and, in all cases, project alternatives and mitigation measures identified to avoid or reduce these impacts.

6. Project alternatives to include:

- a. To minimize impacts on historic properties and existing built-up residential neighborhoods and minimize overall impacts on transportation facilities and other infrastructure, residential density increases above the current 2000 sq. ft. of lot area per residential unit and other intensity increases shall not occur in the following areas: (i) the R-1 through R-6 Zones, the NP-R and NP-MU Zones (portions of the North Park Street area), and the C-1 Zone (which includes the “Stations”), all as shown on the 2020 City of Alameda Zoning Map; (ii) the historic portions of the Park and Webster Street Business Districts; and (iii) properties that are on the City of Alameda Historical Monument or Historic Building Study Lists.

Define the historic portion of the Park Street Business District as:

“The portion of the Park Street Business District located in: (i) the C-C Zone south of Lincoln Avenue; and (ii) the NP-G Zone on the west side of Park Street between Lincoln and Buena Vista Avenues all as shown on the 2020 City of Alameda Zoning Map.”

Define the historic portion of the Webster Street Business District as:

“The portion of the Webster Street Business District located in the C-C Zone south of Lincoln Avenue as shown on the 2020 City of Alameda Zoning Map”

- b. Same as Alternative 1, but with the following additional text after the first paragraph: “... provided that the maximum allowable density outside these areas will not exceed 30 units per net acre unless said limitation is superseded by State Law.”

7. Mitigation measures to include:

- a. In response to possible changes to the City’s existing demolition protections for pre-1942 buildings as discussed in Item 3(a) above, retain all existing Alameda Municipal Code demolition protections for pre-1942 buildings, properties on the Historic Building Study List and Historical Monuments.
- b. In response to the proposed expansion of Housing Opportunity Areas discussed in Item 4 above, delete Medium Density Residential Areas from Policy LU-17.
- c. In response to the proposed prioritization of upzoning existing residentially zoned sites as discussed in Item 5 above, delete this prioritization.
- d. As part of the draft EIR, conduct a historical and architectural survey, including historic context statements, for all buildings 50 years old or older within any areas identified in the new General Plan for increased residential density or other intensity increases to identify which of these buildings are potential historical or cultural resources.

- e. Prior to adoption of the new General Plan, the City of Alameda shall submit an application to the State Historical Resources Commission for listing on the California Register of Historical Resources all properties within any areas identified in the new General Plan for increased residential density or other intensity increases that are on the City of Alameda Historic Building Study List, are City of Alameda Historical Monuments and/or are identified as potential historical and cultural resources in the historical and architectural survey described in Mitigation Measure (d) above and the Commission shall take action on such application.
- f. Maintain the existing General Plan's 40 foot height limit for the historic portions, as defined in Item 6, Alternative (a) above, of the Park Street and Webster Street Business Districts and amend the Alameda Municipal Code to bring the height limits for the Park Street Business District into conformity with the 40 foot height limit.
- g. Maintain the existing 30 foot height limit set forth in Article XXX (Development Regulations) of the Alameda Municipal Code for the C-1 Zone as shown on the 2020 City of Alameda Zoning Map.

Thank you for the opportunity to comment. Please contact me at (510) 523-0411 or cbuckleyAICP@att.net if you would like to discuss these comments.

Sincerely,

Chris

Christopher Buckley, Chair
Preservation Action Committee
Alameda Architectural Preservation Society

cc: Planning Board (by electronic transmission)
Mayor and City Council members (by electronic transmission)
AAPS Board and Preservation Action Committee (by electronic transmission)
Susan Brandt-Hawley, Esq (by electronic transmission)

From: Andrew Thomas ATHOMAS@alamedaca.gov 
Subject: Fwd: [EXTERNAL] Comment on the Scope and content of the EIR
Date: September 1, 2020 at 6:45 AM
To: Nancy McPeak nmcpeak@alamedaca.gov, Doug Herring doug@douglasherring.us

AT

FYI. For gp EIR NOP file.

Andrew Thomas,
510-774-5361 (c)

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From: Patricia Lamborn <patricia.lamborn@aol.com>
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Dear Mr. Thomas, Alameda Planning Building and Transportation Director,

Re: Scope and Content of the EIR (Environmental Impact Report for the Alameda General Plan 2040

I am writing regarding the Alameda General Plan for 2040 , posted on the Alameda Website . My comments are concerning the section: Conservation and Climate Action Element. I think it is critical that the EIR include elements that the proposed Plan does not address which were clearly identified in the CARP (Climate Action and Resiliency Plan) adopted by the City in 2019.

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Additional Comment attached: The City of Alameda sent the Sierra Club the Notice of Preparation. Attached is the letter sent on Aug. 18, 2020 to the Alameda City Council RE: Article 26 (Measure A) Repeal, Sea Level Rise, and Housing Affordability.



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NATIVE AMERICAN HERITAGE COMMISSION



March 29, 2021

Andrew Thomas
City of Alameda
2263 Santa Clara Avenue
Alameda, CA 94501

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Luiseño

VICE CHAIRPERSON
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Chumash

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EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Re: 2021030563, Notice of Preparation (NOP) of an Environmental Impact Report for Alameda General Plan 2040 Project, Alameda County

Dear Mr. Thomas:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

- 1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:** Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

- 2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:** A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subs. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
 - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

- 3. Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
 - a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

- 4. Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:
 - a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.
 - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

- 5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

- 6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
 - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
 - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, if Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
 - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i.** Protecting the cultural character and integrity of the resource.
 - ii.** Protecting the traditional use of the resource.
 - iii.** Protecting the confidentiality of the resource.
 - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

- b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.
- 3.** Contact the NAHC for:
- a.** A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b.** A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
- 4.** Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
- a.** Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, § 15064.5(f) (CEQA Guidelines § 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code § 7050.5, Public Resources Code § 5097.98, and Cal. Code Regs., tit. 14, § 15064.5, subdivisions (d) and (e) (CEQA Guidelines § 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

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

*Making Conservation
a California Way of Life.*

April 27, 2021

SCH #: 2021030563
GTS #: 04-ALA-2021-00580
GTS ID: 22404
Co/Rt/Pm: AL/61/20.13Andrew Thomas, Director
City of Alameda
Planning, Building and Transportation Department
2263 Santa Clara Avenue, Room 190
Alameda, CA 94501**Re: Alameda General Plan 2040 + Notice of Preparation (NOP)**

Dear Andrew Thomas:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Alameda General Plan 2040. 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 March 2021 NOP.

Project Understanding

Alameda General Plan 2040 is an update to the Alameda General Plan, which was last comprehensively updated in 1991. The update does not include an update to the Housing Element, which will be updated in 2022. The General Plan and the associated policies and actions in each element provide a policy framework to guide future decisions to achieve four overarching themes: 1) to promote a healthy, equitable and inclusive city, 2) to protect the environment, respond to the climate crisis and meet regional responsibilities, 3) to enhance mobility and accessibility, and 4) to preserve and enhance Alameda's distinctive character.

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 Guide.

Please include a Vehicle Miles Travelled (VMT) analysis pursuant to the City's guidelines. If the City has no adopted baseline presently, please use the Governor's Office of Planning and Research (OPR)'s guidelines. Projects that result in automobile VMT per capita above the threshold of significance for existing (i.e. baseline) city-wide or regional values for similar land use types may indicate a significant impact. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies such as Caltrans are fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the City.

Additionally, please evaluate the project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities and transit performance, including countermeasures and trade-offs resulting from mitigating VMT increases.

Mitigation Strategies

Location efficiency factors, including community design and regional accessibility, influence a project's impact on the environment. Using Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the proposed project site is identified as a Close-In Compact Community where community design is good and regional accessibility is strong.

Given the place, type and size of the project, the DEIR should include a robust Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions from future developments in the plan area. The measures listed below have been quantified by California Air Pollution Control Officers Association (CAPCOA) and shown to have different efficiencies reducing regional VMT:

- Project design to encourage mode shift like walking, bicycling and transit access;
- Transit access supporting infrastructure (including bus shelter improvements and sidewalk/ crosswalk safety facilities);
- New development vehicle parking reductions;
- Implementation of a neighborhood electric vehicle (EV) network, including designated parking spaces for EVs;
- Designated parking spaces for a car share program;
- Unbundled parking;
- Wayfinding and bicycle route mapping resources;

- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area;
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement;
- VMT Banking and/or Exchange program;
- Increased density;
- Increased location efficiency;
- Increased mixed-use development;
- Increased transit accessibility;
- Integration of affordable housing;
- Location of project near bicycle network;
- Pedestrian network improvements;
- Bus rapid transit.

Using a combination of strategies appropriate to the projects and the site can reduce VMT, along with related impacts on the environment and State facilities. TDM programs should be documented with annual monitoring reports by a TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps in order to achieve those targets.

Please reach out to Caltrans for further information about TDM measures and a toolbox for implementing these measures in land use projects. Additionally, Federal Highway Administration's Integrating Demand Management into the Transportation Planning Process: A Desk Reference (Chapter 8). The reference is available online at:
<http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf>.

Lead Agency

As the Lead Agency, the City of Alameda is responsible for all project mitigation, including any needed improvements to the State Transportation Network (STN). The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation 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.

Andrew Thomas, Director

April 27, 2021

Page 4

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Laurel Sears at laurel.sears@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please contact LDIGR-D4@dot.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Mark Leong". The signature is written in a cursive, flowing style with a long horizontal tail stroke extending to the right.

MARK LEONG

District Branch Chief

Local Development - Intergovernmental Review

c: State Clearinghouse



April 27, 2021

Andrew Thomas, Planning, Building and Transportation Director
City of Alameda
2263 Santa Clara Avenue, Room 190
Alameda, CA 94501

Subject: Environmental Impact Report (EIR) for the March, 2021 Draft Alameda General Plan - -AAPS response to March 24, 2021 Notice of Preparation (NOP)

Dear Mr. Thomas,

The Alameda Architectural Preservation Society (AAPS) has the following comments on the scope and content of the EIR in response to the NOP. These comments modify our previous August 30, 2020 comments that responded to the previous July 27, 2020 NOP due to changes in the March, 2021 Draft General Plan that modify the previous drafts.

- 1. EIR Scope.** The scope of the EIR assessment must include, but not be limited to, potential impacts on historic and other cultural resources, transportation facilities, traffic congestion, creation and/or expansion of safety and hazard risks, diversity, effect on job opportunities, education opportunities and impact on existing educational facilities and/or the need for additional facilities, factors related to public safety including police, fire and other safety personnel.
- 2. Identify in the EIR as a “significant effect” potential demolition and insensitive additions and alterations to historic properties in areas proposed by the new General Plan for increased development intensities, including increased residential densities, height limits, and floor area ratio (FAR).** See the land-use diagram on page 27 of the new General Plan and the land-use classifications on pages 23 – 25.

Especially important are the proposed intensity increases in the Plan’s Medium Density Residential Area (MDRA), the “Stations” neighborhood commercial districts (existing CC-1 Zone), the Park Street and Webster Street Business Districts and the Mixed Use Area. The MDRA covers much of central Alameda and includes a very large number of buildings on the City’s Historic Building Study List, which forms by far the greatest portion of the City’s list of historic properties for CEQA purposes. The other land use classification areas also contain substantial numbers of historic properties, including the Park Street National Register District and, in the case of the Mixed Use Area, the Naval Air Station, Alameda, National Register District and the Del Monte Building.

These intensity increases could encourage demolition and replacement of historic buildings with new and larger buildings that architecturally disrupt existing neighborhoods and existing and potential historic districts. The increases could also encourage architecturally incompatible alterations and additions to historic buildings. For example, in the MDRA (equivalent to the existing R-2 through R-6 Zones), densities are proposed to increase from the existing limit of 2000 ft.² of lot area per unit (ca. 21 units per acre) to ca. 1452 ft.²/unit in R-4 (30 units per acre), 1000 ft.²/units in R-5 (40 units per acre) and 870 ft.²/unit (50 units per acre) in R-6 and height limits up to 50 feet in R-6.

Similarly problematic density and height limit increases are proposed for commercial areas, including the “Stations” height limit increased from 30 feet to 40 feet and the Park and Webster Street Business Districts height limits increased from 40 feet (60 feet, and for certain parking structures six stories, in certain parts of the Park Street District) to as much as 80 feet in certain areas that are not specifically identified.

All of these higher intensities could be further increased for density bonus projects mandated by state law.

The Plan and/or EIR evaluation should analyze the Plan’s impacts on transportation and infrastructure and the maximum number of residential units and maximum FAR that could be achieved under build-out according to different land-use scenarios involving various densities. A “holding capacity” analysis should be provided similar to the analysis on Pages 5–11 of the existing General Plan’s Land-Use Element, including the existing Land Use Element’s Table 2-6 that shows existing development levels by area compared to potential build-out development levels. The existing development levels should also indicate the overall existing residential density for each area or other geographic unit, such as census tract or block.

The impacts of the state density bonus law on height limits, other development regulations and overall future density also need to be considered. For example, a density bonus project in an area zoned for a 40 foot height limit could end up with a 50 foot or greater height (one or more additional stories).

Although the City requires approval by the Historical Advisory Board (HAB) of demolition of properties on the Historic Building Study List or that were constructed prior to 1942, the demolitions can still be approved if, on appeal to the City Council, the Council finds that “upon the evidence of qualified sources, that the historical resource is incapable of earning an economic return on its value”. The new Plan’s proposed intensity increases, if not mitigated, will make proposed demolitions more likely and likely increase the numbers of projects involving demolition being approved based on the significant discretion offered by the above demolition finding.

The EIR should consider the impacts of these increased intensities (including additional increases resulting from application of the state density bonus law), on the numerous historic buildings in the listed land use classifications, as “significant effects” for CEQA purposes and identify project alternatives and mitigation measures to avoid or reduce these significant effects.

3. **Action LU-2f on page 29.** Action LU-2f states:

Multi-family and Shared Housing. Permit multi-family and shared housing opportunities, including co-housing, congregate housing, senior assisted living, single room occupancy housing, transitional housing, emergency warming shelters, and shelters for the homeless in all Medium-Density residential zoning districts and in all three of the Mixed-Use Land Use Classification zoning districts to provide for the housing needs of all Alamedans.

Within the MDRA this wider range of uses could promote new construction of contrasting building types that architecturally disrupt existing neighborhoods and existing and potential historic districts and replace existing historic buildings with new buildings. Some of these uses are already permitted or conditionally permitted in some of the zoning districts within the MDRA, but others are not. **The impacts of this wider range of uses on the numerous historic buildings in the MDRA should be considered a “significant effect” in the EIR for CEQA purposes, and project alternatives and mitigation measures identified to avoid or reduce this significant effect.**

4. **Action LU-26b on page 46.** Action LU-26b states:

b. Creativity. Encourage and support creative and contemporary architectural design that complements, but does not mimic, existing architectural designs in the neighborhood or district.

This action is inconsistent with the City’s existing design review policies and documents that promote designs consistent with the surrounding neighborhood. It is also too open-ended in its use of undefined and overly subjective terms, such as “creative” and “contemporary”. Adoption of this action could set the stage for architecturally intrusive new development in historic areas and potentially compromise the continued eligibility of existing and potential National Register and California Register districts for these Registers. **The EIR should consider the potential impacts of this Action as “significant effects” for CEQA purposes and identify project alternatives and mitigation measures to avoid or reduce these significant effects.**

5. Include the following project alternative in the EIR:

To minimize impacts on historic properties and existing built-up residential neighborhoods and minimize overall impacts on transportation facilities and other infrastructure, delete the proposed residential density increases above the current 2000 sq. ft. of lot area per residential unit and height limit, FAR and other intensity increases in the following areas: (i) the R-2 through R-6 Zones, the NP-R and NP-MU Zones (portions of the North Park Street area), and the C-1 Zone (which includes the “Stations”), all as shown on the 2020 City of Alameda Zoning Map; (ii) the historic portions of the Park and Webster Street Business Districts; and (iii) properties that are on the City of Alameda Historical Monument or Historic Building Study Lists.

Define the historic portion of the Park Street Business District as:

“The portion of the Park Street Business District located in: (i) the C-C Zone south of Lincoln Avenue; and (ii) the NP-G Zone on the west side of Park Street between Lincoln and Buena Vista Avenues all as shown on the 2020 City of Alameda Zoning Map.”

Define the historic portion of the Webster Street Business District as:

“The portion of the Webster Street Business District located in the C-C Zone south of Lincoln Avenue as shown on the 2020 City of Alameda Zoning Map”

6. Include the following mitigation measures in the EIR:

- a. Retain all existing Alameda Municipal Code demolition protections for pre-1942 buildings, properties on the Historic Building Study List and Historical Monuments. This mitigation measure would replace the proposed Action LU--25f text on Page 44 which only states “Maintain demolition controls for historic properties” without specifying which controls would be maintained or defining “historic properties”.
- b. As part of the draft EIR, conduct a historical and architectural survey, including historic context statements, for all buildings 50 years old or older within any areas identified in the new General Plan for increased residential density, height limits, FARs or other intensities to identify which of these buildings are potential historical or cultural resources. Identify any historic districts formed by these buildings. Expand existing Alameda Municipal Code demolition protections to these buildings.
- c. Prior to adoption of the new General Plan, the City of Alameda shall submit an application to the State Historical Resources Commission for listing on the California Register of Historical Resources all properties within any areas identified in the new General Plan for increased residential density, height limit, FAR or other intensities that are on the City of Alameda Historic Building Study List, are City of Alameda Historical Monuments and/or are identified as potential historical and cultural resources (including potential historic districts) in the historical and architectural survey described in Mitigation Measure (b) above and the Commission shall take action on such application.

- d. Maintain the existing General Plan's 40 foot height limit for the historic portions (as defined in the Item 5's Project Alternative above) of the Park Street and Webster Street Business Districts. Amend the Alameda Municipal Code to bring the height limits for the historic portions of the Park Street Business District that are now over 40 feet into conformity with the 40 foot height limit.
- e. Maintain the existing General Plan's and Alameda Municipal Code's 30 foot height limit for the C-1 Zone as shown on the 2020 City of Alameda Zoning Map.
- f. Require that the housing types listed in Action LU-2f and located in the MDRA be contained within existing building envelopes.
- g. Delete Action LU-26b or limit its applicability to areas not containing Alameda Historical Monuments, Historic Building Study List properties or historic resources identified by the historical and architectural survey described in Mitigation Measure (b) above.

Thank you for the opportunity to comment. Please contact me at (510) 523-0411 or cbuckleyAICP@att.net if you would like to discuss these comments.

Sincerely,

Christopher Buckley, Chair
Preservation Action Committee
Alameda Architectural Preservation Society

cc: Mayor and City Councilmembers (by electronic transmission)
Planning Board (by electronic transmission)
Historical Advisory Board (by electronic transmission)
AAPS Board and Preservation Action Committee (by electronic transmission)
Susan Brandt-Hawley, Esq. (by electronic transmission)



April 19, 2021

Andrew Thomas, Planning, Building, and Transportation Director
City of Alameda
Planning, Building, and Transportation Department
2263 Santa Clara Avenue, Room 190
Alameda, CA 94501

Re: Notice of Preparation of an Environmental Impact Report – Alameda General Plan
2040, Alameda

Dear Mr. Thomas:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report (EIR) for the Alameda General Plan 2040 in the City of Alameda. EBMUD commented on an earlier Notice of Preparation of an EIR for the General Plan on August 27, 2020. EBMUD's original comments (see enclosure) still apply.

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

Sincerely,

A handwritten signature in blue ink that reads 'David Rehnstrom'.

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:VDC:djr
sb21_079

Enclosure



August 27, 2020

Andrew Thomas, Planning, Building, and Transportation Director
City of Alameda, Planning, Building, and Transportation Department
2263 Santa Clara Avenue, Room 190
Alameda, CA 94501

Re: Notice of Preparation of an Environmental Impact Report – Alameda General Plan 2040, Alameda

Dear Mr. Thomas:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Alameda General Plan 2040 in the City of Alameda (City). EBMUD has the following comments.

GENERAL

Pursuant to Section 15155 of the California Environmental Quality Act (CEQA) Guidelines and Sections 10910-10915 of the California Water Code, if any individual project within the General Plan area meets the threshold requirement for a Water Supply Assessment (WSA), then a WSA will be required and a written request submitted to EBMUD to prepare a WSA. EBMUD requires the project sponsor to provide water demand data and estimates for the project site for the analysis of the WSA. Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received.

WATER SERVICE

Effective January 1, 2018, water service for new multi-unit structures shall be individually metered or sub-metered in compliance with California State Senate Bill 7 (SB-7). SB-7 encourages conservation of water in multi-family residential, mixed-use multi-family and commercial buildings through metering infrastructure for each dwelling unit, including appropriate water billing safeguards for both tenants and landlords. EBMUD water services shall be conditioned for all development projects that are subject to SB-7 requirements and will be released only after the project sponsor has satisfied all requirements and provided evidence of conformance with SB-7.

EBMUD's Central Pressure Zone, with a service elevation range between 0 and 100 feet, serves the City. Main extensions that may be required to serve individual projects within the General Plan area to provide adequate domestic water supply, fire flows, and system redundancy will be installed at the project sponsor's expense. Pipeline and fire hydrant

relocations and replacements, due to modifications of existing streets, and off-site pipeline improvements, also at the project sponsor's expense, may be required depending on EBMUD metering requirements and fire flow requirements set by the local fire department. When development plans are finalized, individual project sponsors should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions of providing water service to their projects within the General Plan area. Engineering and installation of new and relocated pipelines and services require substantial lead time, which should be provided for in the project sponsor's development schedule.

A minimum 20-foot wide right-of-way is required for installation of new and replacement water mains. Additional utilities installed in the right-of-way with the water mains must be located such that the new water mains meet the minimum horizontal and vertical separation distances as set forth in the California (Waterworks Standards) Code of Regulations, Title 22, Section 64572 (Water Main Separation) and EBMUD requirements for placement of water mains within a right-of-way. The minimum horizontal separation distance requirements include, but are not limited to, 10 feet between the water main and sewer, 5 feet between the water main and storm drain, 7 feet from the face of the curb, and 5 feet from the edge of the right-of-way. In addition, water mains must be vertically located a minimum of one foot above sewers and storm drains.

EBMUD will not design piping or services until soil and groundwater quality data and remediation plans have been received and reviewed. In addition, underground work will not start until remediation has been carried out and documentation of its effectiveness has been received and reviewed. If no soil or groundwater quality data exists, or the information supplied by the project sponsor is insufficient, EBMUD may require the project sponsor to perform sampling and analysis to characterize the soil and groundwater that may be encountered during excavation, or EBMUD may perform such sampling and analysis at the project sponsor's expense. If evidence of contamination is discovered during EBMUD work on the project site, work may be suspended until such contamination is adequately characterized and remediated to EBMUD standards.

WASTEWATER SERVICE

EBMUD's Main Wastewater Treatment Plant (MWWTP) and interceptor system are anticipated to have adequate dry weather capacity to accommodate the proposed wastewater flows from this project and treat such flows provided that the wastewater generated by the project meets the requirements of the EBMUD Wastewater Control Ordinance. However, wet weather flows are a concern. The East Bay regional wastewater collection system experiences exceptionally high peak flows during storms due to excessive infiltration and inflow (I/I) that enters the system through cracks and misconnections in both public and private sewer lines. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide primary treatment and disinfection for peak wet weather flows that exceed the treatment capacity of the MWWTP. Due to reinterpretation of applicable law, EBMUD's National Pollutant Discharge Elimination

System (NPDES) permit now prohibits discharges from EBMUD's WWFs. Additionally, the seven wastewater collection system agencies that discharge to the EBMUD wastewater interceptor system ("Satellite Agencies") hold NPDES permits that prohibit them from causing or contributing to WWF discharges. These NPDES permits have removed the regulatory coverage the East Bay wastewater agencies once relied upon to manage peak wet weather flows.

A federal consent decree, negotiated among EBMUD, the Satellite Agencies, the Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB), requires EBMUD and the Satellite Agencies to eliminate WWF discharges by 2036. To meet this requirement, actions will need to be taken over time to reduce I/I in the system. The consent decree requires EBMUD to continue implementation of its Regional Private Sewer Lateral Ordinance (www.eastbaypsl.com), construct various improvements to its interceptor system, and identify key areas of inflow and rapid infiltration over a 22-year period. Over the same time period, the consent decree requires the Satellite Agencies to perform I/I reduction work including sewer main rehabilitation and elimination of inflow sources. EBMUD and the Satellite Agencies must jointly demonstrate at specified intervals that this work has resulted in a sufficient, pre-determined level of reduction in WWF discharges. If sufficient I/I reductions are not achieved, additional investment into the region's wastewater infrastructure will be required, which may result in significant financial implications for East Bay residents.

To ensure that the projects within the City contribute to these legally required I/I reductions, the lead agency should require projects to comply with EBMUD's Regional Private Sewer Lateral Ordinance. Additionally, it would be prudent for the lead agency to require the following mitigation measures for future proposed projects: (1) replace or rehabilitate any existing sanitary sewer collection systems, including sewer lateral lines, to ensure that such systems and lines are free from defects or, alternatively, disconnected from the sanitary sewer system, and (2) ensure any new wastewater collection systems, including sewer lateral lines, for the project are constructed to prevent I/I to the maximum extent feasible while meeting all requirements contained in the Regional Private Sewer Lateral Ordinance and applicable municipal codes or Satellite Agency ordinances.

WATER RECYCLING

EBMUD's Policy 9.05 requires that customers use non-potable water, including recycled water, for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant, fish and wildlife to offset demand on EBMUD's limited potable water supply. Appropriate recycled water uses include landscape irrigation, commercial and industrial process uses, toilet and urinal flushing in non-residential buildings, and other applications.

EBMUD does not currently have any recycled water service in the City; however, the General Plan area is located within EBMUD's East Bayshore Recycled Water Project

Andrew Thomas, Planning, Building, and Transportation Director
August 27, 2020
Page 4

service boundaries. As part of EBMUD's long term water supply planning, future expansion plans will extend recycled water to the City and could potentially serve a significant portion of the General Plan area. EBMUD will assess and consider the feasibility of providing recycled water to projects within the General Plan area for appropriate uses including landscape irrigation, commercial and industrial process uses, toilet and urinal flushing.

As EBMUD continues to implement its recycled water supply expansion to the City, EBMUD requires the City and project sponsors to continue to coordinate closely with EBMUD during the planning phases of the various General Plan components to further explore the options and requirements relating to recycled water use.

WATER CONSERVATION

Individual projects within the General Plan may present an opportunity to incorporate water conservation measures. EBMUD requests that the City include in its conditions of approval a requirement that the project sponsor comply with Assembly Bill 325, "Model Water Efficient Landscape Ordinance," (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense.

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning Section at (510) 287-1981.

Sincerely,



David J. Rehnstrom
Manager of Water Distribution Planning

DJR:VDC:sjh
sb20_182.doc

Appendix B

Special-Status Plant and Animal Species Known to Occur Within the Project Region



[ECOS](#) / [Species Reports](#) / [Species County Report](#)

Listed species believed to or known to occur in Alameda, California

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [PaC](#) application.

 Search:

39 Species Listings

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Flowering Plants	Pallid manzanita (Arctostaphylos pallida)	Wherever found	Threatened	8	Recovery plan for Arctostaphylos pallida (pallid manzanita)	Implementation Progress
Crustaceans	Conservancy fairy shrimp (Branchinecta conservatio)	Wherever found	Endangered	8	Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon	Implementation Progress
Amphibians	California tiger Salamander (Ambystoma californiense)	U.S.A. (CA - Central California)	Threatened	8	Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)	Implementation Progress
Flowering Plants	Contra Costa goldfields (Lasthenia conjugens)	Wherever found	Endangered	8	Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon	Implementation Progress
Crustaceans	Longhorn fairy shrimp (Branchinecta longiantenna)	Wherever found	Endangered	8	Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon	Implementation Progress
Insects	Callippe silverspot butterfly (Speyeria callippe callippe)	Wherever found	Endangered	8		
Flowering Plants	California seablite (Suaeda californica)		Endangered	8	Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California	Implementation Progress
Amphibians	California tiger Salamander (Ambystoma californiense)	U.S.A. (CA - Sonoma County)	Endangered	8	Recovery Plan for the Santa Rosa Plain	Implementation Progress

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Reptiles	Alameda whipsnake (=striped racer) (<u>Masticophis lateralis euryxanthus</u>)	Wherever found	Threatened	8	<u>Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California</u>	<u>Implementation Progress</u>
Insects	San Bruno elfin butterfly (<u>Callophrys mossii bayensis</u>)	Wherever found	Endangered	8	<u>Recovery Plan Amendment for San Bruno Elfin Butterfly and Mission Blue Butterfly</u>	<u>Implementation Progress</u>

Showing 1 to 10 of 39 entries

Previous 1 2 3 4 Next

[ECOS](#) / [Species Reports](#) / Species County Report

Listed species believed to or known to occur in Alameda, California

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [PaC](#) application.

Search:

39 Species Listings

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Insects	San Bruno elfin butterfly (Callophrys mossii bayensis)	Wherever found	Endangered	8	Recovery Plan for San Bruno Elfin and Mission Blue Butterflies	Implementation Progress
Flowering Plants	Parish's rock-cress (Arabis parishii)	Wherever found	Species of Concern	1		
Flowering Plants	Large-flowered fiddleneck (Amsinckia grandiflora)	Wherever found	Endangered	8	Recovery Plan Amendment for Large-flowered Fiddleneck (Amsinckia grandiflora)	Implementation Progress
Flowering Plants	Large-flowered fiddleneck (Amsinckia grandiflora)	Wherever found	Endangered	8	Large-flowered Fiddleneck (Amsinckia grandiflora) Recovery Plan	Implementation Progress
Reptiles	Giant garter snake (Thamnophis gigas)	Wherever found	Threatened	8	Recovery Plan for the Giant Garter Snake (Thamnophis gigas)	Implementation Progress
Mammals	Salt marsh harvest mouse (Reithrodontomys raviventris)	wherever found	Endangered	8	Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California	Implementation Progress
Fishes	Tidewater goby (Eucyclogobius newberryi)	Wherever found	Endangered	8	Recovery Plan for the Tidewater Goby (Eucyclogobius newberryi)	Implementation Progress
Birds	Western snowy plover (Charadrius nivosus nivosus)	Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast)	Threatened	8	Final Recovery Plan for the Western Snowy Plover	Implementation Progress
Fishes	longfin smelt (Spirinchus thaleichthys)	San Francisco Bay delta population	Candidate	8		

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Birds	Yellow-billed Cuckoo (<u>Coccyzus americanus</u>)	Western DPS: U.S.A. (AZ, CA, CO (western), ID, MT (western), NM (western), NV, OR, TX (western), UT, WA, WY (western)); Canada (British Columbia (southwestern); Mexico (Baja California, Baja California Sur, Chihuahua, Durango (western), Sinaloa, Sonora)	Threatened	2		

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CSV

Search:

39 Species Listings

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Crustaceans	Vernal pool fairy shrimp (Branchinecta lynchi)	Wherever found	Threatened	8	Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon	Implementation Progress
Fishes	Delta smelt (Hypomesus transpacificus)	Wherever found	Threatened	8	Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes	Implementation Progress
Birds	California clapper rail (Rallus longirostris obsoletus)	Wherever found	Endangered	8	Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California	Implementation Progress
Flowering Plants	Santa Cruz tarplant (Holocarpha macradenia)	Wherever found	Threatened	8		
Flowering Plants	Presidio clarkia (Clarkia franciscana)	Wherever found	Endangered	8	Recovery Plan Amendment for Serpentine Soil Species of the San Francisco Bay Area	Implementation Progress
Flowering Plants	Presidio clarkia (Clarkia franciscana)	Wherever found	Endangered	8	Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area	Implementation Progress
Flowering Plants	San Mateo thornmint (Acanthomintha obovata ssp. duttonii)	Wherever found	Endangered	8	Recovery Plan Amendment for Serpentine Soil Species of the San Francisco Bay Area	Implementation Progress
Flowering Plants	San Mateo thornmint (Acanthomintha obovata ssp. duttonii)	Wherever found	Endangered	8	Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area	Implementation Progress
Insects	Mission blue butterfly (Icaricia icarioides missionensis)	Wherever found	Endangered	8	Recovery Plan Amendment for San Bruno Elfin Butterfly and Mission Blue Butterfly	Implementation Progress

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Insects	Mission blue butterfly (<u>Icaricia icarioides missionensis</u>)	Wherever found	Endangered	8	<u>Recovery Plan for San Bruno Elfin and Mission Blue Butterflies</u>	<u>Implementation Progress</u>

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 CSV
Search:

39 Species Listings

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Crustaceans	Vernal pool tadpole shrimp (Lepidurus packardii)	Wherever found	Endangered	8	Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon	Implementation Progress
Mammals	San Joaquin kit fox (Vulpes macrotis mutica)	wherever found	Endangered	8	Recovery Plan for Upland Species of the San Joaquin Valley, California	Implementation Progress
Flowering Plants	Robust spineflower (Chorizanthe robusta var. robusta)	Wherever found	Endangered	8	Recovery Plan for Robust Spineflower (Chorizanthe robusta)	Implementation Progress
Amphibians	California red-legged frog (Rana draytonii)	Wherever found	Threatened	8	Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)	Implementation Progress
Birds	California least tern (Sterna antillarum browni)	Wherever found	Endangered	8	Revised California Least Tern Recovery Plan	Implementation Progress
Insects	Bay checkerspot butterfly (Euphydryas editha bayensis)	Wherever found	Threatened	8	Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area	Implementation Progress
Insects	Valley elderberry longhorn beetle (Desmocerus californicus dimorphus)	Wherever found	Threatened	8	Revised Recovery Plan for Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)	Implementation Progress

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Flowering Plants	Palmate-bracted bird's beak (<u>Cordylanthus palmatus</u>)	Wherever found	Endangered	8	<u>Recovery Plan for Upland Species of the San Joaquin Valley, California</u>	<u>Implementation Progress</u>
Reptiles	San Francisco garter snake (<u>Thamnophis sirtalis tetrataenia</u>)	Wherever found	Endangered	8	<u>Recovery Plan for the San Francisco Garter Snake (Thamnophis sirtalis tetrataenia)</u>	<u>Implementation Progress</u>

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Appendix C

Air Quality, GHG, and Health Risk Assessment Technical Files

City Wide 2040 GHG Emissions Estimate

Sector	2020	2040
Transportation	204,506	207,352
Building Energy	79,602	105,650
Waste, Water, Wastewater	8,265	10,969
Total	292,373	323,971
Service Population	109,100	144,800
Emissions/Service Population	2.7	2.2

Note: 2040 emissions for building energy, waste, water and wastewater conservatively assume the same emission factors as 2020.

Source: CARB EMFAC 2017 and City of Alameda CARP 2019

VMT Per Person

	Household VMT per Capita	Home-Work VMT per Employee
2020 Baseline	16	18.3
2040 General Plan	15.6	17

Total VMT generated by City of Alameda

	Population	Jobs	Total VMT	Service Population
2020 Baseline	77,000	32,100	2,662,100	109,100
2040 General Plan	99,700	45,100	3,524,400	144,800
Net Change	22,700	13,000	862,300	35,700
% Increase	29%	40%	32%	33%

City of Alameda GP 2040 - Transportation Sector GHG Emissions

2020 EF 398.7569 2040 EF 276.854545 % Decrease 31%

EMFAC 2020 CO2 EF For Alameda County

EMFAC 2040 CO2 EF For Alameda County

Region	Calendar Yr	Vehicle Cat	Model Year	Speed	Fuel	VMT	CO2_RUNEX
ALAMEDA	2020	All Other B	Aggregated	Aggregated	DSL	17513.69378	0.00040633 1140.570907 0.463451
ALAMEDA	2020	LDA	Aggregated	Aggregated	GAS	23167102.63	0.53749685 277.8895461 149.3648
ALAMEDA	2020	LDA	Aggregated	Aggregated	DSL	255995.7975	0.00593932 221.7820348 1.317235
ALAMEDA	2020	LDA	Aggregated	Aggregated	ELEC	587259.0219	0.01362492 0 0
ALAMEDA	2020	LDT1	Aggregated	Aggregated	GAS	2333619.693	0.054142 321.8327733 17.42467
ALAMEDA	2020	LDT1	Aggregated	Aggregated	DSL	815.6180785	1.8923E-05 428.3112457 0.008105
ALAMEDA	2020	LDT1	Aggregated	Aggregated	ELEC	8497.307593	0.00019714 0 0
ALAMEDA	2020	LDT2	Aggregated	Aggregated	GAS	7698626.165	0.1786148 354.6516408 63.34603
ALAMEDA	2020	LDT2	Aggregated	Aggregated	DSL	48339.59207	0.00112152 298.6594561 0.334953
ALAMEDA	2020	LDT2	Aggregated	Aggregated	ELEC	38062.98549	0.00088309 0 0
ALAMEDA	2020	LHD1	Aggregated	Aggregated	GAS	571485.1094	0.01325895 1029.651016 13.65209
ALAMEDA	2020	LHD1	Aggregated	Aggregated	DSL	357461.2159	0.00829341 562.6039995 4.665905
ALAMEDA	2020	LHD2	Aggregated	Aggregated	GAS	85543.53594	0.00198468 1179.390886 2.340719
ALAMEDA	2020	LHD2	Aggregated	Aggregated	DSL	131300.2853	0.00304628 630.1225111 1.91953
ALAMEDA	2020	MCY	Aggregated	Aggregated	GAS	223617.9686	0.00518813 215.9987421 1.12063
ALAMEDA	2020	MDV	Aggregated	Aggregated	GAS	4492891.648	0.10423898 427.1657555 44.52732
ALAMEDA	2020	MDV	Aggregated	Aggregated	DSL	104877.5046	0.00243325 389.409914 0.947531
ALAMEDA	2020	MDV	Aggregated	Aggregated	ELEC	10380.87326	0.00024085 0 0
ALAMEDA	2020	MH	Aggregated	Aggregated	GAS	21865.88717	0.00050731 1807.623623 0.917021
ALAMEDA	2020	MH	Aggregated	Aggregated	DSL	6945.259137	0.00016114 1041.114662 0.167761
ALAMEDA	2020	Motor Coa	Aggregated	Aggregated	DSL	11026.36148	0.00025582 1567.361514 0.400964
ALAMEDA	2020	OBUS	Aggregated	Aggregated	GAS	31652.31558	0.00073436 1824.598749 1.339914
ALAMEDA	2020	PTO	Aggregated	Aggregated	DSL	16721.0272	0.00038794 2148.557266 0.833516
ALAMEDA	2020	SBUS	Aggregated	Aggregated	GAS	3468.46577	8.0471E-05 856.4204771 0.068917
ALAMEDA	2020	SBUS	Aggregated	Aggregated	DSL	9387.122788	0.00021779 1114.173364 0.242655
ALAMEDA	2020	T6 Ag	Aggregated	Aggregated	DSL	44.72465785	1.0377E-06 1098.792503 0.00114
ALAMEDA	2020	T6 CAIRP h	Aggregated	Aggregated	DSL	9928.706832	0.00023035 940.201325 0.21658
ALAMEDA	2020	T6 CAIRP si	Aggregated	Aggregated	DSL	1398.616357	3.2449E-05 987.207706 0.032034
ALAMEDA	2020	T6 instate (	Aggregated	Aggregated	DSL	27218.66099	0.00063115 1274.991818 0.805153
ALAMEDA	2020	T6 instate (	Aggregated	Aggregated	DSL	44648.81745	0.00103589 1264.833926 1.31023
ALAMEDA	2020	T6 instate l	Aggregated	Aggregated	DSL	333324.7934	0.00773342 1045.138047 8.082496
ALAMEDA	2020	T6 instate :	Aggregated	Aggregated	DSL	433477.4008	0.01005705 1089.888235 10.961
ALAMEDA	2020	T6 OOS he:	Aggregated	Aggregated	DSL	5699.985627	0.00013224 939.689951 0.124269
ALAMEDA	2020	T6 OOS sm	Aggregated	Aggregated	DSL	800.4332852	1.8571E-05 988.3815903 0.018355
ALAMEDA	2020	T6 Public	Aggregated	Aggregated	DSL	18360.78863	0.00042599 1178.19376 0.501894
ALAMEDA	2020	T6 utility	Aggregated	Aggregated	DSL	3295.607639	7.6461E-05 1070.676507 0.081865
ALAMEDA	2020	T6TS	Aggregated	Aggregated	GAS	85986.9574	0.00199497 1800.996612 3.592938
ALAMEDA	2020	T7 Ag	Aggregated	Aggregated	DSL	16.08689468	3.7323E-07 1646.243033 0.000614
ALAMEDA	2020	T7 CAIRP	Aggregated	Aggregated	DSL	313977.2907	0.00728455 1404.60824 10.23193
ALAMEDA	2020	T7 CAIRP ci	Aggregated	Aggregated	DSL	19551.40063	0.00455361 1778.155704 0.806588
ALAMEDA	2020	T7 NNOOS	Aggregated	Aggregated	DSL	382765.3829	0.00888049 1353.812468 12.02252
ALAMEDA	2020	T7 NOOS	Aggregated	Aggregated	DSL	123359.5502	0.00286205 1404.835226 4.020706
ALAMEDA	2020	T7 other pr	Aggregated	Aggregated	DSL	32494.05011	0.00075389 1862.925333 1.404441
ALAMEDA	2020	T7 POAK	Aggregated	Aggregated	DSL	174520.5075	0.00404903 1904.910768 7.713035
ALAMEDA	2020	T7 Public	Aggregated	Aggregated	DSL	17420.26573	0.00040417 1823.665478 0.737062
ALAMEDA	2020	T7 Single	Aggregated	Aggregated	DSL	84210.43523	0.00195376 1635.515807 3.195397
ALAMEDA	2020	T7 single c	Aggregated	Aggregated	DSL	48503.42888	0.00112532 1892.045773 2.12916
ALAMEDA	2020	T7 SWCV	Aggregated	Aggregated	DSL	9508.079688	0.0002206 4413.108037 0.973513
ALAMEDA	2020	T7 SWCV	Aggregated	Aggregated	NG	14505.13192	0.00033653 3156.046964 1.06211
ALAMEDA	2020	T7 tractor	Aggregated	Aggregated	DSL	557274.5421	0.01292925 1409.728077 18.22673
ALAMEDA	2020	T7 tractor (	Aggregated	Aggregated	DSL	40011.05854	0.00092829 1897.639274 1.761562
ALAMEDA	2020	T7 utility	Aggregated	Aggregated	DSL	2535.547464	5.8827E-05 1726.201259 0.101547
ALAMEDA	2020	T7IS	Aggregated	Aggregated	GAS	1063.200624	2.4667E-05 2221.502728 0.054798
ALAMEDA	2020	UBUS	Aggregated	Aggregated	GAS	522.7366011	1.2128E-05 1884.553621 0.022856
ALAMEDA	2020	UBUS	Aggregated	Aggregated	DSL	70961.25802	0.00164636 1665.45026 2.741935
ALAMEDA	2020	UBUS	Aggregated	Aggregated	ELEC	1081.8767	2.51E-05 0 0
ALAMEDA	2020	UBUS	Aggregated	Aggregated	NG	8914.479444	0.00020682 2024.620532 0.418739
						43101838.88	1 398.7569 g/mile

Region	Calendar Yr	Vehicle Cat	Model Year	Speed	Fuel	VMT	CO2_RUNEX
ALAMEDA	2040	All Other B	Aggregated	Aggregated	DSL	29351.87449	0.0000562 873.1114 0.491124
ALAMEDA	2040	LDA	Aggregated	Aggregated	GAS	26995024.06	0.517332 194.1051 100.4168
ALAMEDA	2040	LDA	Aggregated	Aggregated	DSL	335810.0329	0.006435 157.3252 1.01246
ALAMEDA	2040	LDA	Aggregated	Aggregated	ELEC	1834277.869	0.035152 0 0
ALAMEDA	2040	LDT1	Aggregated	Aggregated	GAS	2726941.461	0.052259 225.8101 11.80063
ALAMEDA	2040	LDT1	Aggregated	Aggregated	DSL	377.7906354	7.24E-06 299.5649 0.002169
ALAMEDA	2040	LDT1	Aggregated	Aggregated	ELEC	107960.3512	0.002069 0 0
ALAMEDA	2040	LDT2	Aggregated	Aggregated	GAS	8381352.298	0.16062 224.763 36.10146
ALAMEDA	2040	LDT2	Aggregated	Aggregated	DSL	85957.46962	0.001647 209.0013 0.344285
ALAMEDA	2040	LDT2	Aggregated	Aggregated	ELEC	269762.7945	0.00517 0 0
ALAMEDA	2040	LHD1	Aggregated	Aggregated	GAS	547779.8096	0.010498 829.8228 8.711185
ALAMEDA	2040	LHD1	Aggregated	Aggregated	DSL	532684.1319	0.010208 443.7415 4.529869
ALAMEDA	2040	LHD2	Aggregated	Aggregated	GAS	82858.19275	0.001588 952.0069 1.511685
ALAMEDA	2040	LHD2	Aggregated	Aggregated	DSL	208531.6544	0.003996 499.7045 1.996968
ALAMEDA	2040	MCY	Aggregated	Aggregated	GAS	257305.4965	0.004931 214.4051 1.057231
ALAMEDA	2040	MDV	Aggregated	Aggregated	GAS	5195397.816	0.099565 272.4504 27.1264
ALAMEDA	2040	MDV	Aggregated	Aggregated	DSL	187298.1847	0.003589 271.262 0.973662
ALAMEDA	2040	MDV	Aggregated	Aggregated	ELEC	195257.9059	0.003742 0 0
ALAMEDA	2040	MH	Aggregated	Aggregated	GAS	25286.98483	0.000485 1418.828 0.687563
ALAMEDA	2040	MH	Aggregated	Aggregated	DSL	10861.41236	0.000208 842.5448 0.175374
ALAMEDA	2040	Motor Coa	Aggregated	Aggregated	DSL	14383.98978	0.000276 1194.868 0.329371
ALAMEDA	2040	OBUS	Aggregated	Aggregated	GAS	22368.3047	0.000429 1428.267 0.612249
ALAMEDA	2040	PTO	Aggregated	Aggregated	DSL	15239.83821	0.000292 1651.156 0.48223
ALAMEDA	2040	SBUS	Aggregated	Aggregated	GAS	14320.64365	0.000274 712.3085 0.195486
ALAMEDA	2040	SBUS	Aggregated	Aggregated	DSL	10033.83098	0.000192 891.4963 0.171424
ALAMEDA	2040	T6 CAIRP h	Aggregated	Aggregated	DSL	12936.0902	0.000248 682.2794 0.169142
ALAMEDA	2040	T6 CAIRP si	Aggregated	Aggregated	DSL	1853.561143	3.55E-05 756.2501 0.026863
ALAMEDA	2040	T6 instate (	Aggregated	Aggregated	DSL	54878.6326	0.001052 1038.171 1.091838
ALAMEDA	2040	T6 instate (	Aggregated	Aggregated	DSL	90021.54989	0.001725 953.7681 1.645414
ALAMEDA	2040	T6 instate l	Aggregated	Aggregated	DSL	466502.5909	0.00894 776.8394 6.944983
ALAMEDA	2040	T6 instate :	Aggregated	Aggregated	DSL	597344.9128	0.011448 812.7447 9.303902
ALAMEDA	2040	T6 OOS he:	Aggregated	Aggregated	DSL	7437.328512	0.000143 681.8216 0.097179
ALAMEDA	2040	T6 OOS sm	Aggregated	Aggregated	DSL	1057.32582	2.03E-05 757.5826 0.015351
ALAMEDA	2040	T6 Public	Aggregated	Aggregated	DSL	26290.4053	0.000504 886.4238 0.446606
ALAMEDA	2040	T6 utility	Aggregated	Aggregated	DSL	3831.671641	7.34E-05 790.1813 0.058023
ALAMEDA	2040	T6TS	Aggregated	Aggregated	GAS	105154.9002	0.002015 1407.178 2.835727
ALAMEDA	2040	T7 Ag	Aggregated	Aggregated	DSL	2.327845509	4.46E-08 1627.422 7.26E-05
ALAMEDA	2040	T7 CAIRP	Aggregated	Aggregated	DSL	409435.5189	0.007846 947.9283 7.43784
ALAMEDA	2040	T7 CAIRP ci	Aggregated	Aggregated	DSL	39419.79851	0.000755 1284.644 0.970472
ALAMEDA	2040	T7 NNOOS	Aggregated	Aggregated	DSL	499087.8324	0.009565 946.6969 9.054694
ALAMEDA	2040	T7 NOOS	Aggregated	Aggregated	DSL	160883.5409	0.003083 948.6639 2.924892
ALAMEDA	2040	T7 other pr	Aggregated	Aggregated	DSL	49877.96644	0.000956 1155.482 1.104479
ALAMEDA	2040	T7 POAK	Aggregated	Aggregated	DSL	412607.0904	0.007907 1158.068 9.157073
ALAMEDA	2040	T7 Public	Aggregated	Aggregated	DSL	18333.12692	0.000351 1319.599 0.463622
ALAMEDA	2040	T7 Single	Aggregated	Aggregated	DSL	76750.8714	0.001471 1224.803 1.801504
ALAMEDA	2040	T7 single c	Aggregated	Aggregated	DSL	97793.26962	0.001874 1402.474 2.62839
ALAMEDA	2040	T7 SWCV	Aggregated	Aggregated	DSL	1510.322058	2.89E-05 4367.195 0.126403
ALAMEDA	2040	T7 SWCV	Aggregated	Aggregated	NG	22941.13169	0.00044 2517.834 1.106949
ALAMEDA	2040	T7 tractor	Aggregated	Aggregated	DSL	772192.1912	0.014798 943.3017 13.95924
ALAMEDA	2040	T7 tractor (	Aggregated	Aggregated	DSL	80670.83763	0.001546 1372.439 2.121757
ALAMEDA	2040	T7 utility	Aggregated	Aggregated	DSL	2960.840882	5.67E-05 1206.395 0.068453
ALAMEDA	2040	T7IS	Aggregated	Aggregated	GAS	974.9065842	1.87E-05 1543.392 0.028835
ALAMEDA	2040	UBUS	Aggregated	Aggregated	GAS	526.3037736	1.01E-05 1448.906 0.014614
ALAMEDA	2040	UBUS	Aggregated	Aggregated	DSL	58053.16539	0.001113 1477.608 1.643884
ALAMEDA	2040	UBUS	Aggregated	Aggregated	NG	23456.90631	0.00045 1950.27 0.876701
						52181211.11	1 276.8545 g/mile

Appendix D

Hazardous Materials Cleanup Sites in Alameda

Appendix D
Hazardous Materials Cleanup Sites in Alameda

Site Name	Address	Type	Status
Alameda, Naval and Marine Reserve Center	2144 Clement Avenue	State Response	Active
Process Technology Company/Mobile Unit	609 Winde Mere Isle	Hazardous Waste – Standardized	Undergoing Closure
Encinal School Site	1527 Buena Vista Avenue	School Investigation	Inactive – Needs Evaluation
U.S. Coast Guard, Support Center Alameda	Coast Guard Island	Tiered Permit	Refer to Other Agency (no specified contamination)
Jean Sweeney Open Space Park	1925 Sherman Street	Voluntary Cleanup Site	Active as of 3/4/2015
Todd Shipyard	Unspecified (near Main Street and Trident Avenue)	Military Evaluation Site	Inactive – Needs Evaluation as of 7/1/2005
Alameda Naval Air Station East Housing	950 W. Mall Square	State Response	Certified O&M Land Use Restrictions Only as of 6/25/2001
Trident Management, Inc.	1605 Ferry Point	Tiered Permit	Inactive – Needs Evaluation
Alameda Navy Supply Center (NSC) Annex	2155 Mariner Square Loop	Voluntary Cleanup Site	Active as of 5/25/1994
Target Parcel	2700 5 th Street	Voluntary Cleanup Site	Active as of 7/1/2014
UWS Navy/Fleet & Industrial Supply Center – Alameda	2155 Mariner Square Loop	Corrective Action	Refer SMBRP as of 2/23/2012
Shinsei Gardens	410 Stargell Avenue	Voluntary Cleanup Site	Certified O&M Land Use Restrictions Only as of 10/5/2017

Site Name	Address	Type	Status
Alameda NAS	Alameda Point	Federal Superfund National Priorities List	Active as of 7/21/2010
1200 Park Street	1200 Park Street	LUST Cleanup Site	Open – Site Assessment as of 9/21/2016
2449-2451 Santa Clara Street	2449-2451 Santa Clara Street	LUST Cleanup Site	Open – Site Assessment as of 1/18/2017
Alameda Auto Enhancers	2327 Lincoln Avenue	Cleanup Program Site	Open – Inactive as of 6/4/2009
Alameda Mound Street UST	1380 Mound Street	LUST Cleanup Site	Open – Site Assessment as of 8/28/2014
Alameda Naval Air Station – City of Alameda	2263 Santa Clara Avenue	Military Privatized Site	Open – Site Assessment as of 9/21/2015
Allied Engineering & Production Corporation	2421 Blanding Avenue	Cleanup Program Site	Open – Site Assessment as of 5/5/2015
Bell Cleaners/Wittenau Property	1534 Park Street	Cleanup Program Site	Open – Remediation as of 4/20/2020
Bill Chun Service Station	2301 Santa Clara Avenue	LUST Cleanup Site	Open – Remediation as of 1/7/2013
McDonald Ralston Family Trust Property	2435 Blanding Avenue	LUST Cleanup Site	Open – Site Assessment as of 10/17/2018
Park Street Landing	2301-2337 Blanding Avenue	Cleanup Program Site	Open – Site Assessment as of 5/13/1995
Private Residence	Unspecified (near High Street and Gibbons Drive)	LUST Cleanup Site	Open – Remediation as of 2/2/2020
Waltz Living Trust (Non-Petroleum UST)	1814 Everett Street	Cleanup Program Site	Open – Site Assessment as of 6/2/2017
XTRA OIL	1701 Park Street	LUST Cleanup Site	Open – Site Assessment and Interim Remedial Action as of 3/6/2007

Site Name	Address	Type	Status
Alameda Marina	1815 Clement Avenue	Cleanup Program Site	Open – Site Assessment as of 4/22/2020
Cargill Salt	2016 Clement Avenue	Cleanup Program Site	Open – Remediation as of 12/20/2017
Crowley Maritime Corporation	2099 Grand Street	Cleanup Program Site	Open – Inactive as of 12/15/2015
Del Monte Warehouse Facility – Del Monte Warehouse	1501 Buena Vista Avenue	Cleanup Program Site	Open – Site Assessment and Interim Remedial Action as of 8/13/2019
Delong Oil – Waste Oil	1716 Webster Street	Cleanup Program Site	Open – Site Assessment as of 6/11/2019
Elegant Cleaners	1208 Lincoln Avenue	Cleanup Program Site	Open – Site Assessment and Interim Remedial Action as of 3/12/2015
Grand Street Tank Farm	2047 Grand Street	Cleanup Program Site	Open – Inactive as of 6/4/2009
Jean Sweeney Open Space Park	1925 Sherman Street	Cleanup Program Site	Open – Site Assessment as of 5/19/1999
Marina Village Cleaners	817 Marina Village Parkway	Cleanup Program Site	Open – Remediation as of 9/17/2018
Pennzoil-Quaker State Alameda Specialty Plant	2015 Grand Street	Cleanup Program Site	Open – Site Assessment and Interim Remedial Action as of 6/19/2019
Searway Property	649 Pacific Avenue	Cleanup Program Site	Open – Remediation as of 12/28/2007
Shell Oil Company	1601 Webster Street	Cleanup Program Site	Open – Inactive as of 12/17/2015
Stewart Court Property	762 Stewart Court	Cleanup Program Site	Open – Site Assessment as of 4/21/2003

Site Name	Address	Type	Status
Sturtevant 1901 Webster Street, LLC	1901 Webster Street	LUST Cleanup Site	Open – Site Assessment as of 5/10/2019
The Home of Truth of Alameda	1300 Grand Street	LUST Cleanup Site	Open – Site Assessment as of 5/10/2017
Whitmore's Auto Service	1701 Buena Vista Avenue	LUST Cleanup Site	Open – Site Assessment as of 8/29/2002
Mariner Village Cleaners	817 Mariner Village Parkway	Cleanup Program Site	Open – Remediation as of 9/17/2018
Alameda Naval Air Station – AST 015	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – AST 015-2	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – AST 330B	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 3/1/2012
Alameda Naval Air Station – AST CAA B	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – Building 166	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 04A	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Assessment and Remedial Action as of 6/20/2013
Alameda Naval Air Station – CAA 04A, AST 372	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 04A, Oil/Water Separator 372B	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 04B	Orion Street	Military Cleanup Site	Open – Assessment and Remedial Action as of 6/20/2013

Site Name	Address	Type	Status
Alameda Naval Air Station – CAA 04B, UST 372-1 and 372-2	372 Orion Street	Military Cleanup Site	Open –Remediation as of 9/15/2013
Alameda Naval Air Station – CAA 04C, UST 547-1 and 547-3	372 Orion Street	Military Cleanup Site	Open –Remediation as of 1/2/2002
Alameda Naval Air Station – CAA 05B West	W. Tower Avenue	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/20/2013
Alameda Naval Air Station – CAA 05B, UST 261-1 and 261-3	261 West Tower Avenue	Military UST Site	Open –Remediation as of 1/2/2002
Alameda Naval Air Station – CAA 05C	Avenue F	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/20/2013
Alameda Naval Air Station – CAA 05C, UST 400-1	400 West Tower Avenue	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 06	1 st Street	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/20/2013
Alameda Naval Air Station – CAA 06, NADEP GAP 37	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 06, UST 373-1 and 373-2	6 Taxiway D	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 07	Stardust Place	Military Cleanup Site	Open –Remediation as of 6/20/2013
Alameda Naval Air Station – CAA 07, UST 459-1 through 459-6	459 West Tower Avenue	Military UST Site	Open –Remediation as of 1/2/2002
Alameda Naval Air Station – CAA 09A	West Hornet Avenue and 8 th Street	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/20/2013

Site Name	Address	Type	Status
Alameda Naval Air Station – CAA 09A, NAS GAP 04/SWMMU 584	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 09A, UST 584-1 and 584-2	584 West Hornet Avenue	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 11A	Ferry Point	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/20/2013
Alameda Naval Air Station – CAA 11A, Oil/Water Separator 014A through 014E	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 11A, Oil/Water Separator 162	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 11B	Ferry Point	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/20/2013
Alameda Naval Air Station – CAA 11B, UST 037-1 through 037-4	Site 14 Viking	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 11B, UST 037-13 through 037-16	11B Viking	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 11B, UST 037-17 through 037-20	11B Viking	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 11B, UST 037-21 through 037-24	11B Viking	Military UST Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – CAA 11B, UST 037-5 through 037-8	11B Viking	Military UST Site	Open – Site Assessment as of 1/2/2002

Site Name	Address	Type	Status
Alameda Naval Air Station – CAA 13	Avenue L	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/26/2013
Alameda Naval Air Station – CAA 13, AOC 397	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – CAA 13, AST 530B and 530C	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open –Remediation as of 12/21/2011
Alameda Naval Air Station – CAA 13, Defueling Area 530	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 12/16/2015
Alameda Naval Air Station – CAA 13, OWS 529	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – AST 330B	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 3/21/2012
Alameda Naval Air Station – CAA B North	Ranger Avenue	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/28/2013
Alameda Naval Air Station – CAA B South	Avenue F and West Tower Avenue	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/28/2013
Alameda Naval Air Station – FL 154	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 2/5/2016
Alameda Naval Air Station – FL 155B	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 2/6/2016
Alameda Naval Air Station – FL 155C	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 2/10/2016
Alameda Naval Air Station – FL 23C	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 4/23/2019

Site Name	Address	Type	Status
Alameda Naval Air Station – Housing Authority of City of Alameda IR Site 25	Singleton Avenue	Military Privatized Site	Open – Site Assessment as of 12/29/2016
Alameda Naval Air Station – IR Site 03	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 04	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 05	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 06	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 09	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 10	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 13	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 16	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 17	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 19	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 21	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 25	950 West Mall Square	Military Cleanup Site	Open – Verification Monitoring as of 11/13/2019
Alameda Naval Air Station – IR Site 26	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018

Site Name	Address	Type	Status
Alameda Naval Air Station – IR Site 27	950 West Mall Square	Military Cleanup Site	Open –Remediation as of 3/8/2018
Alameda Naval Air Station – IR Site 28	950 West Mall Square	Military Cleanup Site	Open –Remediation as of 3/8/2018
Alameda Naval Air Station – Naval Air Station	2151 Ferry Point	Military Cleanup Site	Open –Inactive as of 7/8/2016
Alameda Naval Air Station – CAA 11A, Oil/Water Separator 163	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – Tarry Refinery Waste Site	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 7/31/2009
Alameda Naval Air Station – UST 015-1 through 015-3	2151 Ferry Point	Military Cleanup Site	Open – Site Assessment as of 1/2/2002
Alameda Naval Air Station – UST 163-1	1800 Orion Street	Military UST Site	Open –Verification Monitoring as of 1/25/2006
Cross Alameda Trail	0 Ralph Appezzato Parkway	Cleanup Program Site	Open – Remediation as of 4/19/2019
Alameda Naval Air Station – CAA A	Main Street	Military Cleanup Site	Open –Assessment and Interim Remedial Action as of 6/26/2013
Alameda Naval Air Station – IR Site 14	950 West Mall Square	Military Cleanup Site	Open –Remediation as of 3/8/2018
Alameda Naval Air Station – FL 163A	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 2/5/2016
Alameda Naval Air Station – FL 162	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Eligible for Closure as of 2/10/2016
Alameda Naval Air Station – FL 165	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 2/5/2016
Alameda Naval Air Station – FL 139A	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 12/16/2015

Site Name	Address	Type	Status
Alameda Naval Air Station – IR Site 32	950 West Mall Square	Military Cleanup Site	Open – Remediation as of 3/8/2018
Alameda Naval Air Station – FL 155A	2450 Saratoga Street, Suite 200	Military Cleanup Site	Open – Site Assessment as of 2/5/2016
Alameda Naval Air Station – Veteran Affairs Property IR Site 2	[not available]	Military Privatized Site	Open – Verification Monitoring as of 9/8/2016
Alameda Naval Air Station – IR Site 02	950 West Mall Square	Military Privatized Site	Open – Verification Monitoring as of 7/12/2019
Alameda Naval Air Station – IR Site 1	950 West Mall Square	Military Cleanup Site	Open – Verification Monitoring as of 3/1/2018

Source: California Department of Toxic Substances Control (EnviroStor) and State Water Resources Control Board (GeoTracker), May 2020.