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DRAFT
Skelly Residential Project
Initial Study/Mitigated Negative Declaration
City of Hercules, Contra Costa County, California

Prepared for:
City of Hercules
111 Civic Drive
Hercules, CA 94547
510.799.8248

Contact: Robert Reber, Community Development Director

Prepared by:
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597
925.357.2562

Contact: Mary Bean, Project Director
Tsui Li, Project Manager

Report Date: July 5, 2022

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List of Exhibits

ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos-containing material
ACTM	Airborne Toxics Control Measure
ADT	Average Daily Traffic
AERMOD	American Meteorological Society/EPA Regulatory Model
APN	Assessor's Parcel Number
AQP	Air Quality Plan
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BERD	California Built Environment Resource Directory
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe
BRA	Biological Resources Analysis
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CARE	Community Air Risk Evaluation
CBC	California Building Standards Code
CCTA	Contra Costa County Transportation Authority
CDF	California Department of Finance
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CGS	California Geological Survey
CH_4	methane
CHL	California Historic Landmarks List
CHPS	California Native Plant Society

CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPHI	California Points of Historical Interest
CRA	Cultural Resource Assessment
CRHR	California Register of Historical Resources
dB	decibel
dBA	A-weighted decibel
DBR	Daily Breathing Rate
DNL	day/night average sound level
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
EMFAC	Emissions Factors model
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
EV	electric vehicle
EVA	Emergency Vehicle Access
EVSE	electric vehicle supply equipment
FCS	FirstCarbon Solutions
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	Geographic Information System
gpd	gallons per day
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbons
HI	hazard index
HOA	Homeowner's Association

HPD	Hercules Police Department
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
in/sec	inch per second
IPCC	United Nations Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
ITE	Institute of Transportation Engineers
JPA	Joint Powers Authority
kW	kilowatts
kWh	kilowatt-hours
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
L_{dn}	day/night noise level
L_{eq}	equivalent sound level
LHMP	Local Hazard Mitigation Plan
L_{max}	maximum noise/sound level
LOS	Level of Service
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MIR	Maximally Impacted Sensitive Receptor
MM	Mitigation Measure
MMBtu	British Thermal Units
MND	Mitigated Negative Declaration
mph	miles per hour
MRZ	Mineral Resource Zone
MT	metric tons
MTC	Metropolitan Transportation Commission
MW	megawatts
MWh	megawatt-hours
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NESHAP	National Emission Standards for Air Pollution
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System

NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OEHHA	California Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
PFC	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PPV	peak particle velocity
PUC	Public Utilities Code
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
REL	Reference Exposure Level
ROG	reactive organic gases
RS-L	Residential Single-Family Low Density
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SF_6	sulfur hexafluoride
SLCP	Short-Lived Climate Pollutant
SR	State Route
SRA	State Responsibility Area
SWPPP	Storm Water Pollution Prevention Plan
TAC	toxic air contaminants
TAZ	traffic analysis zone
TCR	Tribal Cultural Resource
TIA	Traffic Impact Analysis
UCMP	University of California Museum of Paleontology
USACE	United States Army Corp of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
WCCUSD	West Contra Costa Unified School District
WEF	Wildlife Exclusion Fencing
WWTP	Wastewater Treatment Plant
ZEV	Zero-Emission Vehicle

SECTION 1: INTRODUCTION

1.1 - Purpose

The purpose of this Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) is to identify any potential environmental impacts that would result from implementation of the proposed Skelly Residential Project in the City of Hercules, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Hercules has discretionary authority over the proposed project and is the lead agency in the preparation of this Draft IS/MND. The intended use of this document is to evaluate the potential environmental effects of the proposed project pursuant to the requirements of CEQA, provide the basis for input from public agencies, organizations, and interested members of the public, and identify mitigation measures that can feasibly reduce potential impacts to below a level of significance.

The remainder of this section provides a brief description of the project location and the primary project characteristics. Section 2 includes an environmental checklist that provides an overview of the potential impacts that may result from project implementation, elaborates on the information contained in the environmental checklist, and provides justification for each checklist response, and Section 3 contains the List of Preparers.

1.2 - Project Location

The project site is in the City of Hercules, in Contra Costa County, California (Exhibit 1). The 7.44-acre project site is located at 215 Skelly and is bound by single-family homes to the north and east; Pinole Creek and two single-family homes located on separate lots to the west; and the Burlington Northern Santa Fe (BNSF) rail line to the south (Exhibit 2). The project site is associated with Assessor's Parcel Number (APN) 404-020-012. The project site is located on the United States Geological Survey (USGS) *Mare Island, California* 7.5-minute Topographical Quadrangle Map, Land Grant: Pinole (Martinez).

1.3 - Environmental Setting

The project site has been partially developed with structures as early as 1902. The site currently contains a single-family residence, 58 horse paddocks, a permitted 2,400-square-foot storage building, miscellaneous outbuildings, and a large metal clad shed that appear to be an abandoned relic of the site's previous use as a farm. Various pieces of mechanical equipment, a large tank, miscellaneous furniture, and piles of mulch, wood debris, and construction debris are strewn throughout the site (Exhibit 3a and 3b). The ground cover on-site consists of grass to waist-high vegetation, various mature and small trees and shrubs, and degraded asphaltic concrete and gravel driveways.

Two seasonal wetlands, comprising approximately 0.034 acres, are located along the northern boundary of the project site adjacent to an old horse stall and paddock. Furthermore, the project site has a 0.10-acre perennial drainage feature along the southern boundary. These three features

would not be graded or developed; they would be preserved in their entirety as part of the proposed project and would support the comprehensive stormwater management strategy for the proposed development.[1]

There are currently several utilities and easements on-site:

- an East Bay Municipal Utility District (EBMUD) easement along the northeast portion of the site;
- a cell tower and a 10-foot access easement on the southeast portion of the site; and
- a 40-foot Pacific Gas and Electric Company (PG&E) gas easement on the southeast corner of the site.

Surrounding land uses include single-family homes (north and east); the BNSF rail line, the Pinole Senior Center Building, and undeveloped land (south); and Pinole Creek and two single-family homes (west).

1.3.1 - Land Use and Zoning

The City of Hercules General Plan[2] and the Hercules Zoning Map[3] designate the project site as Residential Single-Family Low Density (RS-L). The General Plan states this land use designation is intended to provide areas with suburban single-family subdivisions. The RS-L designation allows for two to seven units per acre and a maximum building height of 35 feet. The minimum parcel size under the RS-L designation is 6,000 square feet, unless a smaller lot size is allowed with an approved development plan. With the approval of a Zoning Amendment and Planned Development Plan, the proposed project would be permitted to deviate from its zoning district standards in order to accommodate housing units within the site's allowed General Plan density.

1.4 - Project Description

The applicant is proposing the development of a residential subdivision consisting of 40 single-family residential lots on the approximately 7.44-acre project site (Exhibit 4). Development of the proposed project would involve the removal of approximately 76 existing trees, existing vegetation, and existing structures currently on the project site.

The proposed project would divide the project site into seven separate parcels (Parcels A-G) and 40 single-family residential lots. The residential lots would range from approximately 3,983 square feet to 6,880 square feet.

The proposed square footage and uses for the seven parcels are described as follows:

[1] Olberding Environmental, Inc. 2022. Biological Resources Analysis Report for the Skelly Property, City of Hercules, Contra Costa County, California. March.
[2] City of Hercules. 1998. City of Hercules General Plan – Land Use Element (Part 2). Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/155/636582802056930000. Accessed December 8, 2021.
[3] City of Hercules. 2019. Hercules Land Use and Zoning Map. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/193/637109735029770000. Accessed December 8, 2021.

Parcel A This parcel would be 58,557 square feet and would be a private street and Emergency Vehicle Access (EVA) road that connects to Skelly and circles the project site. The EVA road would vary in width in different places, ranging from 34 feet wide to 45 feet wide.

Parcel B This parcel would be a 16,957-square-foot bioretention area located at the northwest corner of the project site. This area contains the two seasonal wetlands described above in Section 1.3.

Parcel C Adjacent to Parcel B, this parcel would be 3,763 square feet and would serve as a second EVA road at the northwest corner of the project site, connecting the proposed private road to the adjacent residential area to the north of the project site. This road would be 25 feet wide.

Parcel D This parcel would be 20,858 square feet and would remain open space toward the southeast corner of the project site.

Parcel E Connected to Parcel D, this parcel would be 7,907 square feet with an existing cell tower at the southeast corner of the project site.

Parcel F This parcel would be 672 square feet located at the southwest corner of the project site and would provide a pedestrian connection to Pinole Creek Trail.

Parcel G This parcel would be 3,430 square feet and would be an EBMUD utility easement located along the northeast portion of the project site.

Additionally, three separate utility easements would exist along Parcel B, along Parcel G, and along the southern border of the project site.

The proposed project design was, in part, based on community feedback from the nearby neighborhoods. The proposed units would be comparably sized to the surrounding residential lots, with residences located to preserve neighbor privacy. Residences, which would all be two stories, would be similar in square footage to the adjacent homes along Pearce and Pavon. The maximum height of each single-family home would be 26 feet and 9 inches and would vary from 1,583 square feet to 2,311 square feet. Lot sizes would vary from 3,983 to 6,880 square feet. The proposed residential units would have front setbacks of at least 20 feet, rear setbacks of at least 27 feet, and minimum side setbacks of 5 feet. Project housing would be composed of three different architectural styles. Several fences, ranging in size from 3 to 6 feet tall, are planned between lots, and along the rear property lines throughout the project site.

Circulation

Vehicular access to the site would be provided by an extension of Skelly, which would also serve as an EVA road. A second EVA road would connect the proposed private road to the adjacent residential area to the north of the project site. Sidewalks would be provided on all new streets.

Parking

Each residence would have a two-car garage and a driveway with room to park two additional vehicles. On-street parking would also be provided within the project site to accommodate all resident and guest parking on-site.

Landscaping and Lighting

Each proposed residential unit would have a landscaped front yard including street trees, accent trees, groundcover, and shrubs (Exhibit 5). All plants would be selected for increased water conservation and low maintenance characteristics.

Lighting would be installed and would be subject to review and approval by the City of Hercules. The residential development would include 10 streetlights along Skelly and the Parcel A private road.

Utilities

Water

The EBMUD would provide potable water service to the project site. Under the existing conditions, an 8-inch water line is located along Skelly. The proposed 8-inch water lines would connect to the existing water line.

Wastewater

Wastewater is collected by sewer lines owned and maintained by the City of Hercules and treated at the Pinole/Hercules Wastewater Treatment Plant (WWTP), which is operated by the Pinole-Hercules Wastewater Joint Powers Authority (JPA). Under the existing conditions, an 8-inch sewer line is located along Rosti. The proposed 8-inch sewer lines would connect to the existing sewer line.

Energy and Natural Gas

Electricity and natural gas services would be provided by PG&E.

Stormwater

Stormwater would drain into a detention basin at the northwest corner of the project site.

1.4.1 - Project Phasing

Construction of the proposed project is expected to start in October 2023 and to conclude in October 2024. For the purposes of this analysis, construction of the proposed project was assumed to correspond to these dates. If the construction schedule moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements that would affect future construction equipment. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA Guidelines.

1.5 - Required Discretionary Approvals

As mentioned previously, the City of Hercules has discretionary authority over the proposed project and is the CEQA lead agency for the preparation of this Draft IS/MND. In order to implement the proposed project, the City would need to secure the following permits/approvals:

- Vesting Tentative Tract Map
- Lot Line Adjustment to expand the rear yard for emergency access
- Design Review Permit
- Planned Development Plan to deviate from selected zoning district standards to accommodate housing units within the property's allowed General Plan density
- Zoning Amendment to change text in Section 13.48 (Planned Development Plans) of the Hercules Municipal Code to alter the allowed deviations permitted with a Planned Development, by eliminating the limitations on the amount of a deviation

1.6 - Intended Uses of this Document

This Draft IS/MND has been prepared to determine the appropriate scope and level of detail required in completing the environmental analysis for the proposed project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed project. The Draft IS/MND will be circulated for a minimum of 30 days, during which comments concerning the analysis contained in the Draft IS/MND should be sent to:

Tim Rood, Community Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547
Phone: 510.799.8251
Email: trood@ci.hercules.ca.us

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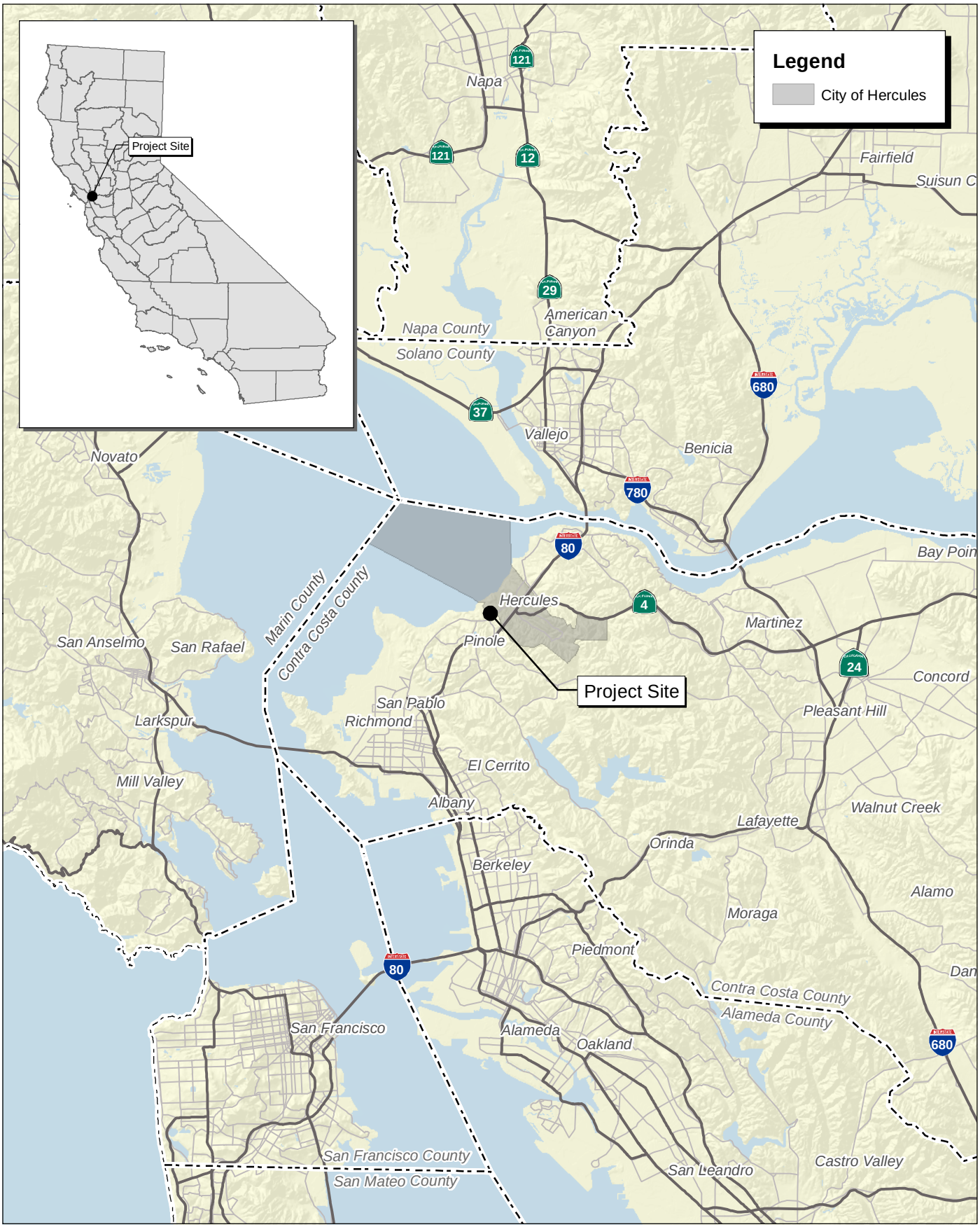

Source: Census 2000 Data, The California Spatial Information Library (CaSIL).

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5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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Source: bing Aerial Imagery. County of Contra Costa Parcel Data.

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1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map

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Photograph 1: Existing residence onsite.

Photograph 2: Existing vegetation.

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Photograph 3: Horse paddocks.

Photograph 4: Miscellaneous outbuildings.

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Source: R3 Studios, March 2022.

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Exhibit 4
Site Plan

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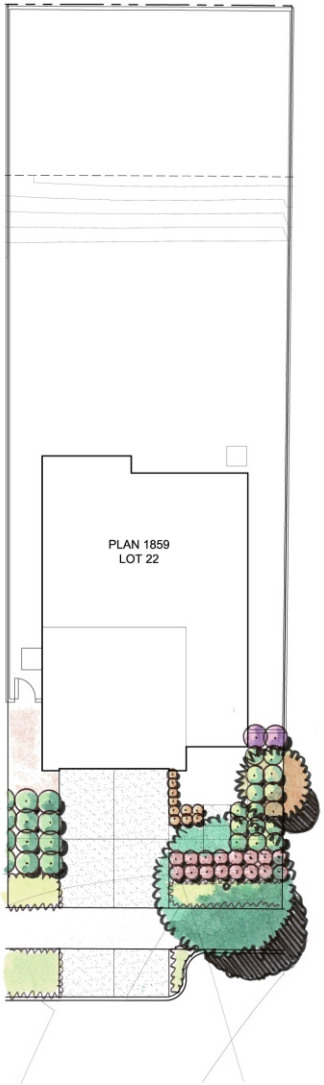

PLAN 1859 (LOT 22) Scale: 1"=10'-0"

KEY MAP NTS

PROPOSED PLANT PALETTE

BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER SIZE	MATURE SIZE DIMENSIONS WIDTH/HEIGHT	WULCOLS
STREET TREE:				
ULMUS PARVIFOLIA	ELM	24" BOX	20'x45'	M
ACCENT TREES:				
AESCULUS CALIFORNICA	BUCKEYE	48" BOX	25'x25'	VL
AGONIS FLEXUOSA	PEPPERMINT TREE	36" BOX	25'x30'	L
CHIONANTHUS RETUSUS	FRINGE TREE	36" BOX	30'x15'	M
LAGERSTROEMIA FAUREI SPECIES	CRAPE MYRTLE	36" BOX	15'x15'	L
LAURUS NOBILIS 'SARATOGA'	SWEET BAY	36" BOX	25'x20'	L
MAGNOLIA 'LITTLE GEM'	MAGNOLIA	36" BOX	15'x30'	M
MALUS SPECIES	FLOWERING CRAB APPLE	36" BOX	30'x18'	M
MAYTENUS BOARIA 'GREEN SHOWERS'	MAYTEN TREE	36" BOX	20'x25'	M
PRUNUS SPECIES	FLOWERING PLUM/CHERRY	36" BOX	20'x20'	L
TRISTANIA LAURINA 'ELEGANT'	WATER GUM	36" BOX	15'x25'	L
BACKGROUND/FOUNDATION SHRUB A:				
BUXUS SPECIES	BOXWOOD	5 GALLON	3'x3'	M
CALLISTEMON 'BETTER JOHN'	DWARF BOTTLBRUSH	5 GALLON	3'x3'	L
CISTUS SPECIES	ROCKROSE	5 GALLON	4'x4'	L
ESCALLONIA SPECIES	ESCALLONIA	5 GALLON	3'x3'	M
PITTOSPORUM SPECIES	NCN	5 GALLON	3'x3'	L
RHAPHIOLEPIS UMBELLATA 'MINOR'	NCN	5 GALLON	3'x3'	M
ROSMARINUS SPECIES	ROSEMARY	5 GALLON	4'x3'	L
INTERMEDIATE SHRUB B:				
ABELIA 'KALEIDISCOPE'	ABELIA	1 GALLON	3'-6"x30"	L
BERBERIS SPECIES	BARBERRY	1 GALLON	VARIES	M
COLEONEMA PULLCHELLUM 'SUNSET GOLD'	GOLDEN BREATH OF HEAVEN	1 GALLON	4'x2'	M
DIETES SPECIES	FORTNIGHT LILY	1 GALLON	3'x3'	L
GALVEZIA 'FIRECRACKER'	NCN	1 GALLON	3'x30"	L
LAVANDULA SPECIES	LAVENDER	1 GALLON	VARIES	L
LIRIOPE GIGANTEA	LILY TURF	1 GALLON	30"x30"	M
LOMANDRA SPECIES	NCN	1 GALLON	VARIES	L
MUHLENBERGIA SPECIES	DEER GRASS	1 GALLON	VARIES	L
PITTOSPORUM SPECIES	NCN	1 GALLON	3'x3'	L
PENNISETUM SPECIES	FOUNTAIN GRASS	1 GALLON	30"x30"	L
RHAPHIOLEPIS 'PINK DANCER'	NCN	1 GALLON	4'x30"	L
ROSA SPECIES	SHRUB ROSE	1 GALLON	VARIES	M
SALVIA GREGGII SPECIES	SAGE	1 GALLON	3'x30"	L
FOREGROUND SHRUB C:				
AGAPHANTHUS SPECIES	LILY OF THE NILE	1 GALLON	VARIES	M
CALLANDRINIA 'JAZZ TIME'	NCN	1 GALLON	30"x2'	L
DIANELLA SPECIES	FLAX LILY	1 GALLON	VARIES	L
HEMEROCALLIS SPECIES	EVERGREEN DAYLILY	1 GALLON	2'x2'	M
LAVANDULA SPECIES	LAVENDER	1 GALLON	VARIES	L
NANDINA SPECIES	HEAVENLY BAMBOO	1 GALLON	18"x3'	L
TEUCRIUM SPECIES	GERMANDER	1 GALLON	2'x2'	L
ZAUSCHNERIA CALIFORNICA	CALIFORNIA FUCHSIA	1 GALLON	30"x30"	L
GROUNDCOVER D:				
CONVOLVULUS SABATIUS	GROUND MORNING GLORY	1 GALLON	3'x18"	L
COPROSMA KIRKII 'PROSTATUS'	NCN	1 GALLON	3'x18"	L
GERANIUM SPECIES	GERANIUM	1 GALLON	VARIES	M
GREVILLEA LANIGERA 'COASTAL GEM'	NCN	1 GALLON	4'x2'	L
LANTANA SPECIES	LANTANA	1 GALLON	VARIES	L
LOROPETULUM 'PURPLE DIXIE'	FRINGE FLOWER	1 GALLON	4'x18"	L
ROSA SPECIES	GROUNDCOVER ROSE	2 GALLON	30"x18"	L
TEUCRIUM SPECIES	GERMANDER	1 GALLON	2'x2'	L
ZAUSCHNERIA CANUM 'EVERETT'S CHOICE'	EVERETT'S CALIFORNIA FUCHSIA	1 GALLON	3'x12"	L

NOTES

WATER CONSERVATION STATEMENT:

PLANT MATERIAL HAS BEEN CHOSEN FOR WATER CONSERVING AND REDUCED MAINTENANCE CHARACTERISTICS. A MAXIMUM OF 25% OF NON-TURF PLANS WILL HAVE A MODERATE IRRIGATION WATER REQUIREMENT AND A MINIMUM OF 50% OF NON-TURF PLANTS WILL HAVE A LOW TO VERY LOW IRRIGATION WATER REQUIREMENT.

Source: R3 Studios, February 2022.

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Exhibit 5
Typical Planting Plan

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SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected					
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.					
☐	Aesthetics	☐	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☐	Energy
☒	Geology/Soils	☐	Greenhouse Gas Emissions	☐	Hazards/Hazardous Materials
☐	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☒	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	☒	Transportation	☒	Tribal Cultural Resources
☐	Utilities/Services Systems	☐	Wildfire	☒	Mandatory Findings of Significance

Environmental Determination

On the basis of this initial evaluation:

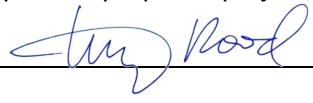
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: 6/29/2022 Signed: 

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.1 Aesthetics *Except as provided in Public Resources Code Section 21099, would the project:*				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Evaluation

Setting

The City's Open Space and Conservation Plan designates several public parks, open space, waterfronts, and trails, which are valuable as a visual resource. The City has a scenic setting in which the higher areas east of Interstate 80 (I-80) overlook the San Pablo Bay, with distant views of the coastal range in Marin County. Areas west of I-80, closer to the Bayfront, also have scenic views. In addition, the Highway 4 corridor through Franklin Canyon has scenic views of the valley and adjacent hillside grasslands and oak woodlands. The General Plan Circulation Element designates San Pablo Avenue and Highway 4 as scenic routes and provides implementation measures for development along them. The nearest City-designated scenic route to the project site is San Pablo Avenue, which is approximately 250 feet southeast of the project site.

Because of distance, intervening development, and topography, scenic resources like the San Pablo Bay (approximately 2,800 feet west of the project site) and Franklin Canyon (approximately 2 miles east of the project site) are not visible from the project site. Exhibit 6 shows the existing view of the project site from Skelly, which consists of trees, a paved path, and fencing, and provides a rendering of the proposed project from Skelly. The rendering shows that some on-site trees would be removed, Skelly would be extended, and proposed residences would be sited on both sides of Skelly. Exhibit 7 shows a simulation from San Pablo Avenue overlooking the project site.

Would the project:

a) Have a substantial adverse effect on a scenic vista?

No impact. As discussed above, scenic resources, which include San Pablo Bay and Franklin Canyon, are not visible from the project site. Just south of the project site is San Pablo Avenue, which is designated as a scenic route between Pinole Valley Road and Willow Avenue. According to General Plan Policy 3.B.3, Scenic Views, key 'public' views visible from scenic routes, as determined by the City, shall be preserved to the extent practical.[4] Under existing conditions, views available to travelers on San Pablo Avenue include railroad tracks, the City of Pinole monument, green space, trees, and the sky. The simulation in Exhibit 7 illustrates the views from San Pablo Avenue after the construction of the proposed project and the removal of eucalyptus trees on-site. Although the proposed project would remove up to 21 eucalyptus trees on-site, including eucalyptus trees that are currently visible from San Pablo Avenue, considering the typical speed of travel (25 miles per hour) along this roadway, the views for those traveling on San Pablo Avenue would be similar to the existing available views and therefore would not be significantly impacted. Therefore, because there are no scenic vistas visible from the project site, and because views from San Pablo Avenue would be similar to the existing views, there would be no impact.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State Scenic Highway?

No impact. There are no designated State Scenic Highways near the project site. The nearest officially designated State Scenic Highway is a portion of State Route (SR) 24, located approximately 11 miles south of the project site.[5] SR-37, located approximately 7 miles north of the project site, is eligible for designation as a State Scenic Highway. The proposed project is not visible from either SR-24 or SR-37. Therefore, the proposed project would not have the potential to damage any trees, rock outcroppings, or historic buildings visible from these roadways. Therefore, no impact would occur.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than significant impact. Degradation of visual character or quality requires substantial changes to the existing appearance of a site by constructing elements that are poorly designed or that conflict with the existing surroundings. The 7.44-acre project site is located at 215 Skelly and is bound by single-family homes to the north and east; Pinole Creek and two single-family homes located on separate lots to the west; and the BNSF rail line to the south (Exhibit 2). Therefore, the proposed project is considered to be located in an area that has been built out and is in an urbanized condition.

[4] City of Hercules. 2018. Circulation Element. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/173/636700226852830000. Accessed June 9, 2022.

[5] California Department of Transportation (Caltrans). 2019. Scenic Highway System Lists. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed March 7, 2022.

As described in Section 1.3.1, Land Use and Zoning, the RS-L designation allows for 2 to 7 units per acre. The proposed project would construct 40 units on 7.44 acres, which is approximately 5.4 units per acre, compliant with the land use designation. The project applicant is requesting the City to enter into a Development Agreement which would establish site-specific zoning for the project site. As such, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality and impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than significant impact. Excessive or inappropriately directed lighting can adversely affect nighttime views by reducing the ability to see the night sky and stars. Glare can be derived from unshielded or misdirected lighting sources. Reflective surfaces (i.e., polished metal) can also cause glare. Impacts associated with glare range from simple nuisance to potentially dangerous situations (i.e., if glare is directed into the eyes of motorists). Light-sensitive land uses in the area may include the residential neighborhoods to the north and east of the project site.

The project site currently contains a single-family residence, horse paddocks, a storage building, a large shed, and miscellaneous outbuildings. All of these buildings have been vacated and do not create sources of light. Existing sources of light and glare around the project site include car headlights from cars driving along Skelly as well as internal lighting from adjacent residences.

The proposed project would create new sources of light and glare from the project site. Police 13e of the General Plan requires new development to minimize light and glare impacts through measures such as screening of parking areas, the use of hooded lights to direct light towards the ground, and the use of less reflective building materials and windows. According to the Open Space Element of the General Plan, the City of Hercules evaluates the light and glare potential of new development on a parcel-specific basis.[6] Lighting would be installed to minimize light pollution and would be subject to review and approval by the City of Hercules to ensure that the new sources of light and glare comply with the General Plan. Additionally, the proposed project would be subject to the performance standards and design review as outlined in the City's zoning requirements that would further reduce light and glare impacts. The residential development would include 10 streetlights along Skelly and the Parcel A private road. The streetlights would be subject to the Street Lighting Standards in Section 10-2.621 of the Municipal Code.[7] Therefore, impacts would be less than significant.

Mitigation Measures

None required.

[6] City of Hercules. General Plan Open Space Element. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12571/636777935669470000. Accessed: June 14, 2022.

[7] City of Hercules. 2021. Hercules Municipal Code. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules10/Hercules102.html. Accessed March 8, 2022.

Existing View

Simulated View

Source: D.R. Horton, 2022. Applicant-provided Rendering/Visual Simulation.

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Exhibit 6
Rendering of Entry Street Scene from Skelly Road

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Existing View

Simulated View

Source: D.R. Horton, 2022. Applicant-provided Rendering/Visual Simulation.

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Exhibit 7
Visual Simulation of View from San Pablo Avenue

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Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.2 Agriculture and Forestry Resources *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Evaluation

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (ARB).

Setting

The DOC's Farmland Mapping and Monitoring Program (FMMP) produces maps that display farmland within the State. The California Department of Conservation Inventory Map confirms that the project site is classified as Urban and Built-Up Land.[8] There are no designated agricultural lands or forested areas within the immediate project area.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

No impact. As previously stated, the California Department of Conservation FMMP mapping for the City designates the project site as Urban and Built-Up Land.[9] The project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and, therefore, would not result in the conversion of such land to nonagricultural use. There would be no impact.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No impact. The Hercules General Plan and the Hercules Zoning Map designate the project site as RS-L. The General Plan states this land use designation is intended to provide areas with suburban single-family subdivisions.[10] Thus, the project site is not zoned for agricultural use and the site is not encumbered by a Williamson Act contract. Therefore, the proposed project would not conflict with existing agricultural zoning or with a Williamson Act contract. There would be no impact.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No impact. As previously mentioned, the project site is zoned as RS-L, which is intended for suburban single-family subdivisions. The project site is not zoned as forest land or timberland. Therefore, the proposed project would not conflict with existing zoning or cause rezoning of forest land or timberland. No impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No impact. According to the California Public Resources Code, "forest land" is 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.[11] The project site is zoned as RS-L and is not zoned for forest use. This condition precludes the possibility of a conflict with a

[8] California Department of Conservation. 2016. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed February 16, 2022.
[9] Ibid.
[10] City of Hercules. 1998. Hercules Title 13 – Zoning Ordinance. October 13.
[11] Thomson Reuters Westlaw. 2019. California Code, Public Resources Code 12220.

forest zoning designation. The project site does not contain nor is adjacent to any forested land. Furthermore, there is no designated forest land within the City. Therefore, there would be no loss of forest land or conversion of forest land to non-forest use as a result of the proposed project. No impact would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use?

No impact. As discussed throughout this section, the proposed project would not result in impacts to mapped farmland or forest land. The proposed project would not result in any other changes that could result in the conversion of farmland to non-agriculture uses or the conversion of forest land to non-forest uses because neither agricultural nor forest land exist on the project site or in its vicinity. Therefore, no impact would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.3 Air Quality *Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:*				
a) Conflict with or obstruct implementation of the applicable Air Quality Plan?	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors or) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Evaluation

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Setting

The proposed project is located in the City of Hercules, Contra Costa County. It is under the jurisdiction of the San Francisco Bay Area Air Basin (Air Basin), where the Bay Area Air Quality Management District (BAAQMD) regulates air quality. The United States Environmental Protection Agency (EPA) is responsible for identifying non-attainment and attainment areas for each criteria pollutant within the Air Basin. The Air Basin is designated non-attainment for State standards for 1-hour and 8-hour ozone, 24-hour respirable particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), annual PM_{10}, and annual fine particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$).[12]

The BAAQMD has adopted several air quality policies and plans to address regional air quality standards, the most recent of which is the 2017 Clean Air Plan. The 2017 Clean Air Plan was adopted in April of 2017 and serves as the regional Air Quality Plan (AQP) for the Air Basin for attaining National Ambient Air Quality Standards (NAAQS). The primary goals of the 2017 Clean Air Plan are to protect public health and protect the climate. The 2017 Clean Air Plan acknowledges that the BAAQMD's two stated goals of protection are closely related. As such, the 2017 Clean Air Plan

[12] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act. Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 19, 2022.

identifies a wide range of control measures intended to decrease both criteria pollutants and greenhouse gas (GHG) emissions. The EPA has established NAAQS for six of some of the most common air pollutants—carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as "criteria" air pollutants. Greenhouse gases (GHGs) are gaseous compounds in the atmosphere that are capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere. By increasing the heat in the atmosphere, GHGs are responsible for the greenhouse effect, which ultimately leads to global warming. The 2017 Clean Air Plan also accounts for projections of population growth provided by the Association of Bay Area Governments (ABAG) and Vehicle Miles Traveled (VMT) provided by the Metropolitan Transportation Commission (MTC) and identifies strategies to bring regional emissions into compliance with federal and State air quality standards. A project would be judged to conflict with or obstruct implementation of the 2017 Clean Air Plan if it would result in substantial new regional emissions not foreseen in the air quality planning process. This section will discuss the air quality impacts resulting from the proposed project.

Would the project:

a) Conflict with or obstruct implementation of the applicable Air Quality Plan?

Less than significant impact with mitigation incorporated. The BAAQMD does not provide a numerical threshold of significance for project-level consistency analysis with AQPs. Therefore, the following criteria will be used for determining a project's consistency with the AQP.[13]

- Criterion 1: Does the project support the primary goals of the AQP?
- Criterion 2: Does the project include applicable control measures from the AQP?
- Criterion 3: Does the project disrupt or hinder the implementation of any AQP control measures?

Criterion 1

The primary goals of the 2017 Clean Air Plan, the current AQP to date, are to:

- Attain air quality standards.
- Reduce population exposure to unhealthy air and protect public health in the Bay Area.
- Reduce GHG emissions and protect the climate.

A measure for determining whether the proposed project supports the primary goals of the AQP is if the proposed project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. This measure is determined by evaluating whether the proposed project was reasonably accounted for in the AQP.

The City's General Plan's Housing Element was updated in 2015,[14] which was prior to the BAAQMD's

[13] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 19, 2022.

[14] City of Hercules. 2015. Housing Element, 2015–2023. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/7801/636582802056930000. Accessed March 8, 2022.

adoption of the latest 2017 AQP. The project site is designated RS-L by the General Plan.

The General Plan states this land use designation is intended to provide areas with suburban single-family subdivisions. The RS-L designation allows for 2 to 7 units per acre and a maximum building height of 35 feet. The minimum parcel size under the RS-L designation is 6,000 square feet unless a smaller lot size is allowed with an approved development plan. With the approval of a Zoning Amendment and a Planned Development Plan per the Hercules Municipal Code Chapter 13-48,[15] the proposed project would develop 40 single-family houses on a 7.44-acre land, which translates to an average density of approximately 5.4 units per acre and would be consistent with its land use and zoning designation. As the BAAQMD's latest AQP utilizes growth projections from Plan Bay Area 2040, which relies on growth projections and land use patterns from local general plans and was adopted after the adoption of the City's General Plan, development of the project site has been reasonably accounted for in the BAAQMD's latest AQP.

Furthermore, as discussed in Impact 2.3(b), implementation of the proposed project would not exceed the BAAQMD operational or construction thresholds for criteria pollutants on an average daily or annual basis. Therefore, the proposed project would be consistent with the first criterion.

Criterion 2

The 2017 Clean Air Plan contains control measures to reduce air pollutants and GHGs at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2017 Clean Air Plan contains many control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary mobile sources. The 2017 Clean Air Plan also includes an account of the implementation status of control measures identified in the prior 2010 Clean Air Plan.

Table 1 lists the Clean Air Plan policies relevant to the proposed project and evaluates the consistency with the policies. As shown below, the proposed project would be consistent with applicable measures.

Table 1: Project Consistency with Applicable Clean Air Plan Control Measures

Control Measure	Project Consistency
Buildings Control Measures	
BL1: Green Buildings	**Consistent.** The proposed project would not conflict with implementation of this measure. Hercules Municipal Code Title 9 Chapter 2 Building Code incorporates all measures contained in the 2019 California Building Code and Chapter 16 Green Building Standards Code includes all measures from Title 24. The proposed project would be required to comply with the latest energy efficiency standards contained in these codes and incorporate applicable energy efficiency features designed to reduce project energy consumption. For example, the proposed project would

[15] City of Hercules. Municipal Code 13-48. Website: https://www.codepublishing.com/CA/Hercules/html/Hercules13/Hercules1348.html. Accessed March 8, 2022.

Control Measure	Project Consistency
	include low water-demand landscaping, which would reduce the amount of energy needed to provide outdoor water. The City would enforce these measures prior to issuance of demolition, grading, construction, or building permits, as applicable.
BL4: Urban Heat Island Mitigation	**Consistent.** The proposed project would include 16,957 square feet of landscaped and irrigated bioretention basin area and 4,432 square feet of landscaping on Parcel D (about one-eighth of the Parcel), which would serve to reduce stormwater runoff and would include the planting of shade trees; hence, it would also reduce the urban heat island effect.
Energy Control Measures	
EN1: Decarbonize Electricity Generation	**Consistent.** The project applicant would, at a minimum, be required to conform to the energy efficiency requirements of the California Building Standards Code (CBC), also known as Title 24. The 2019 Title 24 Standards are the current State building regulations which went into effect on January 1, 2020. Proposed buildings that would receive building permits after January 1, 2020, would be subject to the 2019 Title 24 Standards, including the proposed project. For example, the proposed project would install solar photovoltaic systems capable of generating 78,200 kWh of electricity per year as well as low-flow plumbing fixtures and irrigation heads compliant with Title 24 Standards.
EN2: Decrease Electricity Demand	
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	**Consistent.** The proposed project would include 16,957 square feet of landscaped and irrigated bioretention basin area and 4,432 square feet (about one-eighth of area) of landscaping on Parcel D. Plantings would include trees, shrubs, and groundcover.
WA3: Green Waste Diversion	**Consistent.** The waste service provider for the proposed project would be required to meet the Assembly Bill (AB) 341, Senate Bill (SB) 939, and SB 1374 requirements that require waste service providers to divert green waste. In addition, AB 1383 went into effect on January 1, 2022, which aims to reduce organic waste disposal by 75 percent by 2025 and to secure 20 percent of surplus edible food for the food insecure by 2025.[16] RecycleMore provides green waste service for the City of Hercules and would provide all new residents with green waste

[16] West Contra Costa Integrated Waste Management Authority (RecycleMore). 2022. New Recycling Law Starts January 1, 2022. November 8. Website: https://recyclemore.com/new-recycling-law-starts-january-1-2022/. Accessed April 12, 2022.

Control Measure	Project Consistency
	bins. All vegetation refuse generated during operations of the proposed project would be disposed of off-site.
WA4: Recycling and Waste Reduction	**Consistent:** The waste service provider for the proposed project would be required to meet the AB 341, SB 939, and SB 1374 requirements that require recyclable waste to be recycled and to remove 75 percent from the landfill waste stream by 2020.
Stationary Control Measures	
SS36: Particulate Matter from Trackout	**Consistent with mitigation.** BAAQMD's recommended mitigation measures for construction fugitive dust control would be implemented to reduce fugitive dust and trackout during project construction. In addition, mud and dirt that may be tracked out onto the nearby public roads during construction activities shall be removed promptly by the contractor based on BAAQMD's requirements. Therefore, the proposed project would be consistent with this measure after implementation of Mitigation Measure (MM) AIR-1.
SS37: Particulate Matter from Asphalt Operations	**Consistent.** Asphalt used during the construction of the proposed project would be subject to BAAQMD Regulation 8, Rule 15-Emulsified and Liquid Asphalts. Although this rule does not directly apply to the proposed project, it does limit the reactive organic gas (ROG) content of asphalt available for use during construction through regulating the sale and use of asphalt. By using asphalt from facilities that meet BAAQMD regulations, the proposed project would be consistent with this Clean Air Plan measure.
Transportation Control Measures	
TR9: Bicycle and Pedestrian Access and Facilities.	**Consistent.** There are existing sidewalks along the proposed project's frontage on Skelly that connects to the nearest arterial road. Several bus stops are located within a walking distance of the site, including the San Pablo Avenue and John Street Stop (500-foot walking distance to the project site) and San Pablo and Hercules Stop (2,600-foot walking distance to the project site) operated by Western Contra Costa Transit Authority. Therefore, the proposed project would not conflict with the BAAQMD's efforts to encourage planning for bicycle and pedestrian facilities.
Source: Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed March 8, 2022.	

As mentioned above in the discussion for Control Measure SS36, the proposed project would be required to implement MM AIR-1 to ensure that impacts from construction fugitive dust emissions are less than significant. As discussed under Impact b, in their 2017 CEQA Air Quality Guidelines, the BAAQMD identifies recommended significance thresholds for project construction. While the BAAQMD recommends a numeric threshold for emissions of ozone precursors, PM_{10} exhaust, and $PM_{2.5}$ exhaust, the BAAQMD recommends the inclusion of construction dust control BMPs to reduce fugitive dust emissions to less than significant levels. Projects that do not implement construction BMPs may result in potentially significant impacts related to construction fugitive dust. In accordance with this guidance, the proposed project would implement BAAQMD-recommended BMPs for fugitive dust control via the incorporation of MM AIR-1. The BMPs identified in MM AIR-1 include measures such as watering exposed non-paved surfaces at least two times per day, removing trackout from adjacent public roads at least once per day, and limiting vehicle speeds on unpaved surfaces to 15 miles per hour.

In summary, the proposed project would not conflict with any applicable measures under the 2017 Clean Air Plan after the implementation of MM AIR-1; therefore, the proposed project would be consistent with Criterion 2 after incorporation of mitigation.

Criterion 3

The proposed project would constitute the development and operation of 40 single-family houses and would not include any feature or design which could create conditions which prevent the extension of adjacent transit, pedestrian, or bicycle facilities. Therefore, the proposed project would not preclude the extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. As shown in Table 1 above, the proposed project would incorporate several AQP control measures as project design features, such as complying with energy efficiency standards contained in the 2019 California Building Code and maintaining landscaping across the project site. Considering this information, the proposed project would not disrupt or hinder implementation of any AQP control measures. The proposed project is therefore consistent with Criterion 3.

Summary

As addressed above, the proposed project would be consistent with all three criteria after the incorporation of MM AIR-1. Thus, the proposed project would not conflict with the 2017 Clean Air Plan. Therefore, impacts associated with conflicting with or obstructing implementation of the 2017 Clean Air Plan would be less than significant with mitigation.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?

Less than significant impact with mitigation incorporated. This impact is related to the cumulative effect of a proposed project's regional criteria pollutant emissions. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The non-attainment status of regional pollutants is a result of past and present development within the Air Basin, and this regional impact is a cumulative impact. Therefore, new development projects (such as the

proposed project) within the Air Basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in non-attainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable, when evaluated in combination with past, present, and future development projects.

Potential localized and regional impacts would result in exceedances of State or federal standards for nitrous oxide (NO_X), particulate matter (PM_{10} and $PM_{2.5}$), or carbon monoxide (CO). NO_X emissions are of concern because of potential health impacts from exposure to NO_X emissions during both construction and operation and as a precursor in the formation of airborne ozone. PM_{10} and $PM_{2.5}$ are of particular concern during construction because of the potential to emit exhaust emissions from the operation of off-road construction equipment and fugitive dust during earth-disturbing activities (construction fugitive dust). CO emissions are of particular concern during project operation because operational CO hotspots are related to increases in on-road vehicle congestion.

Reactive organic gases (ROG) emissions are also important because of their participation in the formation of ground-level ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children.

The cumulative analysis focuses on whether a specific project would result in cumulatively considerable emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that the proposed project's incremental effects would be cumulatively considerable. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the proposed project would result in regional emissions that exceed the BAAQMD regional thresholds of significance for construction and operations on a project level. The thresholds of significance represent the allowable amount of emissions each project can produce without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a proposed project that would not exceed the BAAQMD Thresholds of Significance on the project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. Construction and operational emissions are discussed separately below.

Construction Fugitive Dust

As previously mentioned, fugitive dust (PM_{10} and $PM_{2.5}$) would be generated during earthmoving activities but would largely remain localized near the project site.

The BAAQMD does not recommend a numerical threshold for fugitive dust particulate matter emissions. Instead, the BAAQMD bases the determination of significance for fugitive dust on considering the control measures to be implemented. If all appropriate emissions control measures are implemented for a project as recommended by the BAAQMD, then fugitive dust emissions during construction are not considered significant. As the proposed project would involve the disturbance of greater than one acre, the development and implementation of a Stormwater

Pollution Prevention Plan (SWPPP) during construction activities is reasonably expected to comply with existing regulations. The SWPPP would ensure the implementation of various dust control measures which are most appropriate for the project site. These measures may include, but would not be limited to, watering or seeding disturbed areas, covering stockpiles of dirt or aggregate, or other soil stabilization practices.

In addition, the BAAQMD recommends that all construction projects implement a series of mitigation measures which also include various dust control measures, such as watering disturbed areas daily and reducing vehicle speeds on unpaved roads. As such, the construction mitigation measures recommended by the BAAQMD are included herein as Mitigation Measure (MM) AIR-1 to ensure that adequate dust control measures are implemented at the project site, in combination with any additional dust control measures identified and implemented by the SWPPP for the proposed project. With the incorporation of MM AIR-1, short-term construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation would be less than significant for fugitive dust.

Construction Air Pollutant Emissions: ROG, NO_X, PM_{10}, and $PM_{2.5}$

The California Emissions Estimator Model (CalEEMod), Version 2020.4.0, was used to estimate the proposed project's construction emissions. CalEEMod provides a consistent platform for estimating construction and operational emissions from a wide variety of land use projects and is the model recommended by the BAAQMD for estimating project emissions. Estimated construction emissions are compared with the applicable thresholds of significance established by the BAAQMD to assess ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$ construction emissions to determine significance for this criterion.

Construction of the proposed project is expected to begin in 2023 and would last approximately 13 months. If the construction schedule moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements that would affect future construction equipment. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA Guidelines. For a more detailed description of the construction parameters used in estimating air pollutant emissions modeling, please refer to Appendix A.

The calculations of pollutant emissions from the construction equipment account for the type of equipment, horsepower, and load factors of the equipment, along with the duration of use. As the proposed project would introduce the new on-site sensitive receptors, for the purposes of the air dispersion modeling and health risk assessment contained under Impact 2.3(c), project construction was split into two modeling scenarios: one for construction activity occurring before the introduction of new sensitive receptors and one for construction activity occurring after the introduction of new sensitive receptors. Therefore, the "Building Construction (Pre-Receptors)" and "Architectural Coating (Pre-Receptors)" construction activities shown in Table 2 represent development of Phases 1 through 5 up until the anticipated introduction of the first on-site receptors, while the "Building Construction (Post-Receptors)" and "Architectural Coating (Post-Receptors)" construction activities represent development of Phases 2 through 5 after the anticipated introduction of the first on-site

receptors. Refer to Appendix A for more details on project construction modeling. Average daily construction emissions are compared with the BAAQMD's significance thresholds in Table 2.

Table 2: Construction Emissions

	Air Pollutants[1] (tons/year)			
Construction Activity	**ROG**	**NO_X**	**PM_{10} (Exhaust)**	**$PM_{2.5}$ (Exhaust)**
Demolition	0.02	0.18	0.01	0.01
Site Preparation (Site-Wide)	0.01	0.06	<0.01	<0.01
Grading (Site-Wide)	0.03	0.27	0.01	0.01
Building Construction (Model Homes)	<0.01	0.04	<0.01	<0.01
Paving (Interior Roadways and Foundations)	0.01	0.11	0.01	0.01
Architectural Coating (Pavement and Model Homes)	0.01	0.01	<0.01	<0.01
Building Construction (Pre-Receptors)	0.04	0.39	0.02	0.01
Architectural Coating (Pre-Receptors)	0.28	0.05	<0.01	<0.01
Building Construction (Post-Receptors)	0.04	0.42	0.02	0.02
Architectural Coating (Post-Receptors)	0.27	0.06	<0.01	<0.01
Total Emissions (tons)	**0.72**	**1.59**	**0.07**	**0.07**
Daily Average				
Total Emissions (lbs)	1,433	3,185	139	132
Average Daily Emissions (lbs/day)[2]	5.19	11.54	0.51	0.48
Significance Threshold (lbs/day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
lbs = pounds
NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
ROG = reactive organic gases
[1] Totals may not add up due to rounding. Calculations use unrounded totals.
[2] Calculated by dividing the total lbs of emissions by the total number of nonoverlapping working days of construction (276 workdays).

Construction Activity	Air Pollutants[1] (tons/year)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Source: CalEEMod Output (see Appendix A).				

As shown in Table 2, the construction emissions from all construction activities are well below the recommended thresholds of significance; therefore, project construction would have less than significant impact related to emissions of ROG, NO_X, exhaust PM_{10}, and exhaust $PM_{2.5}$. As previously discussed, the proposed project would implement MM AIR-1 for dust control to reduce potential impacts related to fugitive dust emissions during project construction. Therefore, proposed project construction would have a less than significant impact with mitigation incorporated.

Operational Emissions

Operational Air Pollutant Emissions: ROG, NO_X, PM_{10}, and $PM_{2.5}$

Operational emissions would include area, energy, and mobile sources. Area sources include emissions from architectural coatings, consumer products, and landscape equipment, while energy sources include emissions from the combustion of natural gas for water and space heating. Mobile sources include exhaust and road dust emissions from the vehicles that would travel to and from the project site. Pollutants of concern include ROG, NO_X, PM_{10}, and $PM_{2.5}$.

Project operations were analyzed starting in 2024, the first calendar year of potential operation. The major sources for proposed operational emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ include motor vehicle traffic, use of natural gas, and the occasional repainting of buildings.

The average daily and annual emissions are presented in Table 3. Operational emissions of the respective pollutants were calculated using CalEEMod, Version 2020.4.0. For detailed assumptions used to estimate emissions, see Appendix A.

Table 3: Operational Emissions (Unmitigated)

Emissions Source	Criteria Pollutants			
	ROG	NO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
Annual Emissions Summary (tons/year)				
Area	0.37	0.01	0.02	0.02
Energy	0.01	0.07	0.01	0.01
Mobile (Motor Vehicles)	0.16	0.18	0.32	0.09
Total Project Emissions	**0.79**	**0.60**	**0.46**	**0.11**
Thresholds of Significance	**10**	**10**	**15**	**10**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**
Average Daily Emissions Summary (lbs/day)				

Emissions Source	Criteria Pollutants			
	ROG	NO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
Project Emissions	1,586	1,203	917	222
Average Daily Project Emissions (lbs/day)[1]	**4.34**	**3.30**	**2.51**	**0.61**
Thresholds of Significance	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
lbs = pounds
NO_X = nitrous oxides.
PM_{10} = particulate matter 10 microns or less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter
ROG = reactive organic gases
[1] For average daily emissions, the proposed project is assumed to operate 365 days per year. Therefore, the annual tonnage of emissions is multiplied by 2,000 pounds per ton to identify total pounds of emissions and divided by 365 days per year to identify average daily emissions.
Source: CalEEMod Output (see Appendix A).

As shown in Table 3, the proposed project would not exceed the BAAQMD's Thresholds of Significance during operation, indicating that ongoing project operations would not be considered to have the potential to generate a significant quantity of air pollutants. Therefore, long-term operational impacts associated with criteria pollutant emissions generated by the proposed project would be less than significant.

Operational Carbon Monoxide Hotspot

The CO emissions from traffic generated by the proposed project are a concern at the local level. Congested intersections can result in the potential for high, localized concentrations of CO, known as a CO hotspot.

The BAAQMD recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The proposed project would result in a less than significant impact to air quality for local CO if all the following screening criteria are met:

1. The project is consistent with an applicable Congestion Management Program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; and
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As indicated in the Draft Traffic Impact Analysis (TIA) Report prepared for the proposed project,[17] no intersections impacted by the proposed project would experience traffic volumes of 44,000 or more vehicles per hour. The TIA analyzed two intersections, Hercules Avenue at Skelly and Hercules Avenue at San Pablo Avenue, for both the AM and PM peak-hour scenarios. According to the TIA, during existing conditions both intersections would experience the highest traffic volumes during the PM peak-hour, the volumes during which are provided below:

- Hercules Avenue at Skelly–392 vehicles per hour
- Hercules Avenue at San Pablo Avenue–2,664 vehicles per hour

As discussed in the TIA, the proposed project would generate 337 daily trips with 28 AM peak-hour and 38 PM peak-hour trips. As a result, the addition of the proposed project's 38 PM peak-hour trips at these intersections would equal an estimated 430 vehicles at the Hercules Avenue at Skelly and 2,702 vehicles at the Hercules Avenue at San Pablo Avenue intersection. Therefore, during existing conditions the addition of proposed project traffic volumes would not result in nearby intersections experiencing traffic volumes of 44,000 or more vehicles per hour.

According to the TIA, during cumulative conditions both intersections would experience the highest traffic volumes during the PM peak-hour:

- Hercules Avenue/Skelly–454 vehicles per hour
- Hercules Avenue/San Pablo Avenue–3,087 vehicles per hour

As a result, the addition of the proposed project's 38 PM peak-hour trips at these intersections would equal an estimated 492 vehicle at the Hercules Avenue at Skelly and 3,125 vehicles at the Hercules Avenue at San Pablo Avenue intersection. Therefore, during cumulative conditions, the addition of proposed project traffic volumes would not result in nearby intersections experiencing traffic volumes of 44,000 or more vehicles per hour.

Nonetheless, CO hotspots can still occur when a transportation facility's design or orientation prevents the adequate dispersion of CO emissions from vehicles, resulting in the accumulation of local CO concentrations. The design or orientation of a transportation facility that may prevent the dispersion of CO emissions include tunnels, parking garages, bridge underpasses, natural or urban canyons, below-grade roadways, or other features where vertical or horizontal atmospheric mixing is substantially limited. However, adjacent roadways that would receive new vehicle trips generated by the proposed project do not include transportation facilities where vertical or horizontal atmospheric mixing is substantially limited. Hercules Avenue, Skelly, and San Pablo Avenue, which are the nearby roadways that would receive vehicle trips generated by the proposed project, are all exposed surface roadways with none of the design features discussed above that could prevent atmospheric mixing.

[17] TKJM Transportation Consultants. 2022. Draft Traffic Impact Analysis for 215 Skelly Residential Project.

Finally, the proposed project would not result in any significant impacts related to transportation. As discussed in further detail in Section 2.17 Transportation, all studied roadway segments and intersections would operate at acceptable levels with traffic generated by the proposed project in combination with existing traffic levels. Therefore, the proposed project is considered consistent with the local Congestion Management Program. Therefore, based on the above criteria, the proposed project would not exceed the CO screening criteria and would have a less than significant impact related to CO.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact. The BAAQMD defines a sensitive receptor as the following: "Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas." As specified by the BAAQMD, health risk and hazard impacts should be analyzed for sensitive receptors within a 1,000-foot radius of the project site.[18] The closest existing sensitive receptors in each direction include the following:

- Pinole Senior Center Building, as close as 280 feet south of the project site.
- La Casita Bilingual Montessori School, including nearby outdoor play areas, as close as 220 feet southwest of the project site.
- Pinole Community Players, including nearby outdoor play areas, as close as 325 feet southwest of the project site.
- Saint Joseph Church (potential daycare), as close as 1,000 feet south of the project site.
- Single-family residences immediately adjacent to the project site to the west.
- Single-family residences immediately adjacent to the project site to the north.
- Loving Arms Family Daycare, as close as 260 feet north of the project site.
- Single-family residences immediately adjacent to the project site to the east.

The following four criteria were applied to determine the significance of project emissions to sensitive receptors. The proposed project is considered to have a potentially significant impact if:

- **Criterion 1:** Construction of the project would result in an exceedance of the health risk significance thresholds.
- **Criterion 2:** The cumulative health impact would result in an exceedance of the cumulative health risk significance thresholds.
- **Criterion 3:** Operation of the project would result in an exceedance of the health risk significance thresholds.

[18] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 19, 2022.

- **Criterion 4:** A CO hotspot assessment demonstrates that the project would result in the development of a CO hotspot that could cause an exceedance of the CO ambient air quality standards.

Criterion 1: Project Construction Toxic Air Pollutants

An assessment was made of the potential health impacts to surrounding sensitive receptors resulting from toxic air contaminants (TAC) emissions during construction. A summary of the assessment is provided below, while the detailed assessment is provided Appendix A.

Diesel particulate matter (DPM) has been identified by the ARB as a carcinogenic substance. Major sources of DPM include off-road construction equipment and heavy-duty delivery truck and worker activities. For purposes of this analysis, DPM is represented as exhaust emissions of $PM_{2.5}$.

Estimation of Construction DPM Emissions

Construction DPM emissions were estimated using CalEEMod, Version 2020.4.0, as described under the discussion for Impact 2.3(b). As presented in **Error! Reference source not found.**, the proposed project's construction is anticipated to occur from October 2023 through October 2024. Construction emissions were calculated for each construction activity, as displayed in Table 2. On-site and off-site emissions generated during project construction were modeled with a working schedule of 8 hours per day, 5 days per week.

Based on the analysis presented in this section, emissions were estimated for unmitigated project construction. Table 4 summarizes the emission rates of unmitigated DPM during construction of the proposed project, as analyzed for construction of the entire project.

Table 4: Project DPM Construction Emissions

Scenario	On-site DPM—Area (tons/year)	Off-site DPM—Road Segments (tons/year)[1]	Total Local DPM Emissions (tons/year)
Project Construction DPM (Pre-Receptors)	0.04488	0.00046	0.04534
Project Construction DPM (Post-Receptors)	0.02050	0.00006	0.02056

Notes:
DPM = diesel particulate matter
[1] The off-site emissions are adjusted to represent construction vehicle travel routes from within approximately 1,000 feet of the project site. Off-site emissions shown here do not reflect the 1,000-foot adjustment.
[2] Emissions herein do not reflect the application of any construction or operational mitigation measures.
Source: CalEEMod Output and Construction Health Risk Assessment Calculations; see Appendix A.

Estimation of Cancer Risks and Hazards

The BAAQMD has developed a set of guidelines for estimating cancer risks that provide adjustment factors that emphasize the increased sensitivities and susceptibility of young children to exposures

to TAC.[19,20] These adjustment factors include age-sensitivity weighting factors, age-specific daily breathing rates, and age-specific time-at-home factors. As shown in the AERMOD output files, the Maximally Impacted Sensitive Receptor (MIR) would be at a single-family residence immediately adjacent to the project site to the east. The following equations are drawn from the California Office of Environmental Health Hazard Assessment (OEHHA) Health Risk Assessment (HRA) guidelines and were adjusted with values identified for adjustment in the BAAQMD guidelines.

$$\text{Cancer Risk} = \text{CPF} \times \text{DOSEAIR} \times \text{ASP} \times \text{ED/AT} \times \text{FAH} \qquad \text{(EQ-1)}$$

Where:

Cancer Risk = Total individual excess cancer risk defined as the cancer risk a hypothetical individual faces if exposed to carcinogenic emissions from a particular source for specified exposure durations; this risk is defined as an excess risk because it is above and beyond the background cancer risk to the population; cancer risk is expressed in terms of risk per million exposed individuals.

CPF = Inhalation Cancer Potency Factor (1.1)
ASP = Age Sensitivity Factor (see Table 5)
ED = Exposure Duration (duration of construction activity)
AT = Averaging Time for lifetime cancer risk (70 years expressed in days)
FAH = Fraction of time At Home (see Table 5)

$$\text{DOSE}_{AIR} = C_{AIR} \times \text{DBR} \times \text{A} \times \text{EF} \qquad \text{(EQ-2)}$$

Where:

C_{AIR} = TAC concentration from air dispersion model ($\mu g/m^3$)
DBR = Daily Breathing Rate (see Table 5)
A = Inhalation Absorption factor (1)
EF = Exposure Frequency (see Table 5)

The BAAQMD- and OEHHB-recommended values for the various cancer risk parameters, shown in EQ-1 and EQ-2, are provided in Table 5.

Table 5: Exposure Assumptions for Cancer Risk Calculations

Receptor Type	Duration During Construction (Years)	Fraction of Time at Home (FAH)	Exposure Frequency (EF) (Days/Year)	Age Sensitivity Factors (ASF)	Daily Breathing Rate (DBR) (L/kg-day)
Residences[1]					
Infant Receptors					
Third Trimester	0.25	1	350	10	361
0 to 2 years	0.75	1	350	10	1,090

[19] Bay Area Air Quality Management District (BAAQMD). 2016. BAAQMD Air Toxics NSR Program Health Risk Assessment Guidelines. December. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/permit-modeling/hra_guidelines_12_7_2016_clean-pdf.pdf?la=en. Accessed April 13, 2022.

[20] Bay Area Air Quality Management District (BAAQMD). 2020. BAAQMD Health Risk Assessment Modeling Protocol. December. Website: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/baaqmd_hra_modeling_protocol_august_2020-pdf.pdf?la=en. Accessed April 13, 2022.

Receptor Type	Duration During Construction (Years)	Fraction of Time at Home (FAH)	Exposure Frequency (EF) (Days/Year)	Age Sensitivity Factors (ASF)	Daily Breathing Rate (DBR) (L/kg-day)
Child Receptors					
2 to 9 years	1	1	350	3	631
9 to 16 years	1	1	350	3	572
Adult Receptors					
16 to 30 years	1	0.73	350	1	261
30 to 70 years	1	0.73	350	1	233
Schools[2]					
Infant Receptors					
Third Trimester	0.25	1	250	10	361
0 to 2 years	0.75	1	250	10	1,090
Child Receptors					
2 to 9 years	1	1	250	3	861
9 to 16 years	1	1	250	3	745
Adult Receptors					
16 to 30 years	1	1	250	1	335
30 to 70 years	1	1	250	1	290
Daycares and Community Centers[2]					
Infant Receptors					
Third Trimester	0.25	1	350	10	361
0 to 2 years	0.75	1	350	10	1,090
Child Receptors					
2 to 9 years	1	1	350	3	861
9 to 16 years	1	1	350	3	745
Adult Receptors					
16 to 30 years	1	1	350	1	335
30 to 70 years	1	1	350	1	290

Receptor Type	Duration During Construction (Years)	Fraction of Time at Home (FAH)	Exposure Frequency (EF) (Days/Year)	Age Sensitivity Factors (ASF)	Daily Breathing Rate (DBR) (L/kg-day)

Notes:
L/kg-day = liters per kilogram body weight per day.
[1] The daily breathing rates recommended by the BAAQMD for residential receptors assume the 95th percentile breathing rates for all individuals less than 2 years of age and 80th percentile breathing rates for all older individuals. BAAQMD assumes residential receptors exposure occurs 24 hours per day for 350 days per year. BAAQMD further recommends applying the above FAH values to reflect the expected time the receptor spends at the residence.
[2] All school, daycare, and community center receptors utilize the 95th percentile daily breathing rates for their respective age groups.
Sources:
Bay Area Air Quality Management District (BAAQMD). 2016. BAAQMD Air Toxics NSR Program Health Risk Assessment Guidelines. December. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/permit-modeling/hra_guidelines_12_7_2016_clean-pdf.pdf?la=en. Accessed April 13, 2022.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. February. Website: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed April 13, 2022.

Estimation of Non-Cancer Chronic Hazards

TACs can also cause chronic (long-term) effects related to non-cancer illnesses, such as reproductive effects or birth defects, or adverse environmental effects. Non-cancer health risks are conveyed in terms of the hazard index (HI), a ratio of the predicted concentration of the facility's reported TAC emissions to a concentration considered acceptable to public health professionals. A significant risk is defined as an HI of 1 or greater. An HI of less than 1 indicates that no significant health risks are expected from the facility's TAC emissions. The relationship for the non-cancer hazards of TACs is given by the following equation:

$$HI = C_{ann}/REL$$

Where:

HI = Hazard Index: an expression of the potential for chronic non-cancer health risks
C_{ann} = Annual average TAC concentration ($\mu g/m^3$)
REL = Reference Exposure Level: the DPM concentration at which no adverse health effects are anticipated

Annual concentrations of DPM as predicted by the air dispersion model are used to estimate chronic non-cancer hazards. The OEHHA has defined a REL for DPM of 5 $\mu g/m^3$.

Estimation of Health Risks and Hazards from Project Construction

To assess impacts to off-site sensitive receptors, receptor locations within the American Meteorological Society/EPA Regulatory Model (AERMOD) were placed at locations of existing residences and schools located in the vicinity of the project boundary. As previously discussed, project construction is anticipated to start in October 2023 and conclude in October 2024. The following AERMOD modeling parameters were utilized to identify the DPM concentration at identified receptors.

1. Sensitive receptors (e.g., schools, daycare facilities, hospitals, care facilities, residences) in the immediate project vicinity are represented in the model with discrete Cartesian receptors at a flagpole height of 1.5 meters. For schools, daycares, and community centers, including any associated outdoor areas, a boundary of discrete receptors was placed around the perimeter of that land use to identify potential impacts at the closest point to the project site. The closest sensitive receptors to the project site represented in the air dispersion modeling include the following:
   - Pinole Senior Center Building, as close as 280 feet south of the project site.
   - La Casita Bilingual Montessori School, including nearby outdoor play areas, as close as 220 feet southwest of the project site.
   - Pinole Community Players, including nearby outdoor play areas, as close as 325 feet southwest of the project site.
   - Saint Joseph Church (potential daycare), as close as 1,000 feet south of the project site.
   - Single-family residences immediately adjacent to the project site to the west.
   - Single-family residences immediately adjacent to the project site to the north.
   - Loving Arms Family Daycare, as close as 260 feet north of the project site.
   - Single-family residences immediately adjacent to the project site to the east.
2. A nested Cartesian grid was placed in AERMOD with the following spacing parameters:
   - 20 meters spacing within the project site and up to 200 meters from the project site.
   - 50 meters spacing between 200 meters and 500 meters from the project site.
   - 100 meters spacing between 500 meters and 1,000 meters from the project site.
   - 200 meters spacing between 1,000 and 2,000 meters from the project site.
3. AERMOD's non-default regulatory dispersion option was selected. Among the dispersion control options available, the Fast All Sources option was selected.
4. The urban dispersion coefficient was used as greater than 50 percent of the surrounding three kilometers is developed.
5. Emissions were characterized in the model using various area and volume sources to represent different activities. The following describes the emission sources utilized in the model for each model scenario.
   - On-site construction activities are represented with one polygon area source across the entire project site.
   - Off-site construction hauling and vendor truck operation for project construction is represented with line volume sources on Skelly.

   Off-site emissions were adjusted to account for off-site emissions that would occur within 1,000 feet of the project site (see Off-Site $PM_{2.5}$ Exhaust Adjustment Sheet in Appendix A).
6. Meteorological data from the Napa County Airport Air Monitoring Station was used for lower atmospheric meteorological data. This station was selected as it is the closest monitoring station to the project site and it resembles physical site characteristics and elevation generally representative of the project site. The Oakland Airport Air Monitoring Station provides preprocessed meteorological data for upper atmospheric conditions in the region.

Both monitoring stations cover the years 2009-2014. The model used all years of available meteorological data.

The MIR during project construction were found at a residence immediately adjacent to the project site to the east. Table 6 presents a summary of the proposed project's construction cancer risk, chronic non-cancer hazard, and annual $PM_{2.5}$ concentration impacts at each MIR. For informational purposes, Table 6 also present risks and hazards associated with the maximum impacted school, daycare, and community center.

Table 6: Estimated Health Risks and Hazards During Project Construction—Unmitigated

Impact Scenario	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index5	Annual PM2.5 Concentration (mg/m3)
Residential MIR (Off-Site)[1]	6.21	0.01	0.05
Residential MIR (On-Site)[1]	3.46	0.01	0.06
School MIR[2]	0.12	<0.01	<0.01
Daycare MIR[3]	0.39	<0.01	<0.01
Community Center MIR[4]	0.05	<0.01	<0.01
BAAQMD Thresholds of Significance	**10**	**1**	**0.3**
Exceeds Individual Source Threshold?	**No**	**No**	**No**

Notes:
MIR = Maximally Impacted Sensitive Receptor
1 The Off-site Residential MIR represents a residence immediately adjacent to the project site to the east. The On-site Residential MIR represents on-site receptors which were introduced following the completion of Phase 1 of construction.
2 The School MIR represents the La Casitas Bilingual Montessori School and associated outdoor areas, as close as 220 feet southwest of the project site.
3 The Daycare MIR represents the Loving Arms Family Daycare, as close as 260 feet north of the project site.
4 The Community Center MIR represents the Pinole Community Players and associated outdoor areas, as close as 325 feet southwest of the project site.
2 Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the Reference Exposure Level (REL) of 5 $\mu g/m^3$.
Source: Appendix A.

As shown in Table 6, the residential MIR represents the MIR across all potentially impacted receptors, including school and daycare receptors, during project construction. As illustrated therein, the proposed project's construction DPM emissions would not exceed the BAAQMD's cancer risk, chronic non-cancer hazard index, and annual $PM_{2.5}$ thresholds of significance at either MIR. Therefore, the proposed project's construction emissions would not result in significant health impacts to nearby sensitive receptors.

Criterion 2: Cumulative Health Risk Assessment

The BAAQMD recommends assessing the potential cumulative impacts from sources of TACs within 1,000 feet of a project. For a project-level analysis, the BAAQMD provides several tools for use in screening potential sources of TACs. The BAAQMD-provided tools used to assess the potential cumulative impacts from TACs are described below:

- **Health Risks for Local Roadways.** The BAAQMD pre-calculated concentrations and the associated potential cancer risks and $PM_{2.5}$ concentration increases for each county within their jurisdiction for roadways that carry at least 30,000 average daily trips. For Community Air Risk Evaluation (CARE) Program areas, the BAAQMD also includes local roadways that meet BAAQMD's "major roadway" criteria of 10,000 vehicles or 1,000 trucks per day. The latest available screening tool is in the form of a Geographic Information System (GIS) raster file. As the proposed project is not located in a CARE area,[21] the BAAQMD-screening tool does not include local roadways that meet BAAQMD's "major roadway" criteria for the project area. Therefore, traffic volumes were retrieved for roadways within 1,000 feet of the project site experiencing between 10,000 and 30,000 daily vehicle trips and calculated for their associated health risks. Those results are added to and shown in Table 7.
- **Freeway Screening Analysis Tool**. The BAAQMD prepared a GIS tool that contains pre-estimated cancer risk and $PM_{2.5}$ concentration increases for highways within the Bay Area. The nearest freeways to the proposed project include SR-80, approximately 3,400 feet east of the project site.
- **Stationary Source Risk and Hazard Screening Tools**. The BAAQMD prepared a GIS tool with the location of permitted sources and provides a health risk calculator that estimates and refines screen-level cancer risk, a non-cancer health hazard index, and $PM_{2.5}$ concentrations using emissions data from BAAQMD's permitting database. [22] For each emissions source, the BAAQMD provides conservative estimates of cancer risk and $PM_{2.5}$ concentrations. Based on information from the GIS tool, one BAAQMD-permitted stationary sources exist within the vicinity of 1,000 feet of the project site.
- **Rail Screening Tools.** The BAAQMD prepared GIS tools that contain estimated cancer risks and $PM_{2.5}$ concentrations from railroad operations at any point within the Air Basin. One existing railway is immediately adjacent to the south side of the project boundary. No other railways are within 1,000 feet of the project site.

[21] Bay Area Air Quality Management District (BAAQMD). 2014. Community Air Risk Evaluation Program. Website: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program. Accessed March 8, 2022.

[22] Bay Area Air Quality Management District (BAAQMD). Permitted Stationary Sources Risk and Hazards. Permitted Stationary Sources Risk and Hazards. Website: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65. Accessed March 8, 2022.

Cumulative Health Risk Assessment at the Maximum Impacted Sensitive Receptor

A cumulative HRA was performed that examined the cumulative impacts of the proposed project's construction emissions and sources of TAC emissions within 1,000 feet of the project site.

The cumulative health risk results, including health risks from the existing stationary source, are summarized during project construction in Table 7. Cumulative health risk results shown therein are representative of the health risks to the MIR that would experience the highest concentration of pollutants, which represents the off-site residential MIR, as it would experience a greater potential impact on human health than any other previously identified MIR.

Table 7: Summary of the Cumulative Health Impacts at the MIR during Construction

Source/Impact Scenario	Source Type	Distance from MIR[1] (feet)	Cancer Risk (per million)	Chronic HI	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Project MIR					
Project Construction	Diesel Construction Equipment	–	6.21	0.01	0.05
Existing Stationary Sources (BAAQMD Facility Number)[2]					
The Pump House (ID 110796)	Gas Dispensing Facility	1,835	0.24	ND	0.00
Roadways					
Existing Local Roadway Network		–	0.11	ND	<0.01
San Pablo Avenue		270	2.84	ND	0.05
Rail					
Existing Rail Lines (Burlington Northern Santa)		–	11.71	ND	0.02
Freeways					
Existing Freeways (SR-80)		3,400	9.18	ND	0.18
Cumulative Health Risks					
Cumulative Maximum with Project DPM Emissions			**30.29**	**0.01**	**0.31**
BAAQMD's Cumulative Thresholds of Significance			**100**	**10**	**0.8**
Threshold Exceedance?			**No**	**No**	**No**

Notes:
HI = Hazard Index
MIR = Maximally Impacted Sensitive Receptor
ND = no data available
$\mu g/m^3$ = micrograms per cubic meter
[1] The MIR above represents the greatest impacted MIR, which is the residence immediately adjacent to the east of the project site.
[2] Assumes emissions remain constant with time.
Source: Appendix A.

As noted in Table 7, the cumulative impacts from the project construction and existing sources of TACs would be less than the BAAQMD's cumulative thresholds of significance. Thus, the cumulative health risk impacts from project construction would be less than significant.

Criterion 3: Operational Emissions

The proposed project would result in the development and operation of 40 single-family houses. As previously discussed under Impact 3.2(b), the proposed project would not result in a potential CO hotspot. As described in the TIA prepared for the proposed project, an estimated 377 daily vehicle trips would be generated by the proposed project.[23] As a residential development, it is anticipated that the proposed project would not generate noticeable heavy-duty vehicle trips.

Because the proposed project would generate 377 daily passenger vehicle trips and nearly all passenger vehicles are gasoline-fueled, the proposed project would not generate a significant amount of DPM emissions during operation; however, gasoline-fueled vehicles would still emit relatively small amounts of gasoline TACs such as benzene, isopentane, and toluene during project operation. Nonetheless, the potential cancer risks associated with non-diesel TACs emitted from gasoline vehicles in the San Francisco Bay Air Basin are substantially less than the potential cancer risks associated with DPM emissions[24] and are therefore not included in this analysis. Furthermore, these emissions would be dispersed throughout the local roadway network and would not solely be generated at the project site. Therefore, the proposed project would not result in significant health impacts to nearby sensitive receptors during operation.

Criterion 4: Carbon Monoxide Hotspot Assessment

As discussed in Impact 2.3(b), the proposed project would not generate sufficient vehicle traffic volumes during project operation to substantiate creating a CO hotspot. Therefore, this impact would be less than significant with regard to exposing sensitive receptors to substantial concentrations of CO emissions. As such, the proposed project would result in less than significant impacts related to exposing sensitive receptors to substantial pollutant concentrations.

Summary

As described above, the proposed project would not expose sensitive receptors at nearby residences, schools, daycares, or community centers to substantial pollutant concentrations during either construction or operations. Therefore, this impact would be less than significant.

d) Result in other emission (such as those leading to odors) adversely affecting a substantial number of people?

Less than significant impact. As stated in the BAAQMD 2017 Air Quality Guidelines, odors are generally regarded as an annoyance rather than a health hazard. The ability to detect odors varies considerably among the populations and is subjective. The BAAQMD does not have a recommended

[23] TKJM Transportation Consultants. 2022. Draft Traffic Impact Analysis for 215 Skelly Residential Project. Accessed March 7, 2022.
[24] California Air Resources Board (ARB). 2008. Health Risk Assessment for the Union Pacific Railroad Oakland Railyard. Website: https://ww2.arb.ca.gov/sites/default/files/classic//railyard/hra/up_oak_hra.pdf?_ga=2.229617876.913681903.1594937953-503090677.1594937953. Accessed March 8, 2022.

odor threshold for construction activities. However, the BAAQMD recommends operational screening criteria that are based on the distance between receptors and types of sources known to generate odors. For projects within the screening distances, the BAAQMD has the following threshold for project operations:

> An odor source with five or more confirmed complaints per year averaged over 3 years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3 [of the BAAQMD's guidance].

Two circumstances have the potential to cause odor impacts:

1. A source of odors is proposed to be located near existing or planned sensitive receptors, or
2. A sensitive receptor land use is proposed near an existing or planned source of odor.

Projects that would site an odor source or a receptor farther than the applicable screening distance, shown in Table 8 below, would not likely result in a significant odor impact.

Table 8: Odor Screening Distances

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Source: Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. April 19. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed March 8, 2022.	

Project Construction

Diesel exhaust and ROGs would be emitted during construction of the proposed project, which are objectionable to some; however, emissions would disperse rapidly from the project site and would be short-term and intermittent in duration and frequency. Therefore, project construction would not generate objectionable odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

Project Operation

While potential impacts from the environment on the project is not a specific CEQA issue, the BAAQMD recommends an evaluation of potential impacts from existing odor sources on land use projects that introduce new odor receptors. Land uses typically associated with odors include wastewater treatment facilities, waste disposal facilities, agricultural operations, or other operations listed in Table 8. Using Google Maps, three automobile body shops, one wastewater treatment facility, and three coffee shops were identified within the associated screening distances. Public records retrieved from the BAAQMD show that one odor complaint was filed for the Wastewater Treatment Facility during 2018 to 2021. The complaint was investigated by BAAQMD staff and no further complaint was filed. The number of complaints for this facility is below the BAAQMD's threshold as mentioned above. Therefore, the proposed project as a receptor during operation would not experience peculiar odor impacts from nearby sources.

The proposed project would construct 40 new single-family houses, whose operations could lead to odors from associated residential laundry cleaning, vehicle exhaust, outdoor cooking, and waste disposal. However, such odors generated by project operation would be small in quantity and duration and would not pose an objectionable odor impact to future and existing receptors.

To summarize, the proposed project as a source or receptor would not generate any peculiar emissions nor odors that adversely affect a substantial number of people. This impact would be less than significant.

Mitigation Measures

MM AIR-1 Implement BAAQMD Best Management Practices During Construction

The following dust control measures, as recommended by the Bay Area Air Quality Management District (BAAQMD), shall be included in the design of the proposed project and implemented during construction:

- All exposed non-paved surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and access roads) shall be watered at least two times per day and/or non-toxic soil stabilizers shall be applied to exposed non-paved surfaces.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered and/or shall maintain at least 2 feet of freeboard.
- All visible mud or dirt tracked out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes, as required by the California Airborne Toxics Control Measure (ACTM) Title 13, Section 2485 of California Code of Regulations. Clear signage regarding idling restrictions shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- The prime construction contractor shall post a publicly visible sign with the telephone number and person to contact regarding dust complaints. The City and the construction contractor shall take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.4 Biological Resources *Would the project:*				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

Environmental Evaluation

Setting

This section evaluates potential effects on biological resources that may result from project implementation. The analysis is based on the following references materials provided in Appendix B:

- Results from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California database searches.

- Biological Resources Analysis (BRA) prepared by Olberding Environmental, Inc.
- Arborist Report prepared by Trees, Bugs, Dirt Landscape Consulting and Training

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?

Less than significant with mitigation incorporated. For the purpose of this analysis, special-status species refers to all species formally listed as threatened and/or endangered under the following:

- Federal Endangered Species Act or the California Endangered Species Act (CESA).
- California Species of Special Concern, designated as Fully Protected by the CDFW and given a CNPS rank[25] or designated as special-status by city, county, or other reginal planning documents:
  - **Rank 1A**: Plants presumed extirpated in California and either rare or extinct elsewhere
  - **Rank 1B**: Plants Rare, Threatened, or Endangered in California and elsewhere
  - **Rank 2**: Plants rare, threatened, or endangered in California but more common elsewhere
  - **Rank 3**: Plants about which more information is needed
  - **Rank 4**: Watch List: Plants of limited distribution

Federal and State-listed threatened and/or endangered species are legally protected under Endangered Species Act/CESA. The designated special-status species listed by the CNPS have no direct legal protection but require an analysis of significance of potential impacts under CEQA Guidelines. Special-status plant and wildlife species typically occur in undeveloped areas. Although it is less likely, it is also possible for them to occur within developed areas.

A site visit was conducted by FirstCarbon Solutions (FCS) Biologist, Robert Carroll, on January 27, 2022, from 10:00 a.m. to 1:30 p.m. The site visit was conducted to confirm existing conditions on the project site as identified by Olberding Environmental, Inc. The project site is a former residence which contained barns and paddocks for horses and other livestock. The project site is bounded by dense residential developments to the north, west, and east; Pinole Creek to the southwest; and an active railroad line to the south.

There are six habitat types present on-site (Exhibit 8): developed (1.94 acre), ruderal grassland (4.40 acre), perennial drainage (0.10 acre), riparian woodland (0.17), eucalyptus woodland (0.86), and seasonal wetland (0.034 acre). The majority of project site is composed of ruderal grassland habitat; dominant vegetation observed within this area at the time of FCS's survey included wild oat (*Avena fatua*), barbed wild oat (*Avena barbata*), bindweed (*Convolvulus arvensis*), ripgut brome (*Bromus*

[25] All plants appearing on the CNPS List 1 or 2 are considered to meet the CEQA Guidelines Section 15830 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

diandrus), bristly ox-tongue (*Helminthotheca echioides*), soft chess (*Bromus hordeaceus*), and a mix of other non-native species.

Special-status Plant Species

A plant's potential to occur on the project site was based on presence of suitable habitats, soil types, and occurrences recorded by the CNPS Inventory of Rare and Endangered Plants of California and CNDDB within the Mare Island quadrangle and eight surrounding quadrangles.[26] Based on a database search of the CNDDB and CNPS Inventory of Rare and Endangered Plants of California, a total of 50 special-status plant species have been recorded with potential to occur within the region. Because of previous development and current disturbances at the project site, and/or lack of specific suitable habitat types and conditions (including edaphic conditions such as serpentine soils), it was determined that none are expected to occur within the project site and are therefore excluded from further analysis, see Table 2 of the BRA (Appendix B) for a species-specific discussion of all 50 special-status plant species.

Special-status Wildlife Species

The potential for wildlife to occur on the project site was based on the presence of suitable habitats and occurrences recorded by the CNDDB within the Mare Island quadrangle and eight surrounding quadrangles.[27] Sixty-three special-status wildlife species have been recorded with the potential to occur within greater vicinity of the project site, based on the CNDDB database search. Fifty-three of the 63 special-status wildlife species were determined either not likely to occur or to have no potential to occur due to absence of suitable habitat and/or site-specific habitat conditions and are therefore excluded from further analysis, see Table 2 of the BRA (Appendix B), which includes a species-specific discussion of all 63 special-status wildlife species.

Ten special-status wildlife species were determined to have at least a low potential to occur on-site or within disturbance distance: monarch butterfly (*Danaus plexippus);* nesting birds, including Red-tailed hawk (*Buteo jamaicensis)*, red-shouldered hawk (*Buteo lineatus)*, Cooper's hawk (*Accipiter cooperii),* and white-tailed kite (*Elanus leucurus)*; roosting bats, including pallid bat (*Antrozous pallidus)*, hoary bat (*Lasiurus cinereus)*, Townsend's big-eared bat (*Corynorhinus townsendii)*, silver-haired bat (*Lasionycteris noctivagans)*, and Yuma myotis (*Myotis yumanensis).* These 10 species are addressed in more detail below.

Roosting bats: pallid bat, hoary bat, Townsend's big-eared bat, silver-haired bat, and Yuma myotis

The project site contains vacant structures and trees that could provide suitable bat-roosting habitat. Potential direct and indirect impacts could occur to roosting bats due to removal of potential roosting habitat during project construction. These activities could potentially subject bats to risk of death or injury, and they are likely to avoid using the area until such construction activities have dissipated or ceased. Relocation, in turn, could cause hunger or stress among individual bats by displacing them into adjacent territories belonging to other individuals; impacts to these species would be significant. MM

[26] Oberding Environmental, Inc. 2022. Biological Resources Analysis. Skelly Property City of Hercules, California.
[27] Ibid.

BIO-1A would require a roosting bat survey to be conducted prior to the start of project construction to reduce potential impacts to roosting bats to less than significant levels. If bats are identified on the project site, MM BIO-1A details modifications to construction activity that would be taken by a qualified Biologist to exclude bats from the site.

Nesting birds: Red-tailed hawk, red-shouldered hawk, Cooper's hawk, and white-tailed kite

The trees and shrubs present throughout the project site and riparian vegetation adjacent to the perennial drainage provide nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA) and Fish and Game Code. These species include white-tailed kite, Cooper's hawk, and common songbirds (passerine birds). Construction activities could disturb nesting and breeding birds in trees and shrubs within and around the project site. Potential impacts on special-status and migratory birds that could result from construction and operation of the proposed project include destruction of eggs or occupied nests, mortality of young, and abandonment of nests with eggs or young birds prior to fledging. If MBTA and/or Fish and Game Code protected species' nests are present, impacts to these species would be significant. MM BIO-1B would require pre-construction surveys and modification of construction activities to avoid disturbance of any active nests, including active nests of special-status bird species, if present, which would reduce impacts to migratory and nesting birds and raptors protected under the MBTA and Fish and Game Code (including special-status species such as Cooper's hawk and white-tailed kite) to less than significant levels.

Monarch butterfly

The monarch butterfly (*Danaus plexippus)* ranges from southern Canada throughout the United States and Central and South America. Each autumn (August through October) monarch butterflies migrate south to overwinter in massive aggregations in coastal California and in central Mexico. Monarchs typically reach their overwintering grounds by September or October. Monarchs select overwintering sites based on protection from high wind and storms, absence of freezing temperatures, presence of spatially variable light, such as full sun, shade, and dappled sunlight, the presence of high humidity, and availability of water. These aggregations of sometimes millions of individuals can be found in sheltered groves of trees such as eucalyptus, Monterey, and cypress.[28] There is one recorded occurrence of a monarch butterfly overwintering site within 5 miles of the project site. A population of overwintering monarchs was observed within blue gum eucalyptus trees at Point Pinole Regional Shoreline from 1980 to 2011, approximately 3.5 miles west of the project site. The project site contains blue gum eucalyptus trees that could provide suitable habitat for overwintering monarch butterflies. For these reasons, the monarch butterfly has a moderate potential to occur on the project site. MM BIO-1C would require an overwintering survey and identifies actions to avoid disturbance of any active overwintering monarch butterflies on the project site to less than significant levels.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?

[28] Oberding Environmental, Inc. 2022. Biological Resources Analysis. Skelly Property, City of Hercules, California.

Less than significant with mitigation incorporated. The CDFW maintains a list of natural communities that classifies vegetation types found within the State of California and ranks them based on rarity. Communities ranked S1-S3 are considered sensitive natural communities.[29] Wetlands and riparian habitats are also typically considered sensitive natural communities and are addressed in the environmental review process. The project site contains two sensitive natural communities: Seasonal Wetlands and Riparian (Riparian Woodland/Perennial Drainage). Each of these natural communities are discussed below.

Riparian Habitat (Riparian Woodland and Perennial Drainage [0.27 acre])

The southern boundary of the project site contains a perennial drainage with associated riparian vegetation that covers 0.27 acres of the project site. Riparian vegetation communities are considered sensitive. The perennial drainage (0.10 acre/454 linear feet) contained standing water through most of its length. Dominate species observed included Himalayan blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*). This feature is surrounded by riparian woodland habitat. Riparian woodland habitat (0.17 acre) is dominated by a mix of both native and non-native trees such as blue gum eucalyptus, coast redwood, California buckeye, arroyo willow, and red willow.

Seasonal Wetlands (0.034 acre)

Two seasonal wetlands are located along the northern boundary of the project site. Dominant vegetation observed within this feature includes but is not limited to bristly ox-tongue, rabbitsfoot grass, salt grass (*Distichlis spicata*), and common plantain (*Plantago major*). Naturally occurring seasonal wetland plant communities can generally be considered sensitive natural communities. Proposed project construction would avoid direct impacts to on-site sensitive natural communities. While the proposed project would avoid direct impacts to sensitive natural communities, project construction has the potential for indirect (temporary) adverse impacts to on-site aquatic features. Potential temporary indirect impacts include pollutant loading, increased erosion and sedimentation, and debris dispersal. Implementation of MM BIO-2 would reduce potential indirect adverse impacts to on-site sensitive natural communities to less than significant levels by avoiding work in riparian habitat and creek areas, implementing erosion control measures, and the prevention of substances toxic to fish and wildlife from leaching into riparian habitat or sensitive natural communities.

c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

- **Less than significant with mitigation incorporated.** The project site contains two seasonal wetlands along the northern boundary of the project site. As noted above, project design would avoid direct impacts to State or federally protected wetlands. Implementation of MM BIO-2 would reduce potential indirect adverse impacts to State or federally protected wetlands to less than significant

[29] California Department of Fish and Wildlife (CDFW). 2022. Natural Communities List, Sacramento: California Department of Fish and Wildlife. Website: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Accessed April 12, 2022.

levels by avoiding work in wetland areas, implementing erosion control measures, and preventing substances toxic to fish and wildlife from leaching into wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of wildlife nursery sites?

Less than significant impact. The main wildlife corridor within the vicinity of the project site is Pinole Creek. Pinole Creek is located to the southwest and is separated from the project site by residential development and a public walking trail. The perennial drainage located on the southern boundary of the project site empties into Pinole Creek. Project construction would avoid directly or indirectly impacting either the perennial drainage or Pinole Creek by implementing MM BIO-2; which calls for avoiding work near aquatic features, preventing erosion (sedimentation or toxic substance runoff or leaching), and constructing wildlife exclusion fencing. Due to these avoidance and minimization measures, the proposed project is not expected to have any significant impacts on wildlife corridors or to impede the use of nursery sites, therefore project-related impacts would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than significant with mitigation incorporated. The removal of mature trees is regulated by the City of Hercules through Municipal Code Title 4, Chapter 15. Mature trees are defined by the City as any living tree with a trunk diameter measuring 12 inches or greater when measured at roughly 4.5 feet above the ground. According to the Arborist Report prepared for the proposed project (Appendix B), there are 95 trees on or near the project site that qualify as mature trees. Based on the proposed project's grading plan and the Municipal Code, the Arborist Report recommended the preservation of 18 trees and the removal of 76 trees.[30] Implementation of MM BIO-3, which requires a tree replacement plan prior to receiving a City tree removal permit, would ensure that the proposed project would not conflict with any local policies or ordinances and any impacts to mature trees would be reduced to less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

No Impact. The proposed project does not lie within the boundaries of any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan. Therefore, no impact would occur.

Mitigation Measures

MM BIO-1A Roosting Bats

[30] Trees, Bugs, Dirt Landscape Consulting and Training. 2022. Arborist Report, 215 Skelly – Hercules, CA. March.

- A qualified Biologist with relevant roosting bat experience shall conduct a survey for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat or bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.).
- Visual surveys shall include trees and structures within 500 feet of project construction activities (where accessible). Not more than 2 weeks prior to building demolition and/or tree removal, the project applicant shall ensure that a qualified Biologist (i.e., one familiar with the identification of bats and signs of bats) survey the trees and structures proposed for removal for the presence of roosting bats or evidence of bats. If no roosting bats or evidence of bats are found in the structure, removal may proceed. If the Biologist determines or presumes bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Structure and tree removal shall only commence after the Biologist verifies 7 to 10 days later that the exclusion methods have successfully prevented bats from returning. Bat exclusion shall only occur between February 15 and April 15, and from August 15 through October 30, to avoid impacts on non-volant (i.e., nonflying) individuals.

MM BIO-1B Protection of Active Bird Nests (includes pre-construction survey and implementation of avoidance buffer, if found).

- If the project requires trees to be removed during the nesting season (usually February through August), a pre-construction survey shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance (including tree removal) to determine whether or not active nests are present.
- If an active nest is located during pre-construction survey, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist shall delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and or yellow caution tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).

  The qualified Biologist shall monitor the active nest during construction activities to prevent any potential impacts that may result from the construction of the proposed project, until the young have fledged.

MM BIO-1C Overwintering Monarch Butterfly

Project activities such as vegetation removal, grading, or initial ground-disturbing activities shall be conducted between November 1 and July 31 (outside of the overwintering season) to the extent feasible. If such activities must be initiated during the overwintering season (August 1 through October 31), a pre-construction overwintering survey shall be conducted by a qualified Biologist no more than 7 days prior to vegetation removal, grading, or initial ground disturbance. The survey shall include the disturbance area and surrounding 250 feet to identify the location and status of any colonies that could potentially be affected either directly or indirectly by project activities. If no colonies are present, then project activities can commence as scheduled. If a colony is present, project construction shall cease immediately to avoid all direct and indirect impacts and report the presence of the colony to the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) and follow all recommendations provided by USFWS and CDFW.

MM BIO-2 Avoidance and Minimization Measures for On-Site Aquatic Features

- **No work within the Riparian Corridor and Creek Banks or Bed.** No work (including vegetation removal) shall take place within this area unless specifically permitted by California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), or United States Army Corp of Engineers (USACE).
- **Erosion Control**: At no time shall silt-laden runoff be allowed to enter on-site aquatic features and their associated habitats. Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from the project may enter these aquatic features. Best Management Practices (BMPs) to avoid erosion, uncontrolled stormwater runoff and bank deterioration shall be implemented, following the requirements of the proposed project's Stormwater Control Plan, and typically include silt fencing, coir rolls, and/or straw bale dikes.
- **Prevention of Toxic Substances/Pollution**. No substances toxic to fish and wildlife shall be discharged or allowed to leach into the aquatic features present on-site. Reasonable precautions to protect aquatic habitats from pollution with harmful materials (e.g., fuels, oils, lubricants, and solvents) shall be implemented. Specifically, all potentially hazardous materials shall be controlled, cleaned up, and properly disposed of in accordance with the project's water quality control permits and plans. Materials deleterious or toxic to fish and wildlife, including, but not limited to, asphalt, tires, concrete, construction materials, treated wood, and creosote containing materials, shall not be stockpiled within 150 feet any aquatic feature present on-site.
- **Wildlife Exclusion Fencing and Monitoring.** Wildlife Exclusion Fencing (WEF) shall be constructed around the entire perimeter of the project site and the northern riparian dripline associated with the perennial drainage, to prevent wildlife from entering the work area. A qualified Biologist shall be on-site to monitor the installation of WEF. WEF shall be in place and regularly maintained during project

implementation. Fencing shall be removed within 72 hours of completion of work, and temporarily impacted areas shall be restored to pre-project conditions.

MM BIO-3 Protection of Mature Trees (Tree Inventory and Replacement Plan)

- The project applicant shall adhere to the requirements of the City's tree ordinance (Title 4, Chapter 15), which includes a submittal of a Tree Replacement Plan to the City prior to the removal of trees and/or prior to the issuance of a demolition or grading permit. Prior to the submission of the Tree Replacement Plan, a certified arborist shall conduct a Tree Inventory to determine the number and type of trees scheduled to be removed.
- Following the completion of the Tree Inventory, a certified arborist shall complete the Tree Replacement Plan and shall designate the approximate locations, number, and sizes of trees to be planted. The Tree Replacement Plan shall include a minimum 1:1 replacement ratio for City-protected trees impacted by project construction.

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Source: Olberding Environmental, 12/3/2020.

FIRSTCARBON SOLUTIONS™

Exhibit 8
Habitat Map

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Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.5 Cultural Resources and Tribal Cultural Resources *Would the project:*				
a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
Would the project 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:				
d) 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	☐	☒	☐	☐
e) 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Environmental Evaluation

Setting

This section describes the existing cultural and tribal cultural resources (TCRs) setting and potential effects from the proposed project implementation on the project site and its surrounding area. This section is based on a Phase I Cultural Resources Assessment (Phase I CRA) prepared by FCS on April 7, 2022, and a Historical Built Environment Assessment prepared by South Environmental on March 10, 2022. Descriptions and analysis in this section are also based on information provided by the California Native American Heritage Commission (NAHC), Northwest Information Center (NWIC), the current inventories of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historic Landmarks (CHL) list, California Points of Historical Interest (CPHI) list, and the California Built Environment Resource Directory (BERD). Non-confidential records search results and other correspondence are included in Appendix C.

Northwest Information Center Records Search

On January 12, 2022, a records search for the project site and a 0.5-mile search radius was conducted at the NWIC located at Sonoma State University in Rohnert Park, California. The purpose of this review was to access existing cultural resource survey reports, archaeological site records, historical aerial photographs, and historical maps to evaluate whether any previously documented prehistoric or historical archaeological sites, architectural resources, cultural landscapes, or other resources exist within or near the project site.

The results of the records search indicated that there are no recorded cultural resources located within the project site. However, 12 resources (four prehistoric and eight historic) have been recorded within 0.5 mile of the project site. In addition, four area-specific survey reports are on file with the NWIC for the 0.5-mile search radius; two reports (S-001128 and S-036815) address the project site, indicating that the project site has previously been surveyed for cultural resources. A records search map identifying the proposed project boundaries and 0.5-mile search radius and the relevant non-confidential records search results are included in Appendix C.

Pedestrian Survey

On January 20, 2022, FCS conducted a pedestrian survey for unrecorded cultural resources within the project site. The survey began in the northeast corner of the project site and moved east, using north–south transects spaced at 15-meter intervals whenever possible. All areas of proposed development were closely inspected for culturally modified soils or other indicators of potential historic or prehistoric resources. All areas of the exposed ground surface were examined for prehistoric artifacts (e.g., fire-affected rock, milling tools, flaked stone tools, tool-making debris, ceramics), soil discoloration and depressions that might indicate the presence of a cultural midden, faunal, and human osteological remains, and features indicative of the former presence of structures or buildings (e.g., postholes, standing exterior walls, foundations) or historical debris (e.g., glass, metal, ceramics). In addition, the project site was inspected for culturally modified soils or other indicators of potential historic or prehistoric resources. This includes raw materials commonly used in the manufacture of tools such as obsidian, Franciscan chert, etc.

Because of vegetation, visibility of native soils was less than 5 percent. Native soils were most clearly visible in artificial cuts and in areas where bioturbation had exposed subsurface soils. Other sections of poor visibility were intermittently inspected using a hand trowel. Visible observed soils were composed of dark brown loam interspersed with small (2-3 cm) pebbles consisting of quartz, schist, and basalt. No prehistoric artifacts, cultural resources, or raw materials commonly used in the manufacture of tools (e.g., obsidian, Franciscan chert, etc.) were found within the project site.

Close inspection of structures at the site, however, revealed the presence of structures over 45 years in age. Approximately two weeks before the pedestrian survey, two of the structures in the central portion of the project site were extensively damaged by a man-made fire. Pedestrian survey photos can be found in Appendix C.

Native American Heritage Commission

On December 20, 2021, FCS sent a request to the NAHC in an effort to determine whether any sacred sites are listed on its Sacred Lands File for the project site. A response was received on March 11, 2022, indicating that the Sacred Lands File search failed to identify and recorded Native American cultural resources within the project site. The NAHC included a list of seven tribal representatives that may offer additional information regarding the proposed project. To ensure that all Native American knowledge and concerns over potential TCRs that may be affected by implementation of the proposed project are addressed, a letter containing proposed project information and requesting additional information was sent to each tribal representative on March 11, 2022. On March 23, 2022, a response was received from the Confederate Villages of Lisjan Tribe requesting results from the NWIC. This information was provided to the tribe on April 6, 2022. The Tribe replied on April 20, 2022, indicating that the Tribe has no further information to supply about the proposed site for this plan. No other responses have been received to date. Correspondence related to the NAHC record searches and tribal representatives can be found in Appendix C.

Historic Built -Assessment

The term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code [PRC] §5020.1(j)). One potentially significant historic built-environment resource over 50 years old was identified within the project site: the previously identified Ellerhorst Home (P-07-001005), which consists of the main residence built, c. 1873, along with several other outbuildings and structures. The entire property was evaluated for historical significance on the appropriate set of California Department of Parks and Recreation (DPR) forms in consideration of CRHR criteria and integrity requirements. Although the property has important historical associations with early settlement patterns and significant individuals in Hercules, a recent fire destroyed much of the main residence such that the property can no longer convey these important associations. Therefore, as a result of compromised integrity, the property was found ineligible for the CRHR or NRHP, and should not be considered a significant historic resource under CEQA. The built environment assessment report can be found in Appendix C.

Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?

No impact. CEQA Guidelines Section 15064.5 defines "historical resources" as resources listed in the CRHR or a local register, determined significant by the lead agency, or determined to be eligible by the California Historical Resources Commission for listing in the CRHR. The criteria for eligibility are generally set by the National Historic Preservation Act of 1966, which established the NRHP, and which recognizes properties that are significant at the federal, State, and local levels. To be eligible for listing in the NRHP and CRHR, a district, site, building, structure, or object must possess integrity of location, design, setting, materials, workmanship, feeling, and association relative to American

history, architecture, archaeology, engineering, or culture.[31] In addition, unless the property possesses exceptional significance, it must be at least 50 years old to be eligible.

The records search conducted at the NWIC determined that there are eight historic-era resources within a 0.5-mile radius of the project site, none of which are located within the project boundaries. The BERD and pedestrian survey identified a potentially significant historic built-environment resource (the Ellerhorst Home: P-07-001005), however a Historic Built Environment Assessment conducted by South Environmental determined the resource was not eligible for the CRHR or NRHP, and therefore, should not be considered a significant historic resource under CEQA.

The project site does not contain any buildings, structures, or objects that could potentially qualify as historical resources under CEQA. Therefore, there would be no impacts to historical resources.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than significant impact with mitigation incorporated. Section 15064.5 of the CEQA Guidelines defines significant archaeological resources as resources that meet the criteria for historical resources, as discussed above, or resources that constitute unique archaeological resources. A project-related significant adverse effect could occur if a project were to affect archaeological resources that fall under either of these categories.

Although the results from the NWIC indicate that there are no recorded archaeological resources within the project site, four prehistoric archaeological resources have been recorded within a 0.5 mile radius of the site. Additionally, poor soil visibility during the pedestrian field survey and the presence of a historic-era homestead dating to 1873 on the property increase the possibility that undiscovered archaeological resources may be encountered and impacted by construction activities. Archaeological resources can include but are not limited to stone, bone, wood, or shell artifacts or features, including hearths and structural elements. Damage or destruction of these resources would constitute a potentially significant impact.

Therefore, MM CUL-1, requires that a qualified Archaeologist be present during the demolition of buildings at the site, grubbing and ground clearance, and during initial grading and project-related ground disturbance. Furthermore, MM CUL-1 sets forth the steps to be taken should any significant cultural resources be discovered during construction activities. Implementation of MM CUL-1 would ensure that potential impacts to archaeological resources are reduced to a less than significant level.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than significant impact with mitigation incorporated. No human remains or cemeteries are known to exist within or near the project site. While it is unlikely that human remains exist within or near the project site, there is always a possibility that subsurface construction activities associated

[31] National Register of Historic Places (NRHP). 2021. Publications of the National Register of Historic Places. Website: https://www.nps.gov/subjects/nationalregister/publications.htm. Accessed May 1, 2021.

with the proposed project, such as grading or trenching, could potentially damage or destroy previously undiscovered human remains.

In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Section 5097.98 must be followed. MM CUL-2 further specifies the procedures to follow in the event human remains are uncovered. Along with compliance with required guidelines and statutes, implementation of MM CUL-2 would reduce potential impacts to human remains to a less than significant level.

Tribal Cultural Resources

Would the project 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:

d) 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

Less than significant with mitigation incorporated. A review of the CRHR, local registers of historical resources, the NWIC records search results, and NAHC Sacred Lands File search results failed to identify any previously listed TCRs that may be adversely affected by the proposed project. However, should any undiscovered TCRs be encountered during project construction, implementation of MM CUL-1 through MM CUL-2, would reduce potential impacts to a less than significant level.

e) 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than significant with mitigation incorporated. FCS conducted tribal outreach with the seven tribal representatives identified by the NAHC. In compliance with AB 52, the City of Hercules distributed letters to Native American tribes that have previously requested notification for AB 52 consultation, notifying each tribe of the opportunity to consult with the City of Hercules regarding the proposed project. At the time of this publication, no requests for consultation have been received. Consultation letters were mailed on April 12, 2022. While the City of Hercules has not identified any additional significant TCRs meeting the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, should any undiscovered TCRs be encountered during project construction, implementation of MM CUL-1 through MM CUL-2, would reduce potential impacts to a less than significant level.

Mitigation Measures

MM CUL-1 An Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology shall be present during the demolition of buildings at the

site, grubbing and ground clearance, and during initial grading and project-related ground disturbance. Should exposed soils indicate archaeological resources may be present, archaeological monitoring of all project related ground disturbance will continue as determined necessary by the Archaeologist. In the event that buried cultural resources are discovered during construction, operations shall stop within a 100-foot radius of the find and a qualified Archaeologist shall be consulted to determine whether the resource requires further study. The qualified Archaeologist shall make recommendations to the lead agency on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Potentially significant cultural resources consist of, but are not limited to, stone, bone, fossils, wood, or shell artifacts or features, including hearths, structural remains, or historical dumpsites. Any previously undiscovered resources found during construction within the project site should be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA Guidelines.

If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the lead agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the lead agency approves the measures to protect these resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the lead agency where they would be afforded long-term preservation to allow future scientific study.

MM CUL-2 Should previously unknown buried human remains be discovered during construction of the proposed project, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed.

In the event of an accidental discovery or recognition of any human remains, Public Resources Code Section 5097.98 must be followed. In this instance, once project-related earthmoving begins, and if there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1) There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. If the Coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of

the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, as provided in Public Resources Code Section 5097.98, or

2) Where the following conditions occur, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project area in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendant, or the most likely descendant failed to make a recommendation within 48 hours after being notified by the Commission;
   - The descendant identified fails to make a recommendation; or
   - The landowner or his authorized representative rejects the recommendation of the descendant and mediation by the NAHC fails to provide measures acceptable to the landowner.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.6 Energy *Would the project:*				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Environmental Evaluation

Setting

Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW)[32] or megawatts (MW),[33] or natural gas measured in US Therms.[34] Electricity is used primarily for lighting, appliances, and other uses associated with the proposed project. Natural gas is used primarily for space and water heating, when applicable. This section discusses how the proposed project is consistent with the significance thresholds contained in Appendix G of the CEQA Guidelines.

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than significant impact.

The anticipated construction schedule for the proposed project was assumed to begin in 2023 and last approximately 13 months. Should the construction schedule be delayed to later years, construction energy demand would likely decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment. The proposed project would require demolition, site preparation, grading, building construction, architectural coating, and paving activities. Project construction would require energy for the manufacture and transportation of building materials, preparation of the site (e.g., site clearing, and grading), and the actual construction of the building. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks.

[32] 1 kW = 1,000 watts; A watt is a derived unit of power that measure rate of energy conversion. 1 watt is equivalent to work being done at a rate of 1 joule of energy per second. In electrical terms, 1 watt is the power dissipated by a current of 1 ampere flowing across a resistance of 1 volt.

[33] 1 MW = 1 million watts

[34] A unit for quantity of heat that equals 100,000 British thermal units. A British thermal unit is the quantity of heat required to raise the temperature of 1 pound of liquid water 1 degree Fahrenheit at a constant pressure of 1 atmosphere.

The types of on-site equipment used during construction of the proposed project could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, frontend loaders, forklifts, and cranes. Construction equipment is estimated to consume a total of 24,300 gallons of diesel fuel over the entire construction duration (Appendix A).

Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project site was based on (1) the projected number of trips the proposed project would generate during construction, (2) average trip distances by trip type, and (3) fuel efficiencies estimated in the ARB Emissions Factors model (EMFAC) mobile source emission model. The specific parameters used to estimate fuel usage are included in Appendix A. In total, the proposed project is estimated to generate 182,808 VMT and a combined 8,254 gallons of gasoline and diesel for vehicle travel during construction.

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. Singlewide mobile office trailers, which are commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. A typical 720-square-foot office trailer would consume approximately 6,555 kilowatt-hours (kWh) during the 13-month construction (Appendix A).

The proposed project's construction is not anticipated to result in unusually high energy use. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. Similarly, compliance with State regulations would limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. Additionally, the overall construction schedule and process is already designed to be efficient to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for future efficiency gains during construction are limited. Therefore, it is anticipated that construction of the proposed project would not result in wasteful, inefficient, and unnecessary energy consumption, and energy impacts during construction would be less than significant.

Operation

The proposed project would consume energy as part of building operations and transportation activities. Energy consumption of the proposed project is summarized in Table 9.

Table 9: Annual Project Energy Consumption

Energy Consumption Activity	Annual Consumption
Electricity Consumption	256,033 kWh/year
Natural Gas Consumption	1,540,000 kBTU/year
Total Fuel Consumption	29,686 gallons/year

Energy Consumption Activity	Annual Consumption
Notes: kBTU = kilo-British Thermal Unit kWh = kilowatt-hour Source: Appendix A	

Unmitigated operation of the proposed project would consume an estimated 256,033 kWh of electricity and an estimated 1,540,000 kilo-British Thermal Unit (kBTU) of natural gas on an annual basis. The proposed project would be considered to result in a potentially significant impact if it would result in wasteful, inefficient, or unnecessary consumption of energy resources. Considering the guidance provided by Appendix F of the CEQA Guidelines and the Appellate Court decision in *League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) 75 Cal.App.5th 63, 164-168, the proposed project would be considered to result in wasteful, inefficient, or unnecessary consumption of energy resources if it would conflict with the following energy conservation goals:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas, or oil; and
- Increasing reliance on renewable energy sources.

Decreasing Overall Per Capita Energy Consumption

The TIA determined that the countywide[35] residential VMT per capita generated by the Contra Costa Transportation Analysis travel demand model is 19.78, while the proposed project would generate 14.45 VMT. As discussed in Section 2.17, Transportation, the proposed project would result in an approximately 27 percent reduction in per capita VMT from regional average estimates. As such, the proposed project would result in an overall decrease in per capita transportation energy consumption with respect to employee transportation energy resources.

In 2020, the County consumed a total 8,622,380 megawatt-hours (MWh) of electricity and 1,062 million US Therms, or approximately 106,174,600 million British Thermal Units (MMBtu) as well as a population of 1,149,853 residents.[36,37] As such, the County currently has an estimated per capita energy consumption of 7,499 kWh and 92.3 MMBtu per year. As shown in Table 9, the proposed project would result in up to 256,033 kWh per year and up to 1,540,000 kBTU/year per year. Considering the City's average persons per household of 3.05,[38] the proposed project, consisting of 40 dwelling units, would result in the introduction of an estimated 122 new residents. However, using a more conservative estimate based on Contra Costa County's average persons per household of 2.86, the proposed project, consisting of 40 dwelling units, would result in the introduction of an estimated 115 new residents. Therefore, based on the more conservative estimate, the proposed project would result in a per capita energy consumption of 2,226 kWh per year and 13.39 MMBtu per year, both of which would be below the County's average electricity and natural gas

[35] County estimates are utilized for purposes of this discussion rather than City estimates because relevant energy consumption data is not available at the City level.
[36] California Energy Commission. 2022. Energy Consumption Database. Website: http://www.ecdms.energy.ca.gov/. Accessed April 13, 2022.
[37] California Department of Finance. 2022. E-5 Population and Housing Estimates for Cities, Counties, and State. Website: https://dof.ca.gov/forecasting/demographics/estimates/estimates-e5-2010-2021/. Accessed April 13, 2022.
[38] Ibid.

consumption rates. As such, the proposed project would contribute to the overall energy conservation goal of reducing per capita energy consumption.

Decreasing Reliance on Fossil Fuels

The proposed project would be designed and constructed in accordance with the California Building Code energy efficiency standards. For example, the proposed project would install solar photovoltaic systems capable of generating 78,200 kWh of electricity per year, and low-flow plumbing fixtures and irrigation heads that are compliant with the California Building Standards Code (CBC). California Building Code energy efficiency standards include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building. Compliance with the CBC would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation. As a result, the increase in energy conservation and efficiency would reduce the amount of potentially fossil fuel-sourced electricity consumption, and thereby reducing project reliance on fossil fuels.

Project-related vehicle trips would consume fuel throughout the life of the proposed project due to residents' vehicles and delivery vehicles traveling to and from the project site. This analysis evaluated operational fuel consumption based on the proposed project's operational assumptions. Regional access to the project site is provided by SR-80, which is 3,400 feet east of the project site. As a result, the proposed project is located near regional and local roadways that would provide convenient access for future residents and would not result in excessively long vehicle miles traveled. Thus, the location of the proposed project would help minimize fossil fuel reliance with respect to transportation fuel consumption.

Increasing Reliance on Renewable Energy Sources

The proposed project would be considered to conflict with this criterion if it did not take steps to increase the reliance on renewable energy sources. As the proposed project constitutes a low-rise residential development, it would be required by the California Building Code to incorporate rooftop solar, provided no code exemptions apply to the proposed project such as limited roof space or an alternative contribution to a community solar or battery storage facility. If the proposed project were to seek a code exemption for rooftop solar under the premise that there is not sufficient rooftop space to support the installation of a rooftop solar system, then the proposed project would not include on-site renewable energy generation due to technical limitations. Similarly, if the proposed project were to seek another code exemption for rooftop solar, the exemption would require that the developer solely or by contribution construct and maintain a community solar facility or a community battery storage facility, which would likely provide the proposed project with and/or facilitate the proposed project's use of renewable energy. Should a future community solar facility or community battery storage facility be proposed as a result of the proposed project seeking a code exemption for rooftop solar that does not directly benefit the proposed project's consumption of renewable energy sources, that future facility would benefit the community's cumulative renewable energy consumption.

As such, the proposed project would incorporate renewable energy technologies consistent with the CBC, thereby actively increasing future residents' reliance on renewable energy sources. Moreover,

the proposed project would be required to comply with the applicable electric vehicle (EV) charging infrastructure standards for the development type, such as pre-wiring to facilitate future installation of EV charging stations. As a result, the proposed project would be incrementally increasing overall reliance on renewable energy sources by including on-site renewable energy generation technologies and incorporating EV charging infrastructure to facilitate the future use of EVs.

Considering the above analysis, the proposed project would not result in the wasteful, inefficiency, or unnecessary consumption of energy resources. This impact would be less than significant.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Less than significant impact.

Construction

The proposed project would result in energy consumption through the combustion of fossil fuels. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. California Code of Regulations Title 13 Sections 2449(d)(3) and 2485 limit idling from both on-road and off-road diesel-powered equipment and are enforced by the ARB. The proposed project would be required to comply with these regulations. There are no renewable energy standards that would apply to construction of the proposed project. As a result, construction would not conflict with or obstruct any regulations adopted for the purposes of increasing the use of renewable energy. Furthermore, it is anticipated that construction of the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, the proposed project would result in less than significant impacts related to construction energy efficiency and use of fossil fuels or decreased use of renewable resources.

Operation

The proposed project would be served with electricity provided by PG&E. In 2019, PG&E obtained 29 percent of its electricity from renewable energy sources while the remaining electricity was sourced from nuclear (44 percent),and large hydroelectric (27 percent).[39] PG&E also offers a Solar Choice 50 percent option that sources 64 percent of its power mix from eligible renewable energy sources and a Solar Choice 100 percent option that sources 100 percent of its power mix from eligible renewable energy sources. Therefore, the proposed project's electricity provider meets the State's current objective of 33 percent. The proposed project's electricity provider would also be required to meet the State's future objective of 60 percent of in-State electricity sales being generated from renewable energy sources by 2030. The buildings would be designed in accordance with California Code of Regulations Title 24, California's Energy Efficiency Standards for Residential Buildings as applicable. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting. For example, the proposed project would install

[39] Pacific Gas and Electric Company (PG&E). 2019 Power Content Label. Website: https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2020/1220-PowerContent-ADA.pdf. Accessed December 14, 2021.

solar photovoltaic systems capable of generating an estimated 78,200 kWh of electricity per year and low-flow plumbing fixtures and irrigation heads that are compliant with Title 24 Standards.

The City has not adopted a Climate Action Plan, therefore the City's General Plan would be referenced herein as the applicable local plan adopted for energy efficiency and renewable energy. The City adopted its General Plan in 1998 and recently updated its Housing Element in 2015.[40] The Housing Element mentions that the City works with the utility provider PG&E to offer a range of incentives to encourage energy conservation, including rebates for energy-efficient appliances and home improvements. The Housing Element also states its Goal 6.0: "Promote energy efficiency and conservation throughout Hercules" with the following policies:

Policy 6.1 Promote the use of Green Building techniques in residential development.

Policy 6.2 Ensure all new residential development complies with energy efficiency performance standards of the California Building Standards Code.

Policy 6.3 Utilize site planning techniques to allow passive energy efficiencies through solar access, landscaping and building orientation.

Policy 6.4 Seek opportunities to educate the public about energy conservation.

Policy 6.5 Encourage energy conservation measures and solar systems in existing homes where feasible and cost-effective.

The proposed project would be required to comply with the applicable Title 24 Energy Efficiency Standards (for example, EV charging infrastructure and solar requirements) in effect at the time building permit applications are received. In doing so, the proposed project would be consistent with the energy conservation policies stated in the City's General Plan because it would comply with the relevant solar power building code, utilize passive energy efficiency through low water demand landscaping, and comply with other relevant California Building Code standards. As such, the proposed project would not conflict with or obstruct the applicable plan for renewable energy or energy efficiency. Therefore, the proposed project would result in less than significant impacts related to energy efficiency and renewable energy standards consistency.

Mitigation Measures

None required.

[40] City of Hercules. Housing Element of General Plan. Website: https://www.ci.hercules.ca.us/government/planning/general-plan. Accessed March 8, 2022.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.7 Geology and Soils *Would the project:*				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Evaluation

The analysis in this section is based, in part, on the Geotechnical Investigation prepared by Quantum Geotechnical, Inc. on November 11, 2021 (Appendix D).

Setting

Based on the City of Hercules' geographic location being within the San Francisco Bay Area, the City is within a seismically active region. The proposed project is located within the Coast Ranges Geomorphic Province. The Coast Range Geomorphic Province is characterized by a series of northwest-trending mountain ranges and intervening valleys that align subparallel with the San Andreas Fault System.[41] The Northern California region contains a number of active, potentially active, and inactive faults, and it is considered a region of high seismic activity.

Five major faults are located near the City of Hercules, including the San Andreas (approximately 21 miles to the southwest of the City), Hayward (approximately 2.5 miles southwest of the City), Concord-Green Valley (approximately 11 miles southwest of the City), Calaveras (approximately 40 miles to the southeast), and Rodgers Creek (approximately 10 miles to the west) faults. Two additional, inactive faults, the Pinole and Franklin, are located in the City's vicinity; however, both are inactive as future movement along the two faults are unlikely. According to the Hercules General Plan Safety Element, the USGS has estimated that there is a 67 percent probability that there could be one or more earthquakes of magnitude 7.0 or greater in the Bay Area in the next 30 years.[42] The nearest major fault is the Pinole Fault located approximately 0.3 mile from the project site.[43] The nearest known active fault (defined by movement occurring less than 11,700 years ago) is the Hayward Fault, located approximately 3.8 miles west of the project site.

The exploratory borings drilled as part of the geotechnical field investigation encountered groundwater at depths between 11 and 13 feet on the western portion of the site. Groundwater was not encountered in the borings on the eastern portion of the site. Groundwater elevation may fluctuate based on seasonality, nearby development activities, and urbanization, among other factors. The ABAG has published an interactive map of liquefaction susceptibility within the Bay Area. This mapping indicates that the site has a low to moderate susceptibility to liquefaction.44
Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than significant impact. The project site is not located in an Alquist-Priolo Earthquake Fault Zone, however, the project site is located in a seismically active region. The nearest known active fault is the Hayward Fault, located approximately 3.8 miles west of the project site. Construction and

[41] Quantum Geotechnical, Inc. 2021. Geotechnical Investigation on Proposed Residential Development at 215 Skelly, Hercules, California. November 11.
[42] City of Hercules. 1998. City of Hercules General Plan – Safety Element. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12569/636770158459630000. Accessed February 16, 2022.
[43] Quantum Geotechnical, Inc. 2021. Geotechnical Investigation on Proposed Residential Development at 215 Skelly, Hercules, California. November 11.
[44] Ibid.

design would use standard engineering and seismic safety design techniques in accordance with the 2019 CBC, which would reduce impacts in case of rupture of the Hayward Fault. In addition, the proposed project would comply with applicable General Plan policies outlined in the Safety Element relating to geologic hazards. Therefore, the possibility of the proposed project directly or indirectly experiencing significant fault rupture is low and project impacts related to the rupture of a known earthquake fault are considered less than significant.

ii) Strong seismic ground shaking?

Less than significant impact with mitigation incorporated. The proposed project is located within a seismically active region, and strong shaking would be expected during the lifetime of the proposed project, which could damage future improvements on the site and expose people to injury. To avoid or minimize potential damage from seismic shaking, the proposed project shall be built using standard engineering and seismic safety design techniques in accordance with the 2019 CBC. The 2019 CBC requires use-modified spectral accelerations and velocities for most structural designs. In addition, a Geotechnical Investigation has been prepared for the proposed project. MM GEO-1 must be implemented to ensure the Geotechnical Investigation recommendations regarding site grading, demolition, foundation design, and construction are incorporated into the project plans and the City reviews and approves these elements. Implementation of MM GEO-1 would ensure project design and construction plans take into consideration the unique site-specific conditions to ensure the structures provide a solid foundation and withstand seismic activities. Therefore, implementation of MM GEO-1 and compliance with CBC requirements would reduce project impacts to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

Less than significant impact. Liquefaction is the result of seismic activity and is characterized as the transformation of loosely water-saturated soils from a solid state to a liquid state after ground shaking. Variables that contribute to liquefaction include age of the soil, soil type, soil cohesion, soil density, and groundwater level. Soils most susceptible to liquefaction are loose, uniformly graded, fine-grained sands. Although the site is not located within a known liquefaction hazard zone evaluated by the California Geological Survey (CGS), according to the Geotechnical Investigation, the project site has low to moderate susceptibility to liquefaction as it is assumed to have a design groundwater table of 15 feet for depth. Furthermore, based on the Geotechnical Investigation, ground borings indicated that the potential for liquefaction on the project site is considered nil. Furthermore, any potential liquefaction hazards would be minimized by using standard engineering and seismic safety design techniques in accordance with the 2019 CBC. As such, impacts would be less than significant.

iv) Landslides?

Less than significant impact with mitigation incorporated. According to the California Department of Conservation, the project site has not been evaluated for seismic landslide hazards. The Geotechnical Investigation's description of the project site notes there is a near vertical slope along the majority of the eastern border of the site. According to the General Plan Safety Element,

landslides have occurred in the City of Hercules, particularly in the southeastern part of the City. An earthquake could trigger landslides, particularly upon steeper slopes where slide activity has already occurred. The amount of sliding would be intensified if an earthquake were to occur during wet winter months when the slopes were in a saturated, weakened condition. According to Figure 10, Landslide Susceptibility, of the Safety Element, the project site has mostly low to moderate susceptibility of landslides, with an area of high susceptibility to landslides on the southeastern portion of the site.[45] As such, MM GEO-1 would require the project applicant to incorporate all recommendations provided in the project-Geotechnical Investigation into project plans to reduce potential geological hazards such as landslides. Additionally, the proposed project would be built using standard engineering and seismic safety design techniques in accordance with the 2019 CBC. In addition, the proposed project would incorporate recommendations from the Geotechnical Investigation into project design and construction to reduce impacts related to landslides with implementation of MM GEO-1. As such, impacts would be reduced to a less than significant level.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant impact. During construction, the proposed project would include grading and excavation that would expose a substantial amount of soils. In addition, the Geotechnical Investigation noted that grading activities during the rainy season on cohesive soils would be hampered by excessive moisture; therefore, it was recommended that measures to control potential erosion be included in project design and construction plans. Because the proposed project would disturb more than one acre of land, it would be required to obtain a Construction General Permit from the State Water Resources Control Board (State Water Board) and to comply with its conditions and requirements, which are designed to minimize potential erosion issues. The proposed project would comply with the terms of the City's National Pollutant Discharge Elimination System (NPDES) permit and the City Municipal Code Section 5.8, which requires the preparation and implementation of a SWPPP. The SWPPP includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface waters. Additionally, implementation of the SWPPP would also prevent pollutants from entering surrounding water courses in the project vicinity by preventing pollutants from moving off-site.

Furthermore, the proposed project would be consistent with Section 7.2, Grading, Excavations, and Fills of the Municipal Code. Section 7.2 of the Municipal Code provides regulations to ensure that soil would not be stripped and removed from lands, creating hazards of subsidence and faulty drainage. It also ensures grading is regulated to control erosion and sedimentation to protect water quality of water courses and water bodies. For example, Section 7.2.305 of the Municipal Code would require an Erosion and Sediment Control Plan, which would minimize soil erosion and sedimentation from the project site and also provide control for runoff.[46] Therefore, with adherence to these existing requirements, impacts from construction would not result in substantial soil erosion

[45] City of Hercules. 2015. Hercules Safety Element. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/13723/637548003700130000. Accessed June 9, 2022.

[46] City of Hercules. 2021. Hercules Municipal Code – Title 7 Public Works, Chapter 2 Grading, Excavations and Fills. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules07/Hercules072.html#7-2. Accessed February 18, 2022.

or loss of topsoil. Therefore, construction-related impacts related to soil erosion and loss of topsoil would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than significant impact with mitigation incorporated. As described above, the California Department of Conservation has not evaluated the project site for landslide hazards. The Geotechnical Investigation notes there is a near vertical slope along the majority of the eastern border of the site. In order to minimize potential damage from landslides, the proposed project shall be built using standard engineering and seismic safety design techniques in accordance with the 2019 CBC.

Subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement. Subsidence is generally related to the substantial overdraft of groundwater or petroleum reserves from underground reservoirs. The project site does not lie above an oil field or water production well based on the Phase I Environmental Site Assessment (Phase I ESA's) review of the hydrogeologic data provided in the Environmental Data Resources Regulatory Database Report. Therefore, the proposed project would have a less than significant effect related to subsidence.

As previously mentioned, the project site has a low to moderate susceptibility to liquefaction. In order to reduce or avoid impacts related to unstable soils, the Geotechnical Investigation includes earthwork recommendations. These recommendations included criteria for grading, excavation, and fill replacement that would prevent significant settlement of soils. Implementation of MM GEO-1 would ensure that the recommendations contained in the Geotechnical Investigation are incorporated into the project construction and design plans. Therefore, impacts related to unstable soil would be less than significant with mitigation.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than significant impact with mitigation incorporated. The Geotechnical Investigation concluded, based on field reconnaissance by a soil engineer, exploratory soil borings, and laboratory testing of soil samples, that the on-site soils are moderately and highly expansive. The moderately and highly expansive soil are prone to heave and shrink movements with changes in moisture content and must be carefully considered in the design and construction of foundations, drainage, hardscape, and pavements. The Geotechnical Investigation for the project site determined that a post-tensioned slab foundation is the most appropriate foundation system to reduce impacts related to expansive soil. Slab must be designed to tolerate the expansive clay criteria presented in the Geotechnical Investigation. These include but are not limited to maximum allowable bearing pressure recommendations, reduced lateral support and a deepened footing near foundations and biofiltration areas, proper backfill and compaction, and verification and approval by a Soil Engineer. MM GEO-1 would require the project applicant to incorporate all recommendations provided in the project-Geotechnical Investigation into project plans, including the slab recommendations, which

would reduce potential impacts related to expansive soils. Impacts would be considered less than significant with mitigation incorporated.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No impact. The proposed project would connect to the existing sewer system operated by the City of Hercules and Pinole-Hercules JPA. Septic tanks or alternative wastewater disposal systems would not be used. Therefore, no impact would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than significant impact with mitigation incorporated. Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These resources are valued for the information they yield about the history of the earth and its past ecological settings. The potential for fossil occurrence depends on the rock type exposed at the surface in a given area. According to the site-specific Paleontological Records Search (Appendix D), the University of California Museum of Paleontology (UCMP) database search revealed four vertebrate localities in the Monterey Formation in Contra Costa County. The nearest vertebrate locality to the project site is about 3 miles to the northeast. Because the surface of the project site is disturbed and because of the distance from the nearest vertebrate locality, paleontological monitoring of construction was not recommended. However, to ensure that there are no direct or indirect impacts to any resources, MM GEO-2 requires a qualified paleontologist to provide the construction crew with an orientation prior to earth-disturbing activities, including a detailed plan of action in the event of an unanticipated discovery. With the implementation of MM GEO-2, impacts would be less than significant.

Mitigation Measures

MM GEO-1 Prior to issuance of preliminary grading permits, the project applicant shall incorporate all recommendations provided in the project-Geotechnical Investigation into project plans. The Geotechnical recommendations outlined on Page 9 through Page 22 of the Geotechnical Investigation that shall be implemented include general earthwork recommendations for site preparation, removal of unsuitable soils, surface and subsurface drainage, bio-filtration facilities, foundations, concrete flatwork, retaining walls, spread and pier footings, pavement areas, utility trenches, project review, and construction monitoring. Additionally, these include recommendations related to structural design, foundation design, foundation systems, slabs, moisture barriers, seismic design, walls, footing excavations, slabs and walkways, concrete design, corrosion, pavement design, as well as lot maintenance, and future plan reviews.

MM GEO-2 Prior to the commencement of earth-disturbing activities, a professional paleontologist shall provide the construction crew with an orientation on significant

fossils that could be encountered and the appropriate procedures to follow in the event of a discovery. If any vertebrate remains (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants) be unearthed, all work in the immediate vicinity of the discovery should be diverted at least 15 feet until a professional paleontologist assesses the find and, if deemed appropriate, salvages it in a timely manner. All recovered fossils shall be deposited in an appropriate repository, such as the University of California Museum of Paleontology (UCMP), where they shall be properly curated and made accessible for future study.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.8 Greenhouse Gas Emissions *Would the project:*				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Evaluation

Setting

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Prominent GHGs that naturally occur in the Earth's atmosphere are water vapor, carbon dioxide (CO_2), methane (CH_4), oxides of nitrogen (NO_X), and ozone.[47] Anthropogenic (human-caused) GHG emissions include releases of these GHGs plus release of human-made gases with high global warming potential (GWP) (ozone-depleting substances such as chlorofluorocarbons [CFCs])[48] and aerosols, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this section discusses the proposed project's contribution to the cumulative GHG impact.

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than significant impact. Both construction and operational activities have the potential to generate GHG emissions. The proposed project would generate GHG emissions during temporary

[47] United Nations Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: https://www.ipcc.ch/report/ar4/wg1/. Accessed January 27, 2022.

[48] U.S. Department of State. The Montreal Protocol on Substances that Deplete the Ozone Layer. Website: https://www.state.gov/key-topics-office-of-environmental-quality-and-transboundary-issues/the-montreal-protocol-on-substances-that-deplete-the-ozone-layer/. Accessed March 8, 2022.

(short-term) construction activities such as demolition and grading, running of construction equipment engines, movement of on-site heavy-duty construction vehicles, hauling materials to and from the project site, asphalt paving, and construction worker, vendor, and haul truck motor vehicle trips.

Long-term, operational GHG emissions would result from project-generated vehicular traffic, on-site combustion of natural gas, operation of any landscaping equipment, off-site generation of electrical power over the life of the proposed project, the energy required to convey water to and wastewater from the project site, and the emissions associated with the hauling, and disposal of solid waste from the project site.

The 2017 BAAQMD Thresholds contain the following for thresholds for GHGs:

> For land use development projects (including residential, commercial, industrial, and public land uses and facilities), the threshold is compliance with a qualified GHG Reduction Strategy; or annual emissions less than 1,100 metric tons per year of carbon dioxide equivalent (CO_2e); or 4.6 metric tons CO_2e/service population/year (residents + employees).

It should be noted that the BAAQMD's Thresholds of Significance was established based on meeting the 2020 GHG targets set forth in the AB 32 Scoping Plan. Because the proposed project would be constructed after 2020, the BAAQMD quantitative thresholds of significance listed above was adjusted to become "substantial progress" thresholds that were calculated based on the SB 32 target of 40 percent below 1990 levels (i.e., 60 percent of 1990 levels). The mass emission threshold of significance applied in this analysis is 660 metric tons (MT) CO_2e per year (1,100 x 0.60 = 660). To determine significance, the proposed project's GHG emissions are assessed against the projected 2030 bright line threshold of 660 MT CO_2e/year.

It should be noted that while the BAAQMD has recently updated their recommended GHG significance thresholds for land use projects,[49] their staff has identified that the Notice of Preparation (NOP) issuance date, or the commencement of analysis if no NOP, defines an appropriate cut-off date for which thresholds to utilize for CEQA projects. As such, because this analysis was already well-underway at the time these new significance thresholds were adopted, the significance thresholds contained in the BAAQMD's 2017 CEQA Air Quality Guidelines and the industry standard of adjusting that significance threshold to demonstrate substantial progress toward the 2030 legislative reduction target were utilized in this analysis to determine project impact significance.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a large one, does not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this section measures the proposed project's contribution to the cumulative

[49] Bay Area Air Quality Management District (BAAQMD). 2022. Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans. April.

environmental impact. The following is a discussion of the proposed project's contribution to GHG emissions during both the construction and operation phases.

Short-term Construction Impacts

The proposed project would emit GHG emissions during construction from the off-road equipment, worker vehicles, and any hauling that may occur. The BAAQMD does not presently provide a construction GHG emission threshold but recommends that construction GHG emissions be quantified and disclosed. The BAAQMD also recommends that lead agencies (in this case, the City of Richmond) determine the level of significance of construction GHG emissions. Total GHG emissions generated throughout construction were combined and are presented in Table 10. In the absence of a construction emission threshold, construction GHG emissions are amortized over the expected lifetime of the proposed project (30 years) and added to the proposed project's operational GHG emissions in Table 11. These total project emissions were analyzed against the BAAQMD's bright line threshold, adjusted to demonstrate substantial progress toward the 2030 legislative reduction target. It should be noted that the existing land use's operational emissions are not included above. As such, the emissions estimates contained herein represent a conservative assessment of project impacts.

Table 10: Construction GHG Emissions

Construction Phase	MT CO_2e per year
Demolition	49
Site Preparation (Site-Wide)	12
Grading (Site-Wide)	34
Paving (Roadways and Foundations)	24
Building Construction (Model Homes)	10
Architectural Coating (Pavement and Model Homes)	2
Building Construction (Pre-Receptors)	93
Architectural Coating (Pre-receptors)	12
Building Construction (Post-Receptors)	80
Architectural Coating (Post-Receptors)	14
Total Construction Emissions	**331**
Emissions Amortized Over 30 Years[1]	**11**

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent
Totals may not add up due to rounding.
[1] Construction greenhouse gas (GHG) emissions are amortized over the 30-year lifetime of the project.
Source: CalEEMod Output (Appendix A).

Long-term Operational Impacts

The proposed project would contribute to global climate change through direct and indirect emissions of GHG from mobile sources (e.g., passenger vehicles, trucks), energy (e.g., on-site natural gas consumption and purchased electricity), water use and wastewater generation, and solid waste generation. All modeling parameters utilized in the Air Quality analysis are also utilized for this GHG analysis, including but not limited to trip generation rates, trip distances, building sizes and operations, energy consumption, water consumption, and waste generation. Please refer to Appendix A for modeling results and detailed calculations

Operational GHG emissions by source are shown in Table 11. The proposed project was analyzed assuming full buildout in the year 2024. The estimated total annual project-generation emissions, including operational emissions and amortized construction emissions, were compared with the 2030 target threshold of 660 MT CO_2e/year calculated from the BAAQMD's bright line threshold to determine significance at project buildout in the year 2024.

Table 11: Operational GHG Emissions

Emission Source	Year 2024 Total Emissions (MT CO_2e per year)
Area	4
Energy	107
Mobile (Vehicles)	282
Waste	24
Water	6
Amortized Construction Emissions	11
Total Project Emissions	434
Applicable Threshold (MT CO_2e/year)	**660**
Does project exceed threshold?	**No**
Notes: MT CO_2e = metric tons of carbon dioxide equivalent	

As shown in Table 11, the proposed project's generation of approximately 434 MT CO_2e per year would not result in a net increase in GHG emissions which would exceed significance thresholds. Therefore, this impact would be less than significant.

b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than significant impact.

The following discusses project consistency with applicable plans adopted for the purpose of reducing GHG emissions, which include ARB's Scoping Plan, Metropolitan Transportation

Commission/Association of Bay Area Governments (MTC/ABAG) Plan Bay Area 2050, and City of Hercules' General Plan.

ARB Scoping Plan

The principal State plan and policy for GHG emission reduction targets are set forth in Executive Order S-03-05, AB 32, and the subsequent SB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. AB 32 required the ARB to develop a Scoping Plan that describes California's approach to reduce GHGs to achieve the 2020 emission target. SB 32 then accelerated the GHG emission reduction goals of AB 32. The 2017 Scoping Plan Update, the most recent update to the ARB Scoping Plan, reflects the 2030 target of a 40 percent reduction below 1990 levels as set by Executive Order B-30-15 and codified by SB 32. It is applicable to State agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other Statewide actions that affect a local jurisdiction's emissions inventory from the top down.

Transportation Sector

Passenger Vehicles

Statewide strategies to reduce GHG emissions from passenger vehicles and the transportation sector in general include the Low Carbon Fuel Standard (LCFS) and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars program).[50] The proposed project would include wiring and conduits capable of supporting EV charging consistent with Title 24 standards. As a result, the proposed project would not conflict with State goals for reducing GHG emissions from passenger vehicles.

Energy/Commercial-Residential Sectors

Energy use generated by the project represents the second largest source of emissions after the transportation sector. New buildings under the proposed project would meet the current CALGreen and Building Energy Efficiency standards. The proposed project would include rooftop photovoltaic electricity generation panel arrays compliant with the California Building Code. Therefore, the proposed project would be consistent with the State's goals for reducing residential energy consumption.

Other Sources

Other sources of GHG emissions include solid waste disposal, which is associated with landfilling municipal solid waste. The amount of methane emitted to the atmosphere as a fraction of the total amount of methane generated from the decomposition of accumulated waste has gradually declined over time as more landfills install landfill gas collection and control systems and existing systems are

[50] California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. Website: http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed February 3, 2022.

operated more efficiently as a result of the ARB's Landfill Methane Control Measure.[51] Therefore, the proposed project would be consistent with the State's goals for the recycling and waste sector.

Metropolitan Transportation Commission Plan Bay Area

As part of the implementing framework for Plan Bay Area 2050, local governments have identified planned development areas to focus growth. The proposed project site is within the planning area of the Hercules General Plan and consistent with applicable land use designations. Thus, the proposed project would be consistent with the overall goals of Plan Bay Area, which include concentrating new investment in areas that would encourage job growth. In addition, the proposed project would be developed in an area with existing urban infrastructure, such as roads, potable water, and sanitary sewer lines. Therefore, the proposed project would not conflict with the land use concept plan in Plan Bay Area 2050.

The project site is located approximately 3,400 feet west of SR-80 and there are existing sidewalks along the proposed project's frontage on Skelly that connect to the nearest arterial road. Several bus stops are located within a walking distance of the site, including the San Pablo Avenue and John Street Stop (500 feet or 3-minute walking time to the project site) and San Pablo Avenue and Hercules Stop (2,600 feet or 13-minute walking time to the project site) operated by Western Contra Costa Transit Authority. As such, it is likely that some residents would travel to and from the project site using public transit. Thus, the proposed project would not conflict with the ABAG and MTC's Plan Bay Area goals to reduce VMT and encourage development in planned development areas.

City of Hercules General Plan

The City of Hercules has not adopted a Climate Action Plan. Therefore, the City's General Plan would be referenced herein as the local plan adopted for the purposes of reducing GHG emissions. The City adopted its General Plan in 1998 and the City recently updated its Housing Element in 2015.[52] In the Housing Element, future jobs and employed residents are estimated and it states that it is important to maintain jobs-and-housing balance with the benefit of improved air quality and reduced fuel consumption. The Housing Element mentions that the City's works with the utility provider PG&E to offer a range of incentives to encourage energy conservation, including rebates for energy-efficient appliances and home improvements. The Housing Element also states its Goal 6.0: "Promote energy efficiency and conservation throughout Hercules" with the following policies:

Policy 6.1 Promote the use of Green Building techniques in residential development.

Policy 6.2 Ensure all new residential development complies with energy efficiency performance standards of the California Building Standards Code.

Policy 6.3 Utilize site planning techniques to allow passive energy efficiencies through solar access, landscaping and building orientation.

[51] California Air Resources Board (ARB). 2022. Landfill Methane Regulation. Website: https://ww2.arb.ca.gov/our-work/programs/landfill-methane-regulation/about. Accessed March 8, 2022.

[52] City of Hercules. Elements of General Plan. Website: https://www.ci.hercules.ca.us/government/planning/general-plan. Accessed March 8, 2022.

Policy 6.4 Seek opportunities to educate the public about energy conservation.

Policy 6.5 Encourage energy conservation measures and solar systems in existing homes where feasible and cost-effective.

The goal and policies aforementioned are intended to improve energy efficiency. At the same time, they would also reduce the GHG emissions because energy consumption, such as heating and cooling of homes, generates GHG emissions. Additionally, the proposed project would comply with the applicable Title 24 Energy Efficiency Standards, which would further improve project structure energy efficiency, reduce water demand, and provide access for EV charging. Therefore, the proposed project would be consistent with the energy conservation goals and policies aimed at reducing GHG emissions in the City's General Plan.

Senate Bill 32 2017 Scoping Plan Update

The 2017 Climate Change Scoping Plan Update addressing the Senate Bill (SB) 32 targets was adopted on December 14, 2017. Table 12 provides an analysis of the proposed project's consistency with the 2017 Scoping Plan Update measures. As shown in Table 12, many of the measures are not applicable to the proposed project, and the proposed project is consistent with strategies that are applicable.

Table 12: Consistency with SB 32 2017 Scoping Plan Update

2017 Scoping Plan Update Reduction Measure	Project Consistency
SB 350: 50 Percent Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33 percent in 2020 to 50 percent in 2030.	**Not applicable.** This measure would apply to utilities and not to individual development projects. The proposed project would purchase electricity from PG&E subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	**Not applicable.** This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. The proposed project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Not applicable**. This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles used by future residents at the project site would benefit from the standards.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario). Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million Zero-Emission Vehicles (ZEVs) on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Not applicable.** This measure is not applicable to the proposed project; however, vehicles accessing the project site would benefit from the increased availability of cleaner technology and fuels. In addition, as stipulated by the 2019 California Building Code, Title 24, Part 11, Chapter 4, Section 4.106.4.1, new one-family dwellings, such as the proposed project, would be required to implement the applicable provisions of Title 24, Part 6, Section 4.106.4 of the 2019 California

2017 Scoping Plan Update Reduction Measure	Project Consistency
	Building Code to support future electric vehicle supply equipment (EVSE).
Sustainable Freight Action Plan. The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable.** The proposed project is residential in nature and would not have any major freight vehicles operational.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent.** Consistent with BAAQMD Regulation 6, Rule 3, no wood-burning devices are proposed as part of the proposed project. Therefore, the proposed project would not include major sources of black carbon.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a Sustainable Communities Strategy for reduction of per capita VMT.	**Not applicable.** The proposed project does not include the development of a Regional Transportation Plan.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Not applicable.** The proposed project is not one targeted by the cap-and-trade system regulations, and, therefore, this measure does not apply to the proposed project. However, the post-2020 Cap-and-Trade Program indirectly affects people and entities who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, State, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not applicable**. The proposed project is in a built-up urban area and would not be considered natural or working lands.
Source of ARB 2017 Scoping Plan Update Reduction Measures: California Air Resource Board (ARB). 2017. California's 2017 Climate Change Scoping Plan. November. Website: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed March 8, 2022.	

As shown in Table 12, implementation of the proposed project would not conflict with the reduction measures proposed in SB 32.

Summary

The proposed project is consistent with the City's General Plan and would not conflict with the provisions of SB 32. Therefore, the proposed project does not conflict with any plans to reduce GHG emissions and the impact would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.9 Hazards and Hazardous Materials *Would the project:*				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Environmental Evaluation

Setting

The information in this section is based in part on a Phase I ESA conducted by Brown and Caldwell on January 5, 2022, and is included as Appendix E of this Draft IS/MND.[53]

[53] Brown and Caldwell. January 5, 2022. Phase I Environmental Site Assessment.

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant impact. A recognized environmental condition (REC) is "the presence or likely presence of any hazardous substances or petroleum products in, on, or at the property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."[54] The Phase I ESA did not identify any RECs and did not recommend further assessment of the property; therefore, construction of the proposed project is not likely to create a significant hazard to the public.

Construction activities would require the routine use of substances such as solvents, paints, fuel, and other potentially hazardous substances. These materials are commonly used during construction activities and would be used in limited quantities. Heavy construction equipment such as dozers, excavators, and tractors would likely require the use of petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which are considered hazardous if improperly stored or handled. These activities are standard activities at most construction sites, and the risks associated with the proposed project would be similar to the risks associated with other similar construction sites. The handling, use, and storage of hazardous materials is regulated by numerous agencies, including the California Environmental Protection Agency (Cal/EPA), Caltrans, California Division of Occupational Safety and Health (Cal/OSHA), and the Department of Toxic Substances Control (DTSC), in addition to applicable local regulations. All construction projects must comply with the Hazardous Materials Transportation Act administered by the United States Department of Transportation and implemented in California by Caltrans, as well as the applicable State Water Board NPDES Construction General Permit requirements. As part of the Construction General Permit requirements, preparation of a SWPPP would be required, which would include BMPs such as the use of straw bales to prevent the release of any hazardous materials during construction.

Substances that may be used during project operation include cleaning agents, building maintenance chemicals, and pesticides and herbicides used for landscaping and maintenance. The amount of materials required for these activities would not be large enough to create a significant hazard to the public or environment. Although the proposed project would operate as single-family residences with no significant use of heavy chemicals or pollutants, the transport, use, and disposal of these operational substances is controlled and regulated by the Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and the federal Clean Air Act. Therefore, operation of the proposed project would not create a significant hazard to the public or the environment. Compliance with the applicable local, State, and federal standards, policies, and regulations would help ensure that the routine transport, use, or disposal of hazardous materials does not create a significant hazard. Therefore, impacts are considered less than significant.

[54] Brown and Caldwell. January 5, 2022. Phase I Environmental Site Assessment.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than significant impact. During project construction activities, there is always a limited risk of the accidental release of hazardous materials such as gasoline, oil, or fluids from construction equipment. However, use of these materials would be conducted in compliance with applicable federal, State, and local regulations, policies, and ordinances set forth by the EPA, State Water Board, DTSC, Cal/OSHA, Caltrans, RCRA, Contra Costa Environmental Health Department, and the Rodeo-Hercules Fire Protection District. These include, but are not limited to, the following:

- California Health and Safety Code Sections 25270.7, 25270.8, and 25507;
- California Vehicle Code Section 23112.5;
- California Public Utilities Code Section 7673 (PUC General Orders #22-B, 161);
- California Government Code Sections 51018 and 8670.25.5(a);
- California Water Code Sections 13271 and 13272;
- California Labor Code Section 6409.1(b)10; and
- NPDES Construction General Permit requirements.

Compliance with the provisions of these regulations would help minimize the risk of accidental release of hazardous materials into the environment and that appropriate remediation measures are implemented in the event of an accidental release.

A described above, the Phase I ESA did not identify any RECs and did not recommend further assessment of the project site. However, due to the age of the on-site structures, asbestos-containing materials (ACMs) or lead-based paints (LBPs) could be present. Because of the potential for ACMs and lead-based paints, the applicant would be required retain a qualified hazardous materials contractor to remove and dispose of ACMs and LBPs in accordance with federal and State regulations. Therefore, impacts would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than significant impact. The La Casita Bilingue Montessori School is located within 0.25 mile of the project site. While construction of the proposed project could emit hazardous emissions, these emissions would be temporary and the project applicant is required to comply with all safe transport, handling, and disposal requirements and regulations. Operation of the proposed single-family homes would not result in the emission or handling of large quantities of hazardous materials, substances, or waste. Therefore, there would be less than significant impacts related to the possibility of hazardous emissions or handling of hazardous materials, substances, or waste within 0.25 mile of a school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.[55] No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No impact. The closest airport to the project site is the Buchanan Field Airport, located approximately 12 miles east of the project site. The project site is outside of the area affected by federal aviation regulations and the airport influence area and is therefore not subject to the noise and safety regulations pursuant to the Buchanan Field Airport Master Plan.[56] Therefore, the proposed project is not located within an airport land use plan or within an airport influence area or within 2 miles of a public or public use airport; there would be no impact.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant impact. The proposed project is located in Zone 5 in the City's Emergency Evacuation Routes and would use San Pablo Avenue in case of an evacuation.[57] In case of an emergency that requires an evacuation, residents at the proposed project would travel north on San Pablo Avenue to SR-4 and continue out of town by means of I-80 or eastbound SR-4. Construction of the proposed project would not block any the adjacent neighborhood from accessing San Pablo Avenue.[58] Furthermore, as described in Section 2.17 Transportation, the proposed project would allow for adequate circulation such that emergency access would be feasible. Therefore, impacts would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than significant impact. The project site is located on a relatively flat site within an urbanized and residential area of the City that has not experienced wildfire. The topography of the project site

[55] Department of Toxic Substances Control (DTSC). Envirostor. 2021 Hazardous Waste and Substances Site List. Website: https://www.envirostor.dtsc.ca.gov/public/search.asp?page=1&cmd=search&business_name=&main_street_name=&city=&zip=&county=&status=ACT%2CBKLG%2CCOM&branch=&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&npl=&funding=&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST&reporttype=CORTESE&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_pol=&business_type=&case_type=&searchtype=&hwmp_site_type=&cleanup_type=&ocieerp=&hwmp=False&permitted=&pc_permitted=&inspections=&inspectionsother=&complaints=&censustract=&cesdecile=&school_district=&orderby=upper%28business%5Fname%29. Accessed February 16, 2022.

[56] Contra Costa County Airport Land Use Commission. 2000. Contra Costa County Airport Land Use Compatibility Plan. Website: https://www.contracosta.ca.gov/DocumentCenter/View/851/Cover-Introduction-and-County-wide-Policies?bidId=. Accessed February 16, 2022.

[57] City of Hercules. 2005. Emergency Evacuation Route Zone 5. December. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/402/636582802056930000. Accessed March 24, 2022.

[58] City of Hercules. Emergency Evacuation Routes.https://www.ci.hercules.ca.us/government/police/emergency-preparedness/emergency-evacuation-routes. Accessed February 16, 2022.

is relatively flat with a gentle slope near the southeastern corner, and ranges between 9 feet above sea level at the northwestern boundary and 53 feet above sea level near the southeastern boundary. The structures on the project site were previously damaged in a fire; however, the fire was limited to the on-site structures and was not related in any way to a wildfire. The City is located in a Local Responsibility Area (LRA) in a Non-Very High Fire Hazard Severity Zone (VHFHSZ).[59] The site is located in an area that is mostly surrounded by other residential development, which reduces wildfire risks. Additionally, the proposed project would result in the removal of vegetation across the vacant site, further reducing the risk of wildfires. Impacts would be less than significant.

Mitigation Measures

None required.

[59] California Department of Forestry and Fire Protection (CAL FIRE). 2009. Contra Costa County: Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE. Website: https://osfm.fire.ca.gov/media/6660/fhszl_map7.pdf. Accessed February 16, 2022.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.10 Hydrology and Water Quality *Would the project:*				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which 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?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Evaluation

Setting

Water Quality

Water quality in the City is affected by a number of pollutants that are carried into surface and ground waters by runoff. New development could introduce point sources of pollution for any pollution source that would not discharge into an established sewer system. These sources would

require a NPDES permit. Development of these areas could also increase the load of nutrients, metals, oil, and grease carried in runoff from roadways to surface and ground waters.[60]

Groundwater

Groundwater underlies the City at relatively shallow depths. Throughout the lower valley, especially west of I-80, where the proposed project is located, the winter water table is typically less than 2–3 feet deep and declines to 5–6 feet during most summer months.[61]

Hydrology

The City is within three major drainage basins, all of which outfall into San Pablo Bay, and are thus subject to tidal influences. Pinole and Rodeo Creeks drain relatively small portions of the City. Pinole Creek is adjacent to the project site. Pinole Creek was recently improved by the Corps of Engineers and is presently operated and maintained by the Contra Costa County Flood Control District.[62]

Storm Drainage

Storm drainage is collected by a storm drainage system and transported to Refugio Creek and flows into San Pablo Bay. The City's Stormwater Management Plan contains BMPs that are implemented on a time frame as the City reaches physical buildout. The City seeks to implement storm drainage systems with high aesthetic and recreational value as well as adequate capacity for expected flood flows.[63]

Erosion

Erosion from runoff and storm waters occurs along unvegetated hillsides and slopes, drainage channels, and other areas of bare ground. Gullying also occurs within Hercules as a result of this type of erosion. Erosion affects water quality and wildlife habitats along with slope stability and damage to property.[64]

Flooding

Flooding is a recognized hazard in some areas of Hercules. Stormwater flooding of Refugio Valley occurs during periods of heavy rainfall and runoff, coincident with high tides affecting Refugio Creek. A backwater effect is created that prevents effective flood water discharge to San Pablo Bay.[65] Pinole Creek is in a Zone AE Flood Zone, meaning it is an area subject to inundation by a 1 percent annual-chance flood event.[66] The project site is not in this flood zone.

Would the project:

[60] City of Hercules. 1998. Hercules General Plan. The Open Space/Conservation Element. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12571/636777935669470000. Accessed February 17, 2022.
[61] Ibid.
[62] Ibid.
[63] Ibid.
[64] Ibid.
[65] Ibid.
[66] City of Hercules. 1998. Hercules General Plan. Safety Element. Figure S-3 Floodprone Areas Map. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12569/636770158459630000. Accessed February 17, 2022.

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than significant impact. Upon construction of the proposed single-family homes, the impervious areas of the project site would increase to 130,920 square feet. The proposed project may create sources of polluted runoff due to car leaks and exhaust from cars circulating the project site. However, Parcel B would be a 16,957 square feet bioretention area located at the northwest corner of the project site. Any remaining stormwater would connect to existing City stormwater infrastructure and be transported to Refugio Creek before draining into San Pablo Bay. To address potential water contaminants, the proposed project is required to comply with applicable federal, State, and local water quality regulations.

Per General Plan Program 10a.2, for each proposed development project, runoff increase calculations for the parcel at full buildout shall be measured against estimates of existing runoff to ensure that no flooding would result.[67]

The proposed project would be required to prepare and implement a SWPPP in accordance with applicable federal and State requirements. The SWPPP would identify BMPs that are intended to prevent erosion during construction activity. The proposed drainage and conveyance system is designed in accordance applicable State and local laws and regulations in order to reduce peak runoff volume, prevent inundating downstream waterways, and reduce pollutant loads. These construction and operational features would ensure the proposed project would not violate water quality standards.

Per Section 7-2.304 of the Municipal Code, an Erosion and Sediment Control Plan must be submitted to the City and approved by the City Engineer for development project.[68] Per Section 5-8.050 of the Municipal Code, a Stormwater Control Plan that meets the criteria of the most recent version of the Contra Costa Clean Water Program Stormwater C.3 Guidebook must be submitted as part of every application for a development project.[69]

The proposed project would comply with the aforementioned policies and code requirements, including the installation of landscaping and a bioretention area, to ensure that stormwater runoff would not exceed pre-project conditions and that water quality standards and waste discharge requirements are met. As such, implementation of the proposed project is not expected to substantially degrade surface or groundwater quality. Therefore, impacts to water quality would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

[67] City of Hercules. 1998. Hercules General Plan. The Open Space/Conservation Element. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12571/636777935669470000. Accessed February 17, 2022.
[68] City of Hercules. 2021. Hercules Municipal Code. Chapter 2. Grading, Excavation, and Fills. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules07/Hercules072.html. Accessed February 17, 2022.
[69] City of Hercules. 2021. Hercules Municipal Code. Chapter 8: Stormwater Management and Discharge Control. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules05/Hercules058.html. Accessed February 17, 2022.

Less than significant impact. Potable water is currently supplied to the City of Hercules by the EBMUD. EBMUD does not operate water wells in the vicinity of the project area that would deplete local groundwater.[70] In addition, although the proposed project would increase impervious surface on-site, the proposed bioretention area would allow for treatment and percolation of water into the underlying soils, which would, in turn, contribute to groundwater recharge. Because the proposed project does not involve an increase in groundwater extraction, and would increase recharge, the proposed project would not substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table. The impact would be less than significant.

c) Substantially alter the existing drainage pattern of 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;

Less than significant impact. Grading and site preparation for the proposed project would create new drainage patterns, including surface runoff being directed to the bioretention area and eventually to the City's existing storm drainage system.

Per Section 7-2.304 of the Municipal Code, an Erosion and Sediment Control Plan must be submitted to the City and approved by the City Engineer for development project.[71] Furthermore, the proposed project is subject to NPDES requirements. Areas of 1 acre or more of disturbance are subject to preparing and implementing a SWPPP for the prevention of runoff during construction. Compliance with these policies would ensure that impacts would be less than significant.

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less than significant impact. As described above, Pinole Creek, which is adjacent to the project site is in a Zone AE Flood Zone, meaning it is an area subject to inundation by a 1 percent annual-chance flood event.[72] The project site is not within this flood zone.[73] Furthermore, the proposed project is subject to NPDES requirements and areas of 1 acre or more of disturbance are subject to preparing and implementing a SWPPP for the prevention of runoff during construction. Therefore, compliance with these policies would ensure that impacts would be less than significant.

(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

[70] East Bay Municipal Utility District. January 2022. East Bay Plain Subbasin Groundwater Sustainability Plan.
[71] City of Hercules. 2021. Hercules Municipal Code. Chapter 2. Grading, Excavation, and Fills. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules07/Hercules072.html. Accessed February 17, 2022.
[72] City of Hercules. 1998. Hercules General Plan. Safety Element. Figure S-3 Flood Prone Areas Map. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12569/636770158459630000. Accessed February 17, 2022.
[73] Federal Emergency Management Agency (FEMA). 2021. FEMA National Flood Hazard Layer (NHFL) Viewer. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed February 17, 2022.

Less than significant impact. As described above, Per Section 5-8.050 of the Municipal Code, a Stormwater Control Plan that meets the criteria of the most recent version of the Contra Costa Clean Water Program Stormwater C.3 Guidebook must be submitted as part of every application for a development project.[74]

The proposed drainage and conveyance system is designed in accordance applicable State and local laws and regulations in order to reduce peak runoff volume, prevent inundating downstream waterways, and reduce pollutant loads. These construction and operational features would ensure the proposed project would not violate water quality standards.

Per Section 7-2.304 of the Municipal Code, an Erosion and Sediment Control Plan must be submitted to the City and approved by the City Engineer for development project.[75] Per Section 5-8.050 of the Municipal Code, a Stormwater Control Plan that meets the criteria of the most recent version of the Contra Costa Clean Water Program Stormwater C.3 Guidebook must be submitted as part of every application for a development project.[76]

The proposed project would comply with the aforementioned policies and code requirements, including the installation of landscaping and a bioretention area, to ensure that stormwater runoff would not exceed pre-project conditions, and that water quality standards and waste discharge requirements are met. Therefore, impacts would be less than significant.

(iv) impede or redirect flood flows?

Less than significant impact. As described above, Pinole Creek, which is adjacent to the project site is in a Zone AE Flood Zone, meaning it is an area subject to inundation by a 1 percent annual-chance flood event.[77] The project site does not overlap with this flood zone.[78] Furthermore, the proposed project is subject to NPDES requirements. Areas of one acre or more of disturbance are subject to preparing and implementing a SWPPP for the prevention of runoff during construction. Therefore, compliance with these policies would ensure that impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than significant impact. As described above, Pinole Creek, which is adjacent to the project site is in a Zone AE Flood Zone, meaning it is an area subject to inundation by a 1 percent annual-chance flood event.[79] However, the project site does not overlap with this flood zone.[80] According to the

[74] City of Hercules. 2021. Hercules Municipal Code. Chapter 8: Stormwater Management and Discharge Control. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules05/Hercules058.html. Accessed February 17, 2022.
[75] City of Hercules. 2021. Hercules Municipal Code. Chapter 2. Grading, Excavation, and Fills. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules07/Hercules072.html. Accessed February 17, 2022.
[76] City of Hercules. 2021. Hercules Municipal Code. Chapter 8: Stormwater Management and Discharge Control. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules05/Hercules058.html. Accessed February 17, 2022.
[77] City of Hercules. 1998. Hercules General Plan. Safety Element. Figure S-3 Floodprone Areas Map. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12569/636770158459630000. Accessed February 17, 2022.
[78] Federal Emergency Management Agency (FEMA). 2021. FEMA National Flood Hazard Layer (NHFL) Viewer. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed February 17, 2022.
[79] City of Hercules. 1998. Hercules General Plan. Safety Element. Figure S-3 Floodprone Areas Map. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/12569/636770158459630000. Accessed February 17, 2022.
[80] Federal Emergency Management Agency (FEMA). 2021. FEMA National Flood Hazard Layer (NHFL) Viewer. Website: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed February 17, 2022.

California Department of Conservation's California Tsunami Maps and Data, the project site would not be at risk in the event of a tsunami.[81] Therefore, impacts would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than significant impact. Construction and operation of the proposed project would be subject to State and regional requirements related to stormwater runoff. Required compliance with State and local regulations regarding stormwater and dewatering during construction and operation would ensure that the proposed project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan. As a result, this impact would be less than significant.

Mitigation Measures

None required.

[81] California Department of Conservation. 2021. California Tsunami Maps and Data. Website: https://www.conservation.ca.gov/cgs/tsunami/maps. Accessed February 17, 2022.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.11 Land Use and Planning *Would the project:*				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Environmental Evaluation

Setting

The project site is within an established urban and residential area. The proposed project would develop 40 residential lots on the approximately 7.44-acre project site.

As described in Section 1.3.1, Land Use and Zoning, the General Plan and Hercules Zoning Map designate the project site as Residential Single-Family Low Density (RS-L). The General Plan states this land use designation is intended to provide areas with suburban single-family subdivisions.

Would the project:

a) Physically divide an established community?

Less than significant impact. The physical division of an established community typically refers to the construction of a physical feature, such as an interstate highway or railroad tracks, or removal of a means of access, such as a local road or bridge that would impair mobility within an existing community or between a community and outlying area. The project site is in a developed urban and residential area. Surrounding land uses include residential neighborhoods to the north and east; a neighborhood park and Pinole Creek to the west; and railroad tracks, the Pinole Senior Center Building, and commercial businesses to the south.

Development of the proposed project would not disrupt the surrounding land uses or divide the physical arrangement of the established communities to the north, south, east, and west of the project site. The proposed project would have a similar use to adjacent land. Additionally, the proposed project would include an EVA road that would connect to Skelly and circle the project site; thereby improving connectivity and access in the community. Additional pedestrian access would be added to the site via internal sidewalks connecting to existing sidewalks on Skelly and via a pedestrian trail to the south of the project site connecting Skelly to San Pablo Avenue. Therefore, the proposed project would not physically divide an established community and would improve connectivity within the community, and impacts would be less than significant.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than significant impact. As described in Section 1.3.1, Land Use and Zoning, the RS-L designation allows for 2 to 7 units per acre. The proposed project would construct 40 units on 7.44 acres, which is approximately 5.4 units per acre, compliant with the land use designation. The maximum allowable building height is 35 feet. The maximum height of each single-family home would be 26 feet and 9 inches, which is below the maximum allowable building height. The minimum lot size for this land use designation is 6,000 square feet. The proposed project's lot sizes range from 3,983 to 6,880 square feet. The RS-L land use designation has a minimum required front setback of 20 feet, minimum rear setback of 15 feet, and minimum side setback of 5 feet. The proposed residential units would have front setbacks of at least 20 feet, rear setbacks of at least 27 feet, and minimum side setbacks of 5 feet.

The project applicant is requesting approval for a Planned Development Plan to deviate from the minimum lot size, lot width, lot depth, and corner side yard setbacks requirements for selected lots. According to Municipal Code Section 13.48, development design may deviate from the standards of a zoning district to the extent that the Planned Development Plan is consistent with the intent of the General Plan and Zoning Ordinance. Currently, the Municipal Code Section 13.48 only allows zoning standard deviation up to 10 percent when processing a project through a Planned Development Plan. As such, the project applicant is also requesting a Zoning Amendment to change text in Section 13.48 to eliminate the limitations on the amount of a deviation allowed by a Planned Development Plan. With the approval of the Zoning Amendment and Planned Development Plan, the proposed project would be consistent with the land use and zoning of the project site. As such, impacts are considered less than significant.

Noise Land Use Compatibility

For a discussion of the characteristics of noise and further information regarding the applicable noise regulatory framework, refer to the Noise impact discussion in Section 2.13 of this document.

Implementation of the proposed project could introduce new land uses to an existing ambient noise environment that could conflict with the City's established noise land use compatibility guidelines. Therefore, a significant impact would occur if the proposed project would result in a conflict with the City's adopted noise land use compatibility standards in relation to existing ambient noise levels.

The City has established Exterior Noise Exposure Land Use Compatibility Standards for new land use developments in Table 6 of the Noise Element of the General Plan.[82] The land use category in the table that is applicable to the proposed project is Residential, Hotels and Motels. Under this designation, noise environments with ambient noise levels up to 60 A-weighted decibel (dBA) day/night noise level (L_{dn}) are considered "Normally Acceptable," for new residential land use development. Noise environments with ambient noise levels from 60 dBA to 75 dBA L_{dn} are considered "Conditionally Acceptable" for new residential land use development; however, under this circumstance, new construction or development should be undertaken only after a detailed

[82] City of Hercules. 1998. Hercules General Plan. September 22. Website: https://www.ci.hercules.ca.us/government/planning/general-plan. Accessed March 4, 2022.

analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional constructions, but with closed windows and fresh air supply systems or air conditioning, would normally suffice. Noise environments with ambient noise levels of 75 dBA to 80 dBA L_{dn} are considered "Unacceptable" for new residential land use development. Policy 1 of the Noise Element also establishes maximum allowable interior and exterior noise exposure standards for residential land uses within the City. The maximum acceptable noise levels in residential areas is a 24-hour average noise level of 60 dBA L_{dn}. If the residential land use is near a railroad noise source, then the outdoor noise exposure criterion should be 70 dBA L_{dn} for future residential development.

Existing traffic noise levels along selected roadway segments in the project vicinity were modeled using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108) in order to determine the daily average traffic noise levels on select roadway segments in the project's immediate vicinity. The daily traffic volumes were obtained from the TIA prepared for the project by TJKM.[83] The traffic volumes described in Table 13 correspond to the existing without project conditions traffic scenario as described in the traffic study prepared for the project. The model inputs and outputs—including the 60 dBA, 65 dBA, and 70 dBA L_{dn} noise contour distances—are provided in Appendix F. A summary of the modeling results is shown in Table 13.

Table 13: Existing Traffic Noise Model Results Summary

Roadway Segment	Approximate ADT	Centerline to 70 Ldn (feet)	Centerline to 65 Ldn (feet)	Centerline to 60 Ldn (feet)	CNEL (dBA) 50 feet from Centerline of Outermost Lane
Skelly–South of Hercules Avenue	290	< 50	< 50	< 50	44.9
Hercules Avenue–Skelly to San Pablo Avenue	6,000	< 50	< 50	< 50	57.0
San Pablo Avenue–west of Hercules Avenue	21,200	58	116	246	68.2

Notes:
ADT = Average Daily Traffic
[1] Modeling results do not take into account mitigating features such as topography, vegetative screening, fencing, building design, or structure screening. Rather it assumes a worst-case of having a direct line of site on flat terrain.
Source: FirstCarbon Solutions (FCS) 2022.

The modeling results in Table 12, above, show that traffic noise levels along Skelly and Hercules Avenue average approximately 45 dBA and 57 dBA L_{dn}, respectively, as measured at 50 feet from the centerline of the outermost travel lane. These traffic noise levels are within the City's normally "Normally Acceptable" standards for new residential land use development.

Existing traffic noise levels along San Pablo Avenue average approximately 68 dBA L_{dn}, as measured at 50 feet from the centerline of the outermost travel lane. The closest proposed residence on the project site would be located over 360 feet from the centerline of San Pablo Avenue. At this distance,

[83] TJKM. 2022. Draft Traffic Impact Analysis Report, 215 Skelly Residential Development. February 28.

traffic noise levels from San Pablo Avenue would attenuate to below 55 dBA L_{dn}. These traffic noise levels are within the City's normally "Normally Acceptable" standards for new residential land use development.

Therefore, traffic noise impacts to the proposed project would not exceed the City's land use compatibility noise standards for the proposed single-family residential land uses.

However, the project site is also located adjacent to an existing BNSF rail line. According to the latest crossing inventory data,[84] this rail line experiences an average of 12 daily train passings. To document existing ambient noise levels, including noise from railroad activity as well as stationary noise sources in the project vicinity, a long-term ambient noise measurement was conducted. The long-term 24-hour noise measurement was taken on March 16 to March 17, 2022, at the southeastern boundary of project site, approximately 50 feet from the railroad tracks. As noted by the noise technician, the dominant noise source at this location was railroad activity. Noise from the senior center facility south of the project site was also audible. The resulting measurement showed that the daytime average noise level was 57.5 dBA the equivalent sound level (L_{eq}) and the nighttime average noise level was 52.4 dBA $L_{eq,}$ with a 24-hour average noise level of 60.6 dBA L_{dn}. The noise monitoring data sheets are provided in Appendix F.

These documented ambient noise levels meet the City's exterior noise standard of 70 dBA L_{dn} for new residential land use development located near railroad noise sources. However, it should be noted that the closest proposed residence on the project site would be located over 130 feet from the centerline of the rail line. At this distance, (and conservatively assuming that the measured noise levels are predominantly from railroad noise sources) noise levels from railroad activity would attenuate to below 53 dBA L_{dn}. These ambient noise levels are within the City's "Normally Acceptable" standards for new residential land use development.

These documented ambient noise levels, as measured at the nearest proposed residential units, that include train noise and stationary source noise levels, are within the City's "Normally Acceptable" range of below 60 dBA L_{dn} for new residential land use developments, and no additional mitigation would be required. Therefore, implementation of the proposed project would not result in a conflict with the City's adopted land use compatibility for community noise environments standards, and this impact would be less than significant.

Mitigation Measures

None required.

[84] United States Department of Transportation (USDOT). 2022. USDOT Crossing Inventory Form.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.12 Mineral Resources *Would the project:*				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Evaluation

Setting

There are four classifications of Mineral Resource Zones (MRZ) to classify existing or potential mineral resource sites within areas of the State and they are described as follows:

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood exists for their presence. This zone shall be applied where the likelihood for occurrence of significant mineral deposits is nil or slight.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or where the likelihood for occurrence of significant mineral deposits is high.
- **MRZ-3:** Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas where available information is inadequate for assignment to any other MRZ zone.

According to the General Plan Open Space and Conservation Element, the City contains areas designated with MRZ-1, MRZ-3, and MRZ-4.[85] There are no areas designated as MRZ-2 and there are no significant mineral deposit areas within the City. MRZ-3 zones have been mapped for the hills to the north and south of Highway 4 east of Highway 80 and the high area north of John Muir Parkway to the west of Highway 80.[86]

[85] City of Hercules. 1998. Hercules General Plan – Open Space and Conservation Element. Website: https://www.ci.hercules.ca.us/home/showdocument?id=12571. Accessed February 25, 2022.
[86] Ibid.

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No impact. The State Board of Mining and Geology have adopted regulations to protect lands classified as MRZ-2 (lands where information indicates that significant stone, sand, and/or gravel deposits are present, or where a high likelihood of their presence exist). There are no areas in the City that are designated as MRZ-2 identified by the California Department of Conservation, Division of Mines and Geology for the City. However, the City does contain areas designated as MRZ-3. The Hercules General Plan identifies that MRZ-3 zones have been mapped for the hills to the north and south of Highway 4 east of Highway 80 and the high area north of John Muir Parkway to the west of Highway 80. The project site is not located within this area. No impact would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No impact. The project area does not support any mineral extraction activities and there are no known mineral deposits within the City. Therefore, implementation of the proposed project would not result in the loss of availability of a locally important mineral recovery site delineated in a local general plan, specific plan, or other land use plan. No impact would occur.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.13 Noise *Would the project result in:*				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Evaluation

Characteristics of Noise

Noise is generally defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, causes physiological harm or interferes with communication, work, rest, recreation, and sleep. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Only audible changes in existing ambient or background noise levels are considered potentially significant.

An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness. Sound intensity is normally measured through the A-weighted sound level. dBA approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies that are audible to the human ear.

Noise Descriptors

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound, including during sensitive times of the day and night. The predominant rating scales in the State of California include the L_{eq}, the CNEL, and the day-night average sound level (L_{dn}) all of which are based on dBA. The L_{eq} is the total sound energy of time varying noise over a sample period. The CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). These additions are made to the sound levels at these times because there is a decrease in the ambient noise levels during the evening and nighttime hours, which creates an increased sensitivity to sounds. For this reason, sound is perceived to be louder in the evening and nighttime hours as compared with daytime hours and is weighted accordingly. Many cities rely on the CNEL noise standard to assess transportation-related impacts on noise-sensitive land uses. The L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} measurements are typically within 1 dBA of each other and are normally exchangeable.

Existing Noise Environment

To document existing ambient noise levels in the project vicinity, a long-term ambient noise measurement was conducted. The long-term 24-hour noise measurement was taken on March 16, to March 17, 2022, at the southeastern boundary of project site, approximately 50 feet from the BNSF railroad tracks. As noted by the noise technician, the dominant noise source at this location was railroad activity. Noise from the senior center facility south of the project site was also audible. The resulting measurement showed that the daytime average noise level was 57.5 dBA L_{eq} and the nighttime average noise level was 52.4 dBA $L_{eq,}$ with a 24-hour average noise level of 60.6 dBA L_{dn}. The noise monitoring data sheets are provided in Appendix F.

Regulatory Framework

The project site is located within the City of Hercules in Contra Costa County. The City of Hercules addresses noise in the Public Safety and Noise Element of its General Plan and in its Municipal Code.[87,88]

City of Hercules General Plan

The City's General Plan establishes guidelines and policies that address noise. The Noise Element establishes land use compatibility standards for new land development projects, as shown in Table 14:

[87] City of Hercules. 1998. Hercules General Plan. September 22. Website: https://www.ci.hercules.ca.us/government/planning/general-plan. Accessed March 4, 2022.

[88] City of Hercules. 2021. Hercules Municipal Code. July 27. Website: https://www.codepublishing.com/CA/Hercules. Accessed March 4, 2022.

Table 14: Land Use Compatibility for Community Noise Environments in the City of Hercules

Land Use Category	Exterior Noise Exposure (dBA CNEL or L_{dn})					
	55	60	65	70	75	80
Residential, Hotels, and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial, and Professional						
Auditoriums, Concert Halls, Amphitheaters						
Industrial, Manufacturing, Utilities, and Agriculture						

Key:

	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal convention construction, without any special insulation requirements.
	Conditionally Acceptable: Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features are included in the design to mitigate noise to normally acceptable levels.
	Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Source: City of Hercules General Plan 1998.

Policy 1 of the Noise Element also establishes maximum allowable interior and exterior noise exposure standards for residential land uses within the City. The maximum acceptable noise levels in residential areas is a 24-hour average noise level of 60 dBA Ldn. If the residential land use is near a railroad noise source, then the outdoor noise exposure criterion should be 70 dBA Ldn for future residential development.

Long-term noise impacts generated by traffic from new projects are considered significant if: (1) the noise level increase is 5 dBA Ldn or greater and the future noise level is less than 60 dBA Ldn; or (2) the noise level increase is 3 dBA L_{dn} or greater and the future noise level is 60 dBA L_{dn} or greater.

Noise levels from stationary sources associated with new projects are considered significant if they exceed the 50 dBA L_{eq} or 70 dBA L_{max}, during daytime hours (7:00 a.m. to 10:00 p.m.), or 45 dBA L_{eq} or 65 dBA L_{max} during nighttime hours (10:00 p.m. to 7:00 p.m.).

According to Policy 6 of the Noise Element, the City requires implementation of the following measures to ensure that the level of noise generated by construction would be reduced at noise-sensitive land uses:

- For construction near noise-sensitive areas, as determined by the Community and Business Development Department, require that noisy construction activities (including truck traffic) be scheduled for periods, according to construction permit to limit impact on adjacent residents or other sensitive receptors.
- Develop a construction schedule that minimizes potential cumulative construction noise impacts and accommodates particularly noise-sensitive periods for nearby land uses (e.g., for schools, churches, etc.)
- Where feasible, require that holes for driven piles be pre-drilled to reduce the level and duration of noise impacts.
- Where feasible, construct temporary solid noise barriers between source and sensitive receptor(s) to reduce off-site propagation of construction noise. This measure could reduce construction noise by up to 5 decibels.
- Require internal combustion engines used for construction purposes to be equipped with a properly operating muffler of a type recommended by the manufacturer. Also, require impact tools to be shielded per manufacturer's specifications.

Hercules Municipal Code

The City of Hercules adopted a Zoning Ordinance with applicable noise standards in Section 13.31.300(11): Noise. Many of the ordinances are duplicative of the policies contained in the Noise Element of the City's General Plan. However, the following additional regulation would also apply to the proposed project.

Where noise levels exceed community noise standards for a proposed land use, one or more of the following techniques may be required to reduce the noise to an acceptable level:

1. Proper site planning to reduce noise impacts should be investigated for a project. By taking advantage of the natural shape and contours of the site, it is often possible to arrange the buildings and other uses in a manner which would reduce and possibly eliminate noise impact. Site planning techniques include:
    a. Increasing the distance between the noise sources and the receiver.

b. Placing non noise-sensitive structures such as parking lots, maintenance facilities and utility areas between the source and the receiver.
c. Using non noise-sensitive structures such as garages to shield noise-sensitive areas.
d. Orienting buildings to shield outdoor spaces from a noise source.

2. Architectural Layout: In many cases, noise reduction requirements can be met by giving attention to layout of noise-sensitive spaces. Bedrooms, for example, would be considerably quieter if placed on the side of the house facing away from the freeway. Similarly, balconies facing freeways should be avoided. Quiet outdoor spaces can be provided next to a noisy highway by creating a U-shaped development which faces away from the highway.
3. Noise Barriers: To be effective, a noise barrier must be massive enough to prevent significant noise transmission through it and high enough to shield the receiver from the noise source. The minimum acceptable surface weight for a noise barrier is 4 pounds per square foot (equivalent to ¾-inch plywood), and the barrier must be carefully constructed so that there are no cracks or openings. To be effective, a barrier must interrupt the line-of-sight between the noise source and the receiver.

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Short-term Construction Impacts

Less than significant impact with mitigation incorporated. A significant impact could occur if construction activities result in a substantial temporary increase in ambient noise levels outside of the City's permissible hours of 7:00 a.m. and 10:00 p.m. or if construction activities exceed the maximum sound levels established by the City's General Plan Noise Element action policies listed above.

Construction-related Traffic Noise

Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. One type of short-term noise impacts that could occur during project construction would result from the increase in traffic flow on local streets associated with the transport of workers, equipment, and materials to and from the project site.

The transport of workers and construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because workers and construction equipment would use existing routes, noise from passing trucks would be similar to existing vehicle-generated noise on these local roadways. Typically, a doubling of the Average Daily Traffic (ADT) hourly volumes on a roadway segment is required in order to result in an increase of 3 dBA in traffic noise levels, which, as discussed in the Characteristics of Noise section above, is the lowest change that can be perceptible to the human ear in outdoor environments. Project-related construction trips would not be expected to double the hourly traffic volumes along any roadway

segment in the project vicinity. For this reason, short-term intermittent noise from construction trips would be minor when averaged over a longer time period and would not result in a perceptible increase in hourly or daily average traffic noise levels in the project vicinity. Therefore, short-term construction-related noise impacts associated with the transportation of workers and equipment to the project site would be less than significant.

Construction Equipment Operational Noise

The second type of short-term noise impact is related to noise generated during construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings. Impact equipment, such as impact pile drivers, are not expected to be used during construction of this project.

The loudest phase of construction is typically the site preparation and grading phase, as that is when the loudest pieces of heavy construction equipment would operate. For example, the maximum noise level generated by each scraper is assumed to be 85 dBA L_{max} at 50 feet from this equipment. Each bulldozer would also generate 85 dBA L_{max} at 50 feet. The maximum noise level generated by graders is approximately 85 dBA L_{max} at 50 feet.

A conservative but reasonable assumption is that this equipment would operate simultaneously and continuously over at least a 1-hour period in the vicinity of the closest existing residential receptors but would move linearly over the project site as they perform their earth moving operations, spending a relatively short amount of time adjacent to any one receptor. A characteristic of sound is that each doubling of sound sources with equal strength increases a sound level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, a reasonable worst-case combined noise level during this phase of construction would be 90 dBA L_{max} at a distance of 50 feet from the acoustic center of a construction area. The acoustical center reference is used because construction equipment must operate at some distance from one another on a project site and the combined noise level as measured at a point equidistant from the sources (acoustic center) would be the worst-case maximum noise level. These operations would be expected to result in a reasonable worst-case hourly average of 86 dBA L_{eq} at a distance of 50 feet from the acoustic center of a construction area. These reasonable worst-case construction noise levels would only occur during the site preparation phase of development.

The closest sensitive-noise receptor to the project site is the single-family residential land use located west of the project site at the south end of the Rosti cul-de-sac. This closest residence would be located approximately 65 feet from the nearest acoustic center of the construction footprint where the heaviest construction equipment would be operating. At this distance, these residential land uses may be exposed to noise levels ranging up to approximately 83 dBA maximum noise/sound

level (L_{max}), with a relative worst-case hourly average of 79 equivalent sound level (L_{eq}) when site preparation construction activities occur at the portion of the project site nearest these homes.

Although there could be a relatively high single event noise exposure potential causing an intermittent noise nuisance, the effect of construction activities on longer-term (hourly or daily) ambient noise levels would be small but could result in a temporary increase in ambient noise levels in the project vicinity that could result in annoyance or sleep disturbance of nearby sensitive receptors. Implementation of General Plan Policy 6 would help reduce potential construction noise impacts. As recommended in this policy, construction activities should comply with restricted hours of operation which would reduce potential impacts that could result in annoyance or sleep disturbances at nearby sensitive receptors. Therefore, restricting construction activities to daytime hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday, as well as implementing the best management noise reduction techniques and practices outlined in MM NOI-1, would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, with implementation of MM NOI-1, temporary construction noise impacts would be reduced to less than significant.

Operational/Stationary Source Noise Impacts

Less than significant impact. A significant impact would occur if operational noise levels associated with the proposed project's stationary noise sources would exceed the City's maximum noise limits at any of the designated surrounding land uses. According to General Plan Policy 3, noise levels from stationary sources associated with new projects are considered significant if they exceed the 50 dBA L_{eq} or 70 dBA L_{max} during daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA L_{eq} or 65 dBA L_{max} during nighttime hours (10:00 p.m. to 7:00 p.m.).

The proposed project would include new stationary noise sources such as mechanical ventilation equipment. Potential noise impacts from these sources are analyzed below.

Mechanical Equipment Operations

At the time of preparation of this analysis, details were not available pertaining to proposed mechanical ventilation systems for the project. Therefore, a reference noise level for typical single-family mechanical ventilation systems was used. Noise levels from these types of mechanical ventilation equipment range from 60 dBA to 70 dBA L_{eq} as measured at approximately 3 feet from the operating unit.

Proposed mechanical ventilation systems could be located as close as approximately 40 feet from the nearest off-site receptors. In addition, the proposed project would include solid fencing along adjacent residential land uses which would provide additional shielding. At this distance and with minimal shielding reduction from proposed fencing, noise generated by proposed mechanical ventilation equipment would attenuate to below 45 dBA L_{eq}, as measured at the nearest off-site residential receptor. These noise levels would not exceed the City's applicable noise performance standards.

Therefore, proposed mechanical ventilation system operational noise levels would not result in a substantial permanent increase in noise levels in excess of established standards. The impact of mechanical ventilation equipment operational noise levels on sensitive off-site receptors would be less than significant.

Operational/Mobile Source Noise Impacts

Less than significant impact. A significant impact would occur if implementation of the proposed project would result in a substantial increase in traffic noise levels compared with traffic noise levels existing without the project. According to the City's adopted policies of the General Plan, noise level increase resulting from project-related traffic would be a significant impact if:

(1) Traffic noise levels would increase by *5* dBA L_{dn} or greater and the future noise level is less than 60 dBA L_{dn};

(2) Or traffic noise levels would increase by 3 dBA L_{dn} or greater and the future noise level is 60 dBA L_{dn} or greater.

The FHWA highway traffic noise prediction model (FHWA-RD-77-108) was used to evaluate existing and future traffic noise conditions in the vicinity of the project site. The daily traffic volumes were obtained from the TIA prepared for the project by TJKM.[89] The resultant noise levels were weighed and summed over a 24-hour period in order to determine the L_{dn} values. The traffic noise modeling input and output files are included in Appendix F of this document. Table 15 shows a summary of the traffic noise levels for Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project conditions as measured at 50 feet from the centerline of the outermost travel lane.

Table 15: Traffic Noise Model Results Summary

Roadway Segment	L_{dn} (dBA) 50 feet from Centerline of Outermost Lane					
	Existing (dBA) L_{dn}	Existing Plus Project (dBA) L_{dn}	Increase Over Existing (dBA)	Cumulative (dBA) L_{dn}	Cumulative Plus Project (dBA) L_{dn}	Increase Over Cumulative (dBA)
Skelly–South of Hercules Avenue	44.9	47.9	3.0	45.5	48.8	3.3
Hercules Avenue–Skelly to San Pablo Avenue	57.0	57.3	0.3	57.7	57.9	0.2
San Pablo Avenue–west of Hercules Avenue	68.2	68.2	0.0	68.8	68.8	0.0

Notes:
dBA = A-weighted decibel
L_{dn} = day/night average sound level
[1] Modeling results do not take into account mitigating features such as topography, vegetative screening, fencing, building design, or structure screening. Rather it assumes a worst-case of having a direct line-of-sight on flat terrain.
Source: FirstCarbon Solutions (FCS). 2022.

[89] TJKM. 2022. Draft Traffic Impact Analysis Report, 215 Skelly Residential Development. February 28.

As shown in Table 17 above, the highest traffic noise level increase with implementation of the proposed project would occur along Skelly, south of Hercules Avenue, under Cumulative Plus Project conditions. The modeling results show that traffic noise levels without the proposed project would range up to 48.8 dBA L_{dn} as measured at 50 feet from the centerline of the outermost travel lane along this roadway segment. Since the future noise levels along this roadway segment are less than 60 dBA L_{dn}, a 5 dBA or greater increase would be considered a significant increase in traffic noise levels. As shown above, because the project traffic along this roadway segment would result in up to a 3.3 dBA in traffic noise levels compared to traffic noise levels without the proposed project, the increase would be less than significant.

As shown in Table 17, all other modeled roadway segments would experience less than a 1 dBA increase in traffic noise levels compared to traffic noise levels existing without the project. Therefore, project-related traffic would not result in a substantial permanent increase in noise levels and the impact would be less than significant.

Therefore, project traffic would not result in a substantial increase in ambient noise levels, and project-related traffic noise impacts on off-site receptors would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact. A significant impact would occur if the proposed project would generate groundborne vibration or groundborne noise levels in excess of established standards. The City of Hercules does not establish a groundborne vibration threshold, so for purposes of this analysis Federal Transit Administration (FTA) standards are used. For determining construction-related vibration impacts, the FTA's Construction Vibration Impact Criteria are utilized. The FTA has established industry accepted standards for vibration impact assessment in its Transit Noise and Vibration Impact Assessment Manual, dated September 2018.

Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves. In general, if groundborne vibration levels do not exceed levels considered to be perceptible, then groundborne noise levels would not be perceptible in most interior environments. Therefore, this analysis focuses on determining exceedances of groundborne vibration levels.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving and operating heavy earthmoving equipment. However, construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). For purposes of this analysis, project-related impacts are expressed in terms of PPV.

Short-term Construction Vibration Impacts

A significant impact would occur if existing structures at the project site or in the project vicinity would be exposed to groundborne vibration levels in excess of levels established by the FTA's Construction Vibration Impact Criteria for the type of structure.

Of the variety of equipment used during construction, the small vibratory rollers that are anticipated to be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. Small vibratory rollers produce groundborne vibration levels ranging up to 0.101 inch per second (in/sec) PPV at 25 feet from the operating equipment.

The nearest off-site receptor to the project site is the single-family residence located west of the project site. The façade of this building would be located approximately 45 feet from the nearest construction footprint where the heaviest construction equipment would potentially operate. At this distance, groundborne vibration levels would range up to 0.04 PPV from operation of the types of equipment that would produce the highest vibration levels. This is below the FTA's Construction Vibration Impact Criteria of 0.2 PPV for buildings of non-engineered timber and masonry.

Therefore, project construction activities would not generate groundborne vibration levels in excess of the FTA's criteria, and impacts would be considered less than significant as measured at the nearest receiving structures in the project vicinity. Project construction-related groundborne vibration impacts would be less than significant.

Operational Vibration Impacts

A significant impact would occur if the proposed project would generate excessive groundborne vibration levels at sensitive receptors in the project vicinity.

Implementation of the proposed project would not include any permanent sources that would generate groundborne vibration levels that could be noticeable without instruments at the lot line of the project site. Therefore, project operations would not generate permanent excessive groundborne vibration levels or expose proposed uses to excessive groundborne vibration levels, and operational groundborne vibration impacts would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is not located within the vicinity of a private airstrip. The nearest public airport to the project site is the Buchanan Field Airport in Contra Costa County, located approximately 12.4 miles east of the project site. The next closest airport to the project site is the San Rafael Field Airport, located approximately 17 miles west of the project site. Because of the distance from these airports and the orientation of the airport runways, the project site is located outside of the 65 dBA CNEL airport noise contours. No impact would occur.

Mitigation Measures

MM NOI-1 To reduce potential construction noise impacts, the following best management measures shall be implemented during all phases of construction. In addition, all of the following measures shall be printed on the project construction documents prior to issuance of building permits:

- The construction contractor shall limit noise producing construction activities, including deliveries and equipment warmup, to the hours between 7:00 a.m. to 7:00 p.m., Monday through Saturday. No noise producing construction activity shall be permitted on Sundays.
- The construction contractor shall ensure that all equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.
- The construction contractor shall ensure that unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes) is prohibited.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where such market available technology exists.
- At all times during project grading and construction, the construction contractor shall ensure that stationary noise-generating equipment shall be located as far as practicable, and a minimum of 50 feet, from sensitive receptors and placed so that emitted noise is directed away from the nearest residential land uses.
- Where a solid fence or wall is not already present along the property line of an adjoining residential land use, the construction contractor shall construct temporary, minimum 6-foot-high, solid noise barrier/fence with a minimum surface weight of 4 pounds per square foot, which would be effective to reduce construction noise by up to 5 A-weighted decibel (dBA).
- The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (starting too early, bad muffler, etc.) and establish reasonable measures necessary to correct the problem. The construction contractor shall visibly post a telephone number for the disturbance coordinator at the construction site.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.14 Population and Housing *Would the project:*				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

Environmental Evaluation

Setting

According to the California Department of Finance (CDF), the City of Hercules' estimated population as of January 2021 was approximately 25,864. This was a 1.5 percent increase from January 2020s population of 25,494.[90]

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than significant impact. According to the CDF, the average persons per household in the City of Hercules is 3.05. Given that the proposed project would construct 40 units, it can be assumed that the proposed project would generate 122 new residents.[91] This is less than 1 percent of an increase of the City's total population in 2021. Additionally, as stated in the City's Housing Element for 2015-2023, the City's population is projected to increase to approximately 31,300 by 2025 and to 39,500 by 2040.[92] The proposed project is also consistent with the General Plan's land use designation of the project site. Therefore, the population growth of 122 new residents is considered planned growth. The proposed project would also contribute 40 residential units to the future housing need for the 6th Cycle planning period. Therefore, the proposed project would not induce substantial unplanned population growth in the City, either through new housing or proposing new businesses or indirectly through extension of roads or other infrastructure. Therefore, a less than significant impact would occur.

[90] California Department of Finance (CDF). 2021. E-1 Population Estimates for Cities, Counties, and the State – January 1, 2020 and 2021. Website: https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-1/. Accessed March 1, 2022.
[91] 3.05 persons per residential unit * 40 residential units = 122 persons.
[92] City of Hercules. 2015. City of Hercules, Housing Element, 2015-2023. April.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less than significant impact. The project site currently contains a vacant single-family residence, 58 horse paddocks, a permitted 2,400-square-foot storage building, miscellaneous outbuildings, and a large metal clad shed. Development of the proposed project would involve the removal of some of the existing trees, vegetation, and all existing structures currently on the project site and would develop 40 single-family residential lots. Because the existing single-family residence on-site is vacant, the proposed project would not displace existing people or housing. As a result, the proposed project would have less than significant impacts.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.15 Public Services *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Environmental Evaluation

Setting

Fire protection services for the City are provided by the Rodeo-Hercules Fire District (Fire District), which has two fire stations serving the City. Law enforcement services are provided by the Hercules Police Department (HPD).

The project site is within the West Contra Costa Unified School District (WCCUSD). The nearest schools to the project site include:

- Collins Elementary School located approximately 0.45 mile south of the site
- Pinole Middle School located approximately 0.9 mile west of the site
- Pinole Valley High School located approximately 1 mile south of the site

The nearest park facilities within 1 mile of the project site include Fernandez Park, Duck Pond Park, Bayfront Park, and Refugio Valley Park. Library services would be provided by the Contra Costa County Library system.

The information in this section is based, in part, on correspondence with Skelly Residential Project public service providers. Correspondence consisted of an inquiry sent via email on February 24, 2022. Responses were provided to FCS between March 15, 2022, and March 29, 2022, and are included as Appendix G of this document.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

Less than significant impact. The Fire District provides 24-hour protection to the City as well as the unincorporated areas of Rodeo. A 24-hour dispatch service is provided to the District under contract with the City of Pinole. The Fire District has an automatic response agreement with the Pinole Fire Department. The Fire District has two fire stations. The closest station to the project site is Fire Station No. 76 located 1.37 miles southeast of the site. This station would be the first to respond to calls from the project site, and driving time is estimated at 6 minutes. Additionally, the Rodeo-Hercules Fire Protection District and Fire Inspector would review the project design prior to the issuance of a building permit to ensure incorporation of adequate fire and life safety features in the project.

The City has adopted the California Fire Code (Municipal Code Chapter 15) with modifications for local conditions. The proposed project would comply with the adopted Fire Code and policies related to fire protection. Although the proposed project may increase the need for fire protection service at the project site with an increase in up to 122 new residents, the Fire District could adequately serve and provide fire protection services as the nearest station is approximately 6 minutes away.

On February 24, 2022, FCS sent a letter to the Fire District, inquiring about the department's ability to serve the proposed project. On March 15, 2022, a reply was received from Fire District, stating that they anticipate being able to accommodate the demand of the proposed project as part of the existing facilities, pending their design review of the proposed project. Furthermore, they stated that the proposed project would be required to pay a residential development fee for major subdivisions, as detailed in the Fire District's Fee schedule.[93]

Additionally, General Plan policies ensure that the City regularly reviews HPD staffing levels to ensure the availability of adequate fire manpower and service facilities. General Plan policies would prevent future growth that exceeds the community capability to provide fire service. As a result, impacts would be considered less than significant.

b) Police protection?

Less than significant impact. HPD headquarters are located at 111 Civic Drive, approximately 1.1 miles southeast of the project site and an approximately five-minute drive. The proposed project would result in an increase in the City's population and therefore could increase demand for police services. In addition, the proposed project would adhere to General Plan policies to further reduce potential impacts on police protection services.

On February 24, 2022, FCS sent a letter to the HPD, inquiring about the department's ability to serve the proposed project. On March 15, 2022, we received a reply from HPD Chief of Police, stating that the proposed project on its own does not create a need for new or expanded facilities. The HPD would also review project design to ensure it incorporates appropriate safety features to minimize criminal activity.

[93] Rodeo-Hercules Fire District. 2017. Engineering/Plan Review – Fee Schedule. Website: https://www.rhfd.org/wp-content/uploads/2019/04/Engineering-and-Plan-Review.pdf. Accessed March 30, 2022.

General Plan policies ensure that the City regularly reviews HPD staffing levels to ensure the availability of adequate police manpower and service facilities. General Plan policies would prevent future growth that exceeds the community capability to provide police services. Additionally, all future developments are required to pay police development impact fees pursuant to Sections 10-18.403 of the Municipal Code prior to the issuance of building permits. Implementation of these policies would ensure that adequate capital improvements are made to accommodate the increased demand for police protection services. Therefore, impacts would be less than significant.

c) Schools?

Less than significant impact. On February 24, 2022, FCS sent a letter to the WCCUSD, inquiring about its ability to serve the proposed project. On March 29, 2022, a response was received from the WCCUSD. The responder stated that the current K-12 enrollment in the School District is 25,992 students, whereas the K-12 district-wide capacity is 29,492 students. The schools expected to serve the project site are Ohlone Elementary School, which has 102 percent utilization, Hercules Middle School, which has 111 percent utilization, and Hercules High School, which has 73 percent utilization. The responder identified that it would be challenging for Ohlone Elementary School and Hercules Middle School to accommodate additional students, given that they are already beyond 100 percent utilization. However, new residential construction would have a school impact fee of $4.08 per square foot. Furthermore, the WCCUSD is embarking on a student housing study to address the need to balance enrollment, which is a Citywide issue. Potential impacts resulting from the proposed project would be reduced through the payment of development impact fees.[94] With the payment of development impact fees, impacts would be less than significant.

d) Parks?

Less than significant impact. As discussed in Section 2.16, Recreation, similar to all new development projects in the City, the project applicant would be required to dedicate land or pay fees, pursuant to Section 10-18.203 of the Hercules Municipal Code, prior to the issuance of building permits. Thus, any resulting increase in the need for additional facilities would be offset by the required payment of these development fees. Impacts would be less than significant.

e) Other public facilities?

Less than significant impact. The proposed project would result in 122 new residents to the City, which would increase the demand on other public facilities such as libraries. Library services would be provided by the Contra Costa County Library system. The nearest library to the project site is Hercules Library located approximately 1.2 miles southeast of the project site.

Additionally, as described above, the proposed project is consistent with its RS-L land use designation and the population increase of 122 persons is considered planned growth per the General Plan Housing Element. Therefore, it can be assumed that any expansion of library and other

[94] City of Hercules. 2021. Hercules Municipal Code. Website: https://www.codepublishing.com/CA/Hercules/#!/Hercules10/Hercules1018.html. Accessed March 8, 2022.

public services required by this population increase is already planned. As such, impacts would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.16 Recreation				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Evaluation

Setting

The City has one community park, the 55-acre Refugio Valley Park, and approximately nine neighborhood parks throughout the city limits.[95] The City also operates the Hercules Swim Center and Hercules Senior Center.

According to the General Plan, the Open Space/Conservation element contain the following minimum standards for parks: 3.25 acres of community parks and 1.75 acres of neighborhood parks per 1,000 residents.[96]

The closest recreational facilities to the proposed project include the following:

- Fernandez Park is located approximately 100 feet southwest of the site and is within the City of Pinole's city limits
- Bayfront Park is located approximately 0.39-mile northwest of the site
- Duck Pond Park is located approximately 0.4-mile northeast of the site
- Refugio Valley Park is located approximately 0.98-mile east of the site

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than significant impact. The proposed project would result in 122 new residents to the City, which would increase the demand on existing neighborhood parks. The proposed project would preserve 20,858 square feet of open space in the southeast corner of the project site. Pinole Creek

[95] City of Hercules. 2022. Parks. Website: https://www.ci.hercules.ca.us/government/parks-recreation/parks. Accessed March 1, 2022.
[96] City of Hercules. 2015. Open Space Conservation Plan Element. April 14.

Trail is located along the western boundary of the project site. Although, the proposed project would not develop additional parks on-site, similar to all new development projects in the City, the project applicant would be required to dedicate land or pay fees, pursuant to Section 10-18.203 of the Hercules Municipal Code, prior to the issuance of building permits. Thus, any resulting increase in the need for additional facilities would be offset by the required payment of these development fees.[97] With payment of the required fees or dedication of land, impacts would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No impact. As discussed above, the project does not propose the construction or expansion of public recreational facilities. The proposed project would result in 122 new residents, which is anticipated in the City's long-term planning documents, as discussed above. The closest park to the project site is Fernandez Park, located approximately 100 feet west of the site and would most likely serve the new residents. As described above, the proposed project would be subject to pay in lieu fees to the City for park dedication. Therefore, the proposed project would not result in adverse physical impacts associated with such facilities. Thus, no impact would occur.

Mitigation Measures

None required.

[97] City of Hercules. 2021. Development Impact Fees. Website: https://www.ci.hercules.ca.us/government/finance/impact-fees. Accessed March 3, 2022.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.17 Transportation *Would the project:*				
a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Environmental Evaluation

Setting

The following analysis is based in part on the TIA dated February 28, 2022, prepared by TJKM, which is included as Appendix H.

Changes to the CEQA Guidelines were adopted in December 2018 to implement SB 743. Guideline 15064.3, which describes criteria for evaluating a project's transportation impacts, provides that VMT is generally "the most appropriate measure of transportation impacts," and that except for roadway capacity projects, a project's effect on traffic delays "shall not constitute a significant environmental impact." These provisions went into effect July 1, 2020. While Guideline 15064.3 governs a lead agency's assessment of traffic impacts under CEQA, it does not preclude a discussion of Level of Service (LOS) for informational purposes or other traffic analysis based on general plan or zoning standards, or on other agency policies.

Therefore, findings from the TIA are provided in this report in order to evaluate traffic impacts in support of General Plan consistency.

The City of Hercules General Plan has established performance benchmarks for signalized intersections and roadway segments within its jurisdiction. The City's policy is to maintain LOS D as the desired level of service on intersections along all Basic Routes, which includes all arterials, collectors, and local roads that are not Regional Routes. There is no specified criteria for determining significant impacts to unsignalized intersections. For the purposes of this study, it was assumed that an unsignalized intersection experiences a significant inconsistency if the LOS falls below LOS D, and the intersection meets the Manual on Uniform Traffic Control Devices Peak Hour Signal Warrant during the same peak hour.

In the project vicinity, San Pablo Avenue is designated as a Route of Regional Significance. The intersection of San Pablo Avenue and Hercules Avenue is part of the CCTA Congestion Management Program (CMP) and subject to regular monitoring and separate LOS standards. The Congestion Management Program specifies level of service standards for intersections and Route of Regional Significance, but it does not provide specific thresholds of significance. The LOS Standard for the San Pablo Avenue and Hercules Avenue is LOS E.

In the City of Hercules, Skelly is a two-lane, east–west to north–south meandering street with a posted speed of 25 miles per hour (mph), which changes designation at Hercules Avenue. North of Hercules Avenue, Skelly becomes "Zeus," a local street that provides access to the Olympic Hills Homeowner's Association (HOA). South of Hercules Avenue, Skelly is a local street. On-street parking is permitted south of Hercules Avenue.

Hercules Avenue is a four-lane, north–south collector with a posted speed of 25 mph. Hercules Avenue extends from O'Neill Circle in the north to Village Parkway in the south. Sidewalks are provided on both sides, and on-street parking is generally permitted north of San Pablo Avenue.

San Pablo Avenue is the primary transit spine of the region. It travels through all of the West Contra Costa County cities, and it is the primary reliever route to I-80 during periods of severe freeway congestion. San Pablo Avenue is a four-lane major arterial that runs generally east–west in the immediate project vicinity with a posted speed limit of 25-40 mph. On-street parking is prohibited, and intermittent sidewalks are provided along particular sections of the corridor. This roadway is also designated as a Route of Regional Significance by the Contra Costa County Transportation Authority (CCTA).

I-80 is the primary interregional commute corridor through West Contra Costa County and has major regional significance to the Bay Area. I-80 is an 8- to 12-lane freeway with a posted speed limit of 65 mph. The north–south freeway connects Hercules with nearby cities, such as Richmond and Vallejo, and regional destinations, such as San Francisco and Sacramento. It also provides access to the greater freeway network with direct connections to I-580, I-680, I-780, SR-4, SR-29, and SR-37.

Would the project:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less than significant impact.

General Plan Standards and CCTA CMP

The TIA analyzed project traffic conditions in the Existing Plus Project and Cumulative Plus Projects scenarios to determine the possible adverse effects the proposed project may have on the transportation facilities. To estimate traffic for Existing Plus Project conditions, the net project trips generated by the proposed project were added to background traffic volumes at each intersection movement. TJKM developed estimated project trip generation for the proposed project based on published trip generation rates from the ITE publication Trip Generation (11th Edition). TJKM used

published trip rates for the ITE land use Single Family Detached Housing (ITE Code 210) for this project. The proposed project is expected to generate 377 total daily trips, including 28 net new a.m. peak hour trips (7 in, 21 out) and 38 net new p.m. peak hour trips (24 in, 14 out).

Under Existing Plus Project and Cumulative Plus Projects scenarios, both of the study intersections (Hercules Avenue/Skelly, and Hercules Avenue/San Pablo Avenue) would continue to operate within applicable jurisdictional standards during the a.m. peak hour, and both study intersections operate acceptably in the p.m. peak hour. The project would be consistent with level of service standards set forth under the Hercules General Plan and CCTA Congestion Management Program.

Vehicle Access

Primary access to the project site would be provided by a direct connection to Skelly at the location of the existing driveway. Vehicle access to the project site is considered adequate and would not result in any significant impacts to the nearby roadways.

Pedestrian Access

Pedestrian access would be via internal sidewalks connecting to existing sidewalks on Skelly, and via a pedestrian trail to the south of the project site connecting Skelly to San Pablo Avenue. There is one crosswalk at the intersection of Hercules Avenue and Skelly, and there are 4-way signalized crosswalks at the intersection of Hercules Avenue and San Pablo Avenue. Existing pedestrian facilities provide continuous paths to nearby bus stops on San Pablo Avenue and to nearby shopping centers to the southwest of the project site, primarily via trail access.

Existing sidewalk facilities on San Pablo Avenue to the southwest of the project site terminate between the two pedestrian trail outlets to San Pablo Avenue. This disruption separates pedestrians from nearby shopping centers west of Pinole Creek when traveling along San Pablo Avenue and may pose accessibility challenges due to the slope of the trail at some points. A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans, or programs related to pedestrian facilities or otherwise decreases the performance or safety of pedestrian facilities. The proposed project would not result in any such conflicts. Pedestrian access to the project site is considered adequate and would not result in any significant impacts to the nearby pedestrian facilities.

Bicycle Access

There are existing Class II bike lanes provided on San Pablo Avenue east of Hercules Avenue; an extension of the Class II bike lane is proposed in the Hercules 2018 General Plan Circulation Element. A multiuse trail is present along Pinole Creek to the west of the project site. An impact to bicyclists occurs if the proposed project disrupts existing bicycle facilities or conflict or create inconsistencies with adopted bicycle system plans, guidelines, and policies. A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to bicycle facilities or otherwise decrease the performance or safety of bicycle facilities. The proposed project would not result in any such conflicts. Bicycle access to the project site is considered adequate and would not result in any significant impacts to the nearby bicycle facilities.

Transit

A proposed project is considered to have a significant impact on transit if it conflicts with existing or planned transit facilities or is expected to generate additional transit trips and does not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops. The project site is adequately served by the transit service. Transit stops on San Pablo Avenue are within a 0.5 mile walk from the project site. Spread among multiple bus routes, the existing transit service can accommodate the proposed demand. Therefore, transit access to the project site is considered adequate and would not result in any significant impacts to the nearby transit network

On-site Circulation

The street connecting all homes forms a loop, with westward extension in line with the access point from Skelly providing garage access to four homes. The street is 34–45 feet wide throughout, including sidewalks and on-street parking spaces. There is adequate space for vehicles to maneuver into and out of parking spaces and garages. The proposed project would also provide adequate space for trucks and emergency vehicles to access the site and maneuver as needed, with adequate turning radii for truck access. The proposed project would not conflict with any applicable plan or policy governing circulation. The following is noted for informational purposes only:

The TIA noted there are no curb ramps or interior pedestrian crossings within the access loop. In order to ensure accessible pedestrian circulation between all homes and the nearest roadways, at least two curb ramps shall be included on the inner side of the loop opposite new ramps on the outer edge of the loop, and a pair of ramps shall be added near the connection point to Skelly. This is included as a condition of approval.

Impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than significant impact. This study evaluates project-related VMT as outlined in the adopted CCTA VMT methodology. The methodology and implementation guidelines were adopted by CCTA in July 2020. The City of Hercules has adopted CCTA VMT procedures and standards.

The Governor's Office of Planning and Research (OPR) Technical Advisory (December 2018) provides guidance to analysts and local jurisdictions for implementing VMT as a metric for determining the transportation impact for land use projects. The OPR guidelines state that for analysis purposes, "VMT" refers to automobile VMT, specifically passenger vehicles and light trucks. Heavy truck traffic is typically excluded.

The CCTA guidelines include a screening process that describes five scenarios in which a project would be with exempted from a VMT analysis requirement: 1) projects exempt from CEQA analysis, 2) small projects, 3) local serving projects, 4) projects in transit priority areas, and 5) projects in low VMT areas.

Using the CCTA methodologies, the proposed project would meet the exemption requirements for a low VMT area. It should be noted that even if a project satisfies one or more of the screening criteria, lead agencies may still require a VMT analysis if there is evidence that the project has characteristics that might lead to a significant amount of VMT.

The following language is from the Project Screening section of the CCTA VMT methodologies and was applied to the proposed project:

> ***2.5: Projects Located in Low VMT Areas.***
> *Residential and employment-generating projects located within a low VMT-generating area can be presumed to have a less than significant impact absent substantial evidence to the contrary. A low VMT area is defined as follows:*
>
> - *For housing projects: Cities and unincorporated portions within CCTA's five subregions that have existing home-based VMT per capita that is 85 percent or less of the existing Countywide average.*

The proposed project was evaluated using screening criteria adopted by CCTA based on existing VMT generated in the project area. For projects in areas with a similar mix of existing uses, residential projects are screened out if the home-based VMT per resident is at least 15 percent below the countywide average.

The CCTA travel demand model generates simulated daily weekday VMT per capita by traffic analysis zone (TAZ) within Contra Costa County and throughout the Bay Area for commute VMT per employee and residential VMT per capita. The project site is within the boundaries of an existing TAZ (#10236) that contains similar single-family residential subdivisions under existing conditions. The residential VMT per capita generated in this TAZ is 14.45. For the year 2020, the countywide residential VMT per capita generated by the CCTA travel demand model is 19.78. The corresponding threshold to consider a location to have low VMT, 15 percent below the countywide average, is 16.81. There is no apparent evidence that the proposed project would generate more VMT than the surrounding area. Based on the CCTA screening criteria, the proposed project is expected to cause a less than significant impact under CEQA and is exempt from further VMT analysis. The proposed project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b); therefore, impacts related to VMT would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant with mitigation incorporated. The TIA did not identify any hazards due to geometric design features or incompatible uses. However, during design review and prior to issuance of grading permits, the proposed grading plans shall be carefully evaluated to ensure that the finished grade and landscaping do not create any visual obstructions for vehicles exiting driveways. This is included as MM TRANS-1. Impacts would be less than significant with mitigation incorporated.

d) Result in inadequate emergency access?

Less than significant impact. The proposed project is located in Zone 5 in the City's Emergency Evacuation Routes and would use San Pablo Avenue in case of an evacuation.[98] In case of an emergency that requires an evacuation, residents at the proposed project would travel north on San Pablo Avenue to SR-4 and continue out of town by means of I-80 or eastbound SR-4. On-site emergency access would be provided via an internal road with an access point from Skelly providing garage access to four homes. The internal road would be 34–45 feet wide throughout, which would provide adequate space for trucks and emergency vehicles to access the site and maneuver as needed, with adequate turning radii for truck access. Construction of the proposed project would not block any the adjacent neighborhood from accessing San Pablo Avenue.[99] Furthermore, as described above, the proposed project would also provide adequate space for trucks and emergency vehicles to access the site and maneuver as needed, with adequate turning radii for truck access. Therefore, impacts would be less than significant.

Mitigation Measures

MM TRANS-1 During design review and prior to issuance of grading permits, the proposed grading plans shall be carefully evaluated to ensure that the finished grade and landscaping do not create any visual obstructions for vehicles exiting the driveway. Should the finished grade or landscaping create visual obstructions, the proposed landscaping shall be altered such that there would no longer be obstructions.

[98] City of Hercules. 2005. Emergency Evacuation Route Zone 5. December. Website: https://www.ci.hercules.ca.us/home/showpublisheddocument/402/636582802056930000. Accessed March 31, 2022.

[99] City of Hercules. Emergency Evacuation Routes.https://www.ci.hercules.ca.us/government/police/emergency-preparedness/emergency-evacuation-routes. Accessed March 31, 2022.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.18 Utilities and Service Systems *Would the project:*				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Evaluation

Setting

The proposed project would obtain water from the EBMUD. The proposed project's wastewater would be collected by sewer lines owned and maintained by the City of Hercules and treated at the Pinole/Hercules Wastewater Treatment Plant, which is operated by the JPA. Stormwater would drain into a detention basin at the northwest corner of the project site. Solid Waste services would be provided by Republic Services.[100] Electric power and natural gas would be provided by PG&E.

The information in this section is based, in part, on correspondence with Skelly Residential Project utility service providers. Correspondence consisted of an inquiry sent via email on February 24, 2022. Responses were provided to FCS between March 3, 2022, and March 16, 2022.

[100] Republic Services Inc. Republic Services. Website: https://www.republicservices.com/?utm_source=yext.com&utm_medium=referral&utm_campaign=Yext_Profile_Click_Google&utm_term=3854. Accessed February 23, 2022.

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

As described above, the City is within the service area of EBMUD. EBMUD obtains its water from the Mokelumne River and East Bay Area watershed runoff. The Mokelumne Aqueducts convey the Mokelumne River supply from Pardee Reservoir, located upstream of Camanche Dam, across the Sacramento-San Joaquin River Delta (Delta) to local storage and treatment facilities in the East Bay. After treatment, water is distributed to the incorporated cities and unincorporated communities in Alameda and Contra Costa counties that EBMUD serves.[101]

The proposed project would connect to existing EBMUD water lines to the northwest, north, northeast, and south of the project site. Prior to the issuance of building permits, the applicant would submit information regarding any new water infrastructure and modifications to the existing water infrastructure. Any construction of water infrastructure would be required to comply with the City's utility construction BMPs.

EBMUD adopted their 2020 Urban Water Management Plan (UWMP) in June of 2021.[102] The 2020 UWMP predicts there would be adequate water supplies in its jurisdictional area for up to 30 years. The project site is zoned as RS-L and the proposed project is consistent with that land use designation, meaning the proposed project can be considered planned growth that was accounted for in the 2020 UWMP. Therefore, the proposed project would not increase water demand such that it would, on its own, result in the relocation or construction of new or expanded water facilities.

On February 24, 2022, FCS sent a letter to David Rehnstrom at EBMUD inquiring about EBMUD's ability to service the proposed project. On March 3, 2022, a response was received, stating that EBMUD owns and operated a 24-inch and 36-inch transmission pipeline within EBMUD rights-of-way and property surrounding and adjacent to the north, east, and south property lines. These pipelines provide continuous service to EBMUD customers in the area. Any proposed construction activity in EBMUD rights-of-way and property would be subject to the terms and conditions determined by EBMUD. EBMUD stated that no expansion of EBMUD facilities is anticipated to be needed to serve the project. However, a main extension, at the applicant's expense, would be required to serve the proposed project. The proposed 8-inch water lines would connect to the existing water line. Impacts related to water services would be less than significant.

Wastewater

As described above, wastewater would be collected by sewer lines owned and maintained by the City of Hercules and treated at the Pinole/Hercules WWTP which is operated by the Pinole-Hercules Wastewater JPA. Both the City of Hercules and Pinole own 50 percent of the WWTP. The applicant

[101] East Bay Municipal Utility District (EBMUD). 2021. Urban Water Management Plan 2020. Website: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan/. Accessed February 23, 2022.
[102] East Bay Municipal Utility District (EBMUD). June 2021. Urban Water Management Plan 2020. Attachment 1.

would pay fees for a permit for a sewer connection to the City's wastewater infrastructure to ensure that the wastewater infrastructure maintains adequate capacity.[103] On February 25, 2022, FCS sent a letter to Mike Roberts at the Department of Public Works inquiring about whether there would be adequate sewer capacity to serve the proposed project. It was concluded that prior to issuance of a grading or building permit, the proposed project would require a complete sewer analysis to ensure the downstream conveyance system, including the lift station, has adequate capacity. Should the sewer analysis conclude that there is not adequate capacity, the project applicant would be required to enhance the storm drainage capacity as a standard condition of approval. Given this standard condition of approval, it would ensure that adequate stormwater drainage would be provided on-site. Impacts would be less than significant.

Stormwater

Stormwater would drain into a detention basin at the northwest corner of the project site. This is required given the proposed project would involve the creation of more than 10,000 square feet of net new impervious surface. Runoff from proposed impervious surfaces would be directed to the bioretention areas, where a water quality treatment process would begin. Bioretention areas would remove pollutants by filtering runoff slowly through an active layer of soil. In addition, all cities within Contra Costa County are required to implement surface water control standards for projects in compliance with Provision C.3 of the Regional Water Quality Control Board (RWQCB) Municipal Regional Storm Water NPDES Permit No. R2-201500049. The Contra Costa County Clean Water Program created a C.3 Guidebook for the implementation of C.3 requirements. As a result of planned drainage treatment features, impacts would be less than significant.

Electricity and Natural Gas

The project site would be serviced by PG&E for electricity and gas. The proposed project would connect to existing electric lines. No off-site construction of utilities would be required. The process of connecting the project to existing infrastructure is expected to be standard for conveying electrical power to new development. Construction would be conducted in compliance with City-approved BMPs for utilities infrastructure improvements and applicable construction-related mitigation measures identified in this Draft IS/MND (e.g., air quality emissions and noise). Impacts would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than significant impact. As described above, the 2020 UWMP predicts there would be adequate water supplies in its jurisdictional area for up to 30 years, accounting for an extreme drought scenario and a five-year historical dry period scenario. The project site is zoned as RS-L and the proposed project is consistent with that land use designation, meaning the proposed project can be considered planned growth that was accounted for in the 2020 UWMP. As described above, a letter from EBMUD stated that EBMUD would have capacity to serve the proposed project. EBMUD requested that a standard condition of approval be applied that the project sponsor comply with AB

[103] City of Hercules. Sanitary Sewer. Website: https://www.ci.hercules.ca.us/government/engineering-public-works/sanitary-sewer. Accessed February 23, 2022.

325, "Model Water Efficient Landscape Ordinance," (Division 2, Title 23, California Code of regulations, Chapter 2.7, §§ 490–495). Therefore, the proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Impacts would be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than significant impact. As described above, wastewater would be collected by sewer lines owned and maintained by the City of Hercules and treated at the Pinole/Hercules WWTP which is operated by the Pinole-Hercules Wastewater JPA. The applicant would pay fees for a permit for a sewer connection to the City's wastewater infrastructure to ensure that the wastewater infrastructure maintains adequate capacity to serve the project's projected demand.[104] Furthermore, the wastewater provider would confirm that it has adequate capacity to serve the project prior to project approval. Impacts would be less than significant.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than significant impact. Significant impacts could occur if the proposed project would exceed the existing permitted landfill capacity or violates federal, State, and local statutes and regulations. The proposed project consists of a car wash facility. As described above, Republic Services is the solid waste services provider for the project site. Republic Services takes solid waste to Golden Bear Transfer Facility in the City of Richmond and subsequently to Keller Canyon Landfill, which is located at 901 Bailey Road in the City of Pittsburg. Keller Canyon Landfill has a daily permitted throughput, of 3,500 tons per day. As of 2004, the remaining capacity was 63,408,410 cubic yards.[105] The maximum permitted capacity of the facility is 75,018,280 cubic yards. The landfill is expected to cease operation in the year 2050.

According to CalRecycle, single-family homes generate approximately 10 pounds per dwelling unit per day of solid waste.[106] As such, the proposed project would generate approximately 400 pounds, or 0.2 tons per day. This is less than 0.0001 percent of the daily permitted throughout at Keller Canyon Landfill. Therefore, there would be sufficient capacity to dispose of waste generated from the proposed project.

On February 24, 2022, FCS sent a letter to Janna Coverston at Republic Services, inquiring about the Republic Services' ability to serve the proposed project. On March 16, 2022, FCS received a response, stating that that Republic Services and its local affiliate facilities currently have sufficient capacity to accommodate the proposed project. Therefore, impacts would be less than significant.

[104] City of Hercules. Sanitary Sewer. Website: https://www.ci.hercules.ca.us/government/engineering-public-works/sanitary-sewer. Access February 23, 2022.
[105] California Department of Resources Recycling and Recovery (CalRecycle). 2004. SWIS Facility/Site Activity Details. Keller Canyon Landfill. Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228. Accessed February 23, 2022.
[106] California Department of Resources Recycling and Recovery (CalRecycle). 2019. Estimated Solid Waste Generation Rates. Website: https://www2.calrecycle.ca.gov/wastecharacterization/general/rates. Accessed February 23, 2022.

e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Less than significant. AB 939 requires local jurisdictions to achieve at least a 50 percent solid waste diversion rate. The City of Hercules is a member of the West Contra Costa County Integrated Waste Management Authority, which is a JPA that aims to implement AB 939. Per Section Per Section 5-2.07 of the Municipal Code, it would be the responsibility of the owner of each premises in the City to subscribe and pay for solid waste collection service. Therefore, it would be up to the occupant to comply with local regulations related to solid waste. Impacts would be less than significant.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.19 Wildfire *If located in or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would the project:*				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Environmental Evaluation

Setting

According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone Map for Contra Costa County, the City of Hercules is located within an LRA and is not classified as a very high fire hazard severity zone.[107,108] The City is not within a State Responsibility Area (SRA). The nearest fire hazard zone is located in the City of Pinole, approximately 1 mile southwest of the project site.

Would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than significant impact. The proposed project would not interfere with any adopted emergency response plan or emergency evacuation plan, including the Hercules Local Hazard Mitigation Plan (LHMP).[109] As previously mentioned, the proposed project is located in Zone 5 in the City's

[107] California Department of Forestry and Fire Protection (CAL FIRE). 2007. Fire Hazard Severity Zones in SRA – Contra Costa County. Website: https://osfm.fire.ca.gov/media/6662/fhszs_map7.pdf. Accessed March 1, 2022.
[108] California Department of Forestry and Fire Protection (CAL FIRE). 2009. Fire Hazard Severity Zones in LRA – Contra Costa County. Website: https://osfm.fire.ca.gov/media/6660/fhszl_map7.pdf. Accessed March 1, 2022.
[109] City of Hercules. 2020. Hercules Hazard Mitigation Plan. October 19.

Emergency Evacuation Routes and would use San Pablo Avenue in case of an evacuation. In case of an emergency that requires an evacuation, residents at the proposed project would travel north on San Pablo Avenue to SR-4 and continue out of town by means of I-80 or eastbound SR-4. Incorporated in the project design, there would be a private street and EVA road that connects to Skelly and circles the project site. The EVA road would vary in width in different places, ranging from 34-feet wide to 45-feet wide. In addition, the Fire District would review the project plans to ensure there is appropriate fire access to the project area. As such, impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than significant impact. The project site is located in a LRA and is not located in a high fire hazard severity zone according to the Hercules LHMP. Although the project site is located 1 mile north of a fire hazard zone, the proposed project is not located in the urban-wildland interface area and is relatively flat and located in a residential area. Thus, the project site does not have features that would exacerbate wildfire.

According to CalFire, defensible space is a buffer between a building and the grass, trees, shrubs, or any wildland area that surround it. This space is needed to slow or stop the spread of wildfire and provide firefighters a safe area to work in.[110] As shown in Exhibit 5, the typical planting plan would include trees and vegetation but would allow firefighters to have access to individual lots and unimpeded access to the buildings from the road. While prevailing winds would not change from the existing conditions as a result of the proposed project, the proposed landscaping plan would reduce wildfire hazards on the project site as compared to the existing conditions. As discussed in the Arborist Report, existing fire hazards on the project site include dead trees, bark debris, species, low branches, dead branches, dead trunks, and entire trees, with many trees posing minimal fire hazards, as well as branch, trunk, and root failures that are likely to occur in the coming year.[111] The proposed project would include vegetation management and removal of hazardous trees, which would reduce fire hazards as compared to the existing conditions.[112] Furthermore, there are no wildland areas surrounding the project site. The proposed project is located within a highly urbanized, residential area that is not prone to wildfire. In addition, the proposed project would comply with the California Fire Code and 2019 CBC to reduce potential impacts regarding wildfire. Additionally, the applicant must submit to the Fire District, subject to District review and approval, a Fire Protection Plan that details strategies and mitigation which reduce the potential for loss from wildfire exposure. As a result, impacts would be less than significant.

[110] California Department of Forestry and Fire Protection (CAL FIRE). 2022. Defensible Space. Website: https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/. Accessed April 21, 2022.
[111] Trees, Bugs, Dirt Landscape Consulting and Training. 2022. Arborist Report, 215 Skelly – Hercules, CA. March.
[112] Grijalva, R. 2022. Memorandum: Analysis of State Fire Marshal Property Loss Data, from the California Building Industry Association. January. Website: https://blog.aklandlaw.com/wp-content/uploads/sites/282/2022/04/D-5.pdf. Accessed April 21, 2022.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than significant impact. The proposed project would include an EVA road that would connect to Skelly and circle the project site. The existing transmission lines located along publicly accessible roads would continue to be maintained by PG&E. As part of the building permit process, the applicant is required to prepare a Fire Prevention Plan for construction and ongoing operations, which includes provisions for EVA and turn-around, vegetation management, defensible space, and fire break maintenance around all structures. During project construction and operation, the use of powered equipment for installation, maintenance, and improvements could temporarily increase fire risk on the project site. However, compliance with all applicable fire protection design and operational standards including emergency water supply, temporary emergency access, and fuel reduction, must meet or exceed Fire District wildland-urban interface requirements and California Fire Code Sections 4906 and 4907. The proposed project would not require the installation of any associated infrastructure or utilities outside of the existing site footprint. Compliance with the Fire Prevention Plan would reduce the temporary impacts to a less than significant level.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than significant impact. The project site is located within an urbanized and residential area of the City that has not experienced wildfire. Additionally, the project site is not located near unmanaged open space or dense natural vegetation prone to wildfires. Further, the proposed project would comply with all applicable fire protection design and operational standards including emergency water supply, temporary emergency access, and fuel reduction, meet or exceed Fire District wildland-urban interface requirements and California Fire Code Sections 4906 and 4907. Therefore, impacts related would be reduced to a less than significant level.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
2.20 Mandatory Findings of Significance				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less than significant impact with mitigation incorporated. The proposed project would demolish existing structures on the project site and construct 40 single-family residences. Although the existing structures are over 45 years old, as described above, they sustained significant damage due to a man-made fire and do not represent important examples of California history. As related to the proposed project, as described previously in Section 2.4, Biological Resources, the proposed project would not result in significant environmental impacts to wildlife or plant species with mitigation incorporated. The analysis provides for mitigation in the event any nesting birds, roosting bats, or overwintering monarch butterflies are encountered. Other biological resources mitigations include avoidance and minimization measures for on-site aquatic features and protection of mature trees via a tree inventory and replacement plan.

Additionally, the proposed project includes mitigation and avoidance measures to reduce construction-related impacts related to historical and archaeological resources as well as the

accidental discovery or recognition of human remains. Mitigation to reduce potential impacts to paleontological resources include providing the construction crew with an orientation on significant fossils that could be encountered and the appropriate procedures to follow. Based on the discussion provided above, with implementation of the above-listed mitigation measures, the proposed project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

Therefore, impacts would be less than significant with implementation of MM BIO-1, MM BIO-2, MM BIO-3, MM CUL-1, MM CUL-2, and MM GEO-2.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than significant impact with mitigation incorporated. The combined effects of past, current, and future projects in the project area in combination with the proposed project in an urban area of Contra Costa County would not result in significant cumulative impacts. The project is proposed in an established urban area and there are no planned or proposed developments in the immediate site vicinity that could contribute to cumulative environmental items discussed below.

The proposed project could result in potentially significant impacts related to air quality, biological resources, cultural and tribal cultural resources, geology and soils, paleontological resources, noise, and transportation. These impacts would primarily be related to construction period activities, would be temporary in nature, and would not substantially contribute to any potential cumulative impacts associated with these topics. Specifically, since the proposed project would not exceed BAAQMD Thresholds of Significance related to air quality, the proposed project would not result in a cumulatively considerable net increase of construction emissions (with the implementation of MM AIR-1), operational emissions, or TACs. As discussed more fully in Section 2.8 of this Draft IS/MND, GHG emissions-related impacts are inherently cumulative in nature. The proposed project also would not conflict with any applicable GHG plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As such, the proposed plan, in conjunction with other existing, planned, and probable foreseeable projects, would not results in a significant cumulative impact related to GHG emissions generation. As for transportation and traffic impacts, mitigation measures are provided to ensure accessible pedestrian circulation and reduce visual obstructions for vehicles. These impacts are also specific to the proposed project and would not contribute to a cumulative transportation impact.

Therefore, with implementation of the foregoing mitigation measures, the proposed project would not result in adverse impacts at a project- or cumulative-level.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than significant with mitigation incorporated. Based on the information provided in the Project Description and the responses to Sections 2.1 through 2.19 of this Draft IS/MND, the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly, because the project's potential impacts would be mitigated to a less than significant level. With implementation of all mitigation measures discussed herein, the proposed project would not result in substantial adverse effects on human beings. Impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Implementation of all mitigation measures discussed in this Draft IS/MND.

SECTION 3: LIST OF PREPARERS

FirstCarbon Solutions

1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597
Phone: 925.357.2562
Fax: 925.357.2572

Project Director ..... Mary Bean
Project Manager ..... Tsui Li
Assistant Project Manager ..... Maddie Dolan
Senior Noise Specialist ..... Phil Ault, LEED AP
Air Quality Specialist ..... Lance Park
Air Quality Analyst ..... Ji Luo
Senior Biologist ..... Bernhard Warzecha
Biologist ..... Robert Carroll
Senior Cultural Resources Specialist ..... Dana DePietro, PhD, RPA
Archaeologist ..... Natalie Adame
Publications Manager ..... Susie Harris
Word Processor ..... Melissa Ramirez
Graphics ..... Karlee McCracken

TJKM—Transportation Analysis Technical Subconsultant
4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
Phone 925.463.0611

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