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MEMORANDUM

DATE: February 14, 2020

TO: Michele Rodriguez, City of Hercules

FROM: Shanna Guiler, AICP, Associate/Environmental Planner
Theresa Wallace, AICP, Principal in Charge

SUBJECT: California Environmental Quality Act (CEQA) Addendum for the Hill Town Residential Development Project; Hercules, California

This document, prepared pursuant to the California Environmental Quality Act (CEQA) and the regulations and policies of the City of Hercules, provides information and analysis concerning the Hill Town Residential Development Project (2019 Project). This document is an Addendum to the Hercules Updated 2009 Redevelopment Plan Final Environmental Impact Report (SCH#20018112049), certified in April 2009 (2009 EIR).[1,2] This Addendum to the 2009 EIR evaluates whether minor changes associated with the 2019 Project would result in new or substantially more adverse significant effects or require new mitigation measures not identified in the 2009 EIR. See Attachment A for a full description of the 2019 Project. The City of Hercules is the Lead Agency under CEQA. In accordance with CEQA Section 21093(b) and CEQA Guidelines Section 15152, this Addendum tiers off the 2009 EIR, which is hereby incorporated by reference.

INTRODUCTION

The Hill Town site is an approximately 44-acre parcel of land located east of and adjacent to San Pablo Avenue. The project site consists of one assessor's parcel (APN 404-040-064) and is located in Township 2N, range 4W of the Mare Island Quadrangle.

The Hill Town site is the location of the current application from the Santa Clara Valley Housing Group (project applicant). The 2009 EIR evaluated land use amendments and associated City actions required to permit development of the Sycamore Crossing and Hill Town sites. The Hill Town development proposal that was evaluated by the 2009 EIR was described in the Initial Planned Development Plan (IPDP 07-01) approved by the City. The project included 640 multi-family dwelling

1 Impact Sciences, Inc., 2009a. Hercules Updated 2009 Redevelopment Plan Draft Environmental Impact Report. January.

2 Impact Sciences, Inc. 2009b. Hercules Updated 2009 Redevelopment Plan Final Environmental Impact Report. April.

units on 28 acres, 4,000 square feet of retail commercial, and 13 acres of passive and recreational open space (2009 Project).

The project applicant is requesting Design Review, Conditional Use Permit, Final Development Plan, and Vesting Tentative Map approvals for development of 598 residential units, consisting of 198 condominiums/apartments and 400 townhomes/motor court units, all of which would be for sale (2019 Project). Five percent of the total number of units would be set aside for moderate-income housing. The 2019 Project would also include 4,200 square feet of retail commercial, and approximately 16 acres of open space. Overall, the proposed 2019 Project would result in approximately 42 fewer residential units, 115 fewer parking spaces, an additional 200 square feet of commercial retail space, and approximately 3 more acres of open space as compared to the 2009 Project.

This Addendum is prepared pursuant to CEQA Guidelines Section 15164 which states: "The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." Section 15162 specifies that "[w]hen an EIR has been certified… for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines … one or more of the following:"

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete was adopted, shows any of the following:

    a. The project will have one or more significant effects not discussed in the previous EIR;

    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Pursuant to CEQA Guidelines Section 15164(e), the purpose of this Addendum is to describe and evaluate the 2019 Project, assess the proposed modifications to the project evaluated in the 2009 EIR, and identify the reasons for the City's conclusion that changes to the 2009 project and associated environmental effects do not meet the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent or supplemental EIR.

Attachment A to this Addendum provides a complete description of the proposed 2019 project, its location, existing site characteristics, proposed development, and required approvals and entitlements.

Attachment B to this Addendum provides the Environmental Checklist prepared for the project. This checklist compares the environmental impacts of the proposed 2019 Project with impacts expected to result from development evaluated in the 2009 EIR and provides substantial evidence to document the City's determination that the 2019 Project will not result in any of the conditions requiring the preparation of a subsequent EIR under CEQA Guidelines Section 15162.

COMPARISON TO THE CONDITIONS LISTED IN CEQA GUIDELINES SECTIONS 15162 AND 15163

The following discussion summarizes the reasons that a subsequent or supplemental EIR, pursuant to CEQA Guidelines Sections 15162 and 15163, is not required and an Addendum to the 2009 EIR is the appropriate CEQA document.

Substantial Changes

Per the analysis included in Attachment B, Environmental Checklist, the proposed modifications to the project evaluated in the 2009 EIR would not result in new significant impacts beyond those identified in the 2009 EIR, would not substantially increase the severity of impacts identified in the 2009 EIR, and would not require major revisions to the 2009 EIR. Therefore, the proposed changes to the project would be minor modifications, not substantial changes, and an Addendum is the appropriate document to address these minor modifications rather than a subsequent or supplemental EIR.

Substantial Changes in Circumstances

As described in the Environmental Checklist for each topic, environmental conditions in and around the project site have not substantially changed such that implementation of the 2019 Project would result in new significant environmental effects or a substantial increase in the severity of environmental effects identified in the 2009 EIR, and thus would not require major revisions to the 2009 EIR.

New Information

No new information of substantial importance, which was not known or could not have been known when the 2009 EIR was certified, has been identified which shows that the proposed modifications to the 2009 EIR associated with the proposed 2019 Project would be expected to result in: (1) new significant environmental effects not identified in the 2009 EIR; (2) substantially more severe environmental effects than shown in the 2009 EIR; (3) mitigation measures or alternatives previously

determined to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the project; or (4) mitigation measures or alternatives which are considerably different from those analyzed in the 2009 EIR would substantially reduce one or more significant effects on the environment. As described throughout the Environmental Checklist, no new or substantially more severe impacts are expected beyond those identified in the 2009 EIR. Impacts identified as a result of the proposed 2019 Project fall under the previously identified impacts in the 2009 EIR. Mitigation measures from the 2009 EIR have been modified to reflect the project modifications and ensure that mitigation measures continue to mitigate identified impacts; however, these mitigation measures are not considerably different than those included in the 2009 EIR.

CONCLUSION

The proposed modifications to the 2009 Project described in this Addendum would not require major revisions to the 2009 EIR due to new or substantially increased significant environmental effects. The analysis contained in the Environmental Checklist confirms that the modified project is within the scope of the 2009 EIR and will have no new or more severe significant effects and no new mitigation measures are required. Therefore, no subsequent or supplemental EIR or further CEQA review is required prior to approval of the proposed project, as described in this Addendum.

Attachment: A – Project Description
B – Environmental Checklist
C – Mitigation Monitoring and Reporting Program

ATTACHMENT A
PROJECT DESCRIPTION

The following describes the proposed Hill Town Residential Development project (proposed project) that includes multi-family residential units, commercial use, designated open space, new public streets, and infrastructure improvements on approximately 44 acres of land in the City of Hercules. In addition to the description of the proposed project itself, this section includes a summary description of the project's location and existing site characteristics. Development of the project was first subject to environmental review in the Hercules Updated 2009 Redevelopment Plan Final Environmental Impact Report (SCH#20018112049), dated April 2009 (2009 EIR).[1,2] Since certification of the 2009 EIR, the Santa Clara Valley Housing Group (project applicant) has modified the project design and submitted a new application for City approvals. Consistent with Public Resources Code Section 21083.3(a), this Addendum has been prepared to identify changes in the proposed project and effects on the environment that are specific to the proposed project that would require revisions to the previously certified 2009 EIR.

1.1 PROJECT SITE

1.1.1 Project Location and Existing Conditions

The project site is an approximately 44-acre parcel of land (Assessor's Parcel Number [APN] 404-040-064) located east of and adjacent to San Pablo Avenue and northeast of the San Pablo Avenue/John Muir Parkway intersection. The project site is located in Township 2N, range 4W of the Mare Island Quadrangle. Figure 1 shows the project's regional context and Figure 2 shows an aerial view of the project site and surroundings.

The project site is located in a hilly upland area along the northeast side of the Refugio Valley. The topography of the project site generally slopes from a high point at the northeast corner (approximately 240 feet above mean sea level [msl]) to the southwest corner (approximately 30 feet msl). A relatively low-lying area is located in the southern portion of the site with another relatively level elevated area occurring in the northern portion of the project site. These two level areas are separated by a steep north-to-south trending slope.

Vegetation on the project site consists largely of non-native annual grassland with scattered non-native eucalyptus (*Eucalyptus globulus*) groves and native coast live oak (*Quercus agrifolia*) trees. The site of the former petroleum tank farm is partially paved with ruderal vegetation growing through the pavement and patches of native coyote brush (*Baccharis pilularis*) within the former tank locations. One native grass species, blue wildrye (*Elymus glaucus*), is scattered throughout portions of the non-native grassland. Two detention basins at the lower end of the project site fill

1 Impact Sciences, Inc., 2009a. Hercules Updated 2009 Redevelopment Plan Draft Environmental Impact Report. January.

2 Impact Sciences, Inc. 2009b. Hercules Updated 2009 Redevelopment Plan Final Environmental Impact Report. April.

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Project Site

FIGURE 1

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SOURCE: ESRI World Map (08/19).

City of Hercules Hilltown Development Project

Project Location and Regional Vicinity Map

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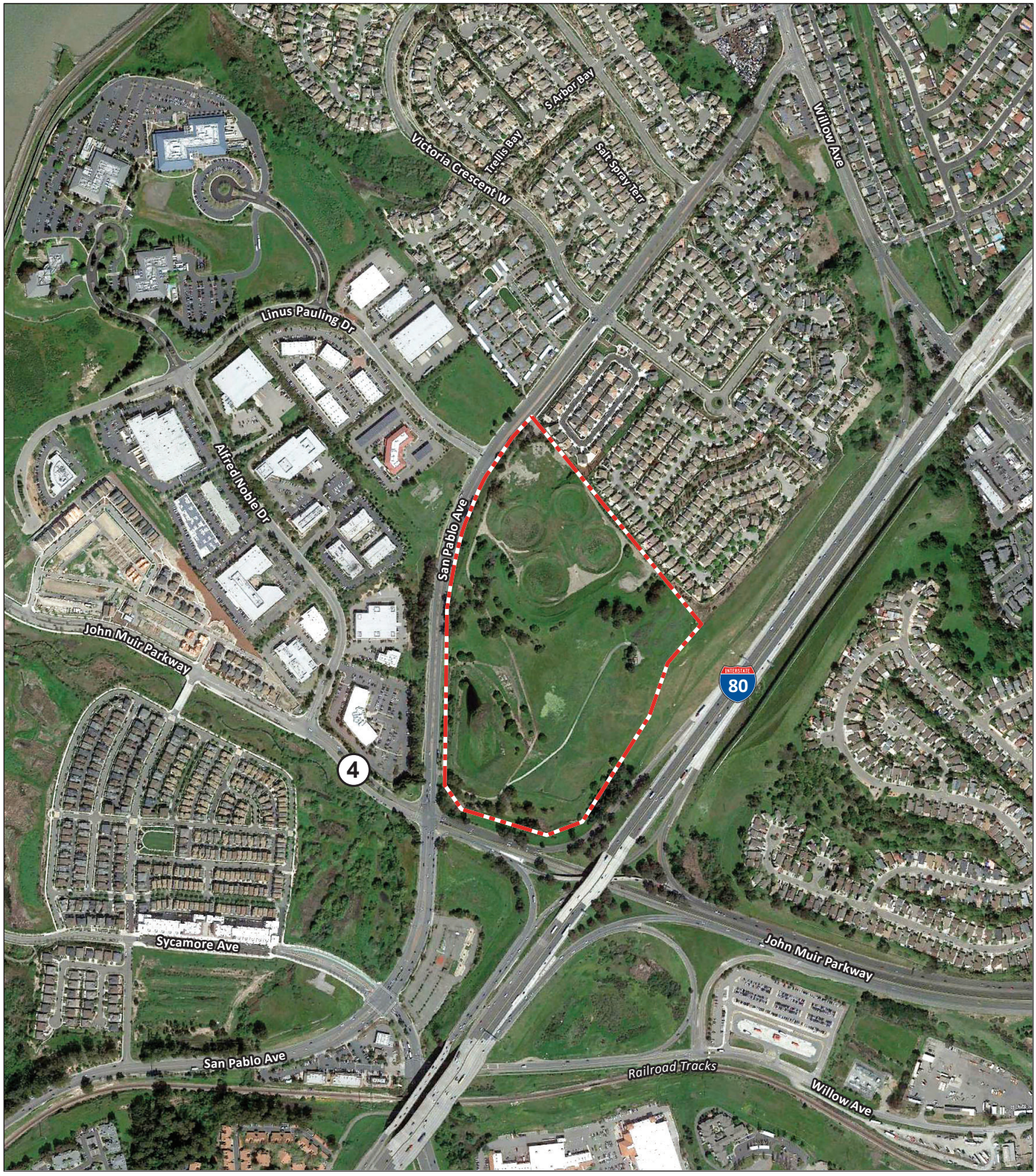

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FIGURE 2

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Project Site

City of Hercules Hilltown Development Project

Aerial Photograph of the Project Site

SOURCES: GOOGLE EARTH, 4/2/18; LSA, 2019.

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with water during the winter rains. A drainage containing freshwater marsh habitat, consisting largely of cattails (*Typha angustifolia*), is located at the southern end of the project site. Water appears to flow into the drainage through a 4- to 6-inch pipe at the eastern end and out through a 36-inch culvert at the western end, ultimately draining into Refugio Creek and San Pablo Bay.

Previously, the project site was utilized as a Pacific Gas & Electric Company (PG&E) oil pump station, containing eight above-ground storage tanks, water holding/evaporation ponds, and one retention basin. The tanks were removed from the site in late 2010/early 2011. On April 30, 2015, the San Francisco Bay Regional Water Quality Control Board (RWQCB) provided the project applicant with a "No Further Action" letter stating that no further work would be needed for the property and that the site is suitable for unrestricted residential use.[3] The site currently contains stormwater treatment detention basins, a cell, tower, and vacant lands.

1.1.2 Surrounding Land Uses

The project site is bordered by the Victoria by the Bay development to the north and northeast and the North Shore Business Park to the west. Victoria by the Bay is a master-planned community that consists of residential areas, and park facilities. The North Shore Business Park consists of professional office and light industrial uses along the west side of San Pablo Avenue. The former Bay Area Rapid Transit (BART) Park and Ride lot located southwest of the project site across John Muir Parkway is currently being developed with a Safeway shopping center, including a grocery store, fuel center, bank, and coffee shop (expected to open in late 2020). The Interstate 80 (I-80)/State Route 4 interchange is located to the southeast, and residential developments are located across I-80 to the east.

1.2 PROJECT BACKGROUND

1.2.1 Previous Use and Approvals

As described above, the project site was developed by PG&E in the late 1970s as an oil storage, heating and pumping station in connection with a PG&E pipeline from Richmond to eastern Contra Costa County. PG&E used these facilities to supply heavy fuel oil to power generating facilities in Pittsburg. A change in environmental regulations that imposed more stringent limitations on the sulfur content in heavy fuel oil rendered the facility essentially obsolete by the early 1980s, and PG&E maintained the facility in standby status until its sale in October 2005.[4]

The project applicant purchased the property from PG&E in 2005 and proceeded to develop a plan for the Hill Town site, which would include development of residential units, neighborhood retail, public and private open space and new roadways. On July 7, 2008, the City of Hercules Planning Commission adopted a resolution recommending that the City Council and Redevelopment Agency approve a development and owner participation agreement (DA) with the project applicant for the Hill Town project. On September 23, 2008, the City of Hercules City Council adopted the Enacting

[3] San Francisco Bay Regional Water Quality Control Board, 2015. Water Board Staff Concurrence, Summary of Remedial Actions Closure Report, the Former PG & E Hercules Pumping Station, 4200 San Pablo Avenue, Hercules, Contra Costa County. April 30.

[4] Hercules, City of. City of Hercules website: https://www.ci.hercules.ca.us/government/planning/hercules-projects/hilltown (Accessed February 7, 2020).

Ordinance approving the DA. The DA establishes the conditions governing project approvals and the criteria for development of the project. The DA grants the project applicant a fully vested right to develop the project as outlined in the DA, and provides the City with "certain binding assurances with respect to the nature and scope of such development and related project improvements."[5]

1.2.1 Previous Environmental Review

The 2009 EIR evaluated the impacts associated with the redevelopment of two separate sites, referred to as Sycamore Crossing[6] and Hill Town. The Hill Town site is the location of the current application from the Santa Clara Valley Housing Group (project applicant). The 2009 EIR evaluated land use amendments and associated City actions required to permit development of the Sycamore Crossing and Hill Town site. The Hill Town development proposal that was evaluated by the 2009 EIR was described, and shown in the Initial Planned Development Plan (IPDP 07-01) approved by the City. The project included 640 multi-family dwelling units on 28 acres, 4,000 square feet of retail commercial, and 13 acres of passive and recreational open space (referred to herein as the 2009 Project).

The following significant and unavoidable impacts were identified in the 2009 EIR:

- **Impact Aes-2:** The proposed project could adversely affect scenic resources within a State scenic highway corridor.

- **Impact Aes-3:** The proposed project could alter the existing visual character of the sites and could substantially degrade the existing visual character and quality of the site and its surroundings.

- **Impact AQ-1:** The proposed Updated 2009 Redevelopment Plan could conflict with or obstruct implementation of the applicable air quality plan.

- **Impact AQ-5:** Development facilitated by the proposed Updated 2009 Redevelopment Plan could result in new air pollutant emissions within the air basin. The emissions from the new vehicle trips and area sources would exceed the BAAQMD thresholds of significance for regional pollutants, and would represent a significant impact that cannot be mitigated to a level of insignificance.

- **Impact AQ-8:** The proposed project could result in a cumulatively considerable net increase of PM_{10} emissions, a criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.

- **Impact NOI-4:** Traffic generated by the proposed project in conjunction with other past, present and reasonably foreseeable future development could increase ambient noise levels.

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5 Hercules, City of. 2018. Development and Owner Participation Agreement Hill Town Redevelopment Project (DOPA 07-01). November 25.

6 The Sycamore Crossing Project is being considered under a separate Initial Study, which was prepared and approved in June 2019.

In certifying the 2009 EIR, the City Council adopted Findings and a Statement of Overriding Considerations specifying the economic, social and other benefits that rendered acceptable the significant unavoidable environmental effects associated with the project.

Issues of known controversy identified in the 2009 EIR, including those raised by public agencies, included:

- Traffic and circulation, including public transit
- Presence of petroleum pipelines and other utilities in the area
- Water supply and water infrastructure
- Adequate wastewater treatment services

1.2.2 Regulatory Framework

The City of Hercules Land Use and Zoning Map designates the project site as Planned Commercial Residential Mixed Use District (PC-R). According to the City's General Plan, this land use category is designed to accommodate either residential or commercial or both residential and commercial uses in a well-planned, mixed use development. The residential density in this category can not exceed 30 units per acre; structures within this land use designation shall have a maximum height of three stories. However, according to the Zoning Ordinance, a maximum height of 65 feet is allowed for major frontages along Sycamore Avenue and San Pablo Avenue, provided a Planned Development Plan has been adopted. The City of Hercules Zoning Ordinance outlines specific development standards and design guidelines for development within this zoning designation.

The proposed Hill Town project site is located within an area subject to the Regulating Code for Central Hercules Plan (CHP), dated July 16, 2001 (Regulating Code). The parcel is designated as "Phase II Permissive," which allows the property owner to decide whether to adhere to the uses ad standards applied to the site by the Regulating Code or the uses and standards applied to the site by the Zoning Ordinance. The Regulating Code establishes urban design conventions based on location, land use, and street and neighborhood type. It primarily addresses project design as it relates to form and appearance (building styles, heights, setbacks, and proportions, street and driveway widths, etc.). The applicant has chosen not to utilize the provisions of the CHP. The project, as currently proposed, is consistent with the DA and with IPDP 07-01.

1.3 PROPOSED PROJECT

The project applicant is requesting Design Review, Conditional Use Permit, Final Development Plan, and Vesting Tentative Map approvals for development of 598 residential units, consisting of 198 condominiums/apartments and 400 townhomes/motor court units, all of which would be for sale. Five percent of the total number of units would be deed restricted for moderate-income housing. The project components are described in more detail below. A comparison between the development evaluated in the 2009 EIR and the currently proposed project (herein referred to as the 2019 Project) is provided in Table A. Overall, the proposed 2019 Project would result in 42 fewer

residential units, 115 fewer parking spaces, an additional 200 square feet of commercial retail space, and approximately 3 more acres of open space as compared to the 2009 Project.

A conceptual site plan of the proposed project is shown on Figure 3. Development of the proposed project would be completed in phases, as shown on Figure 4.

1.3.1 Residential and Commercial/Retail Uses

The proposed project would result in the construction of 598 residential units, consisting of 198 podium apartments/condominiums and 400 townhomes/motor court units. The townhome/motor court units would be located in 42 buildings containing between 4 and 14 units scattered throughout the site. These residential buildings would be three stories tall (up to 40 feet). Figure 5 provides a breakdown for the townhome/motor court units.

The condominium/podium apartment units would be grouped into three buildings, consisting of four levels of residential over at least two levels of parking, portions of which would be underground. These buildings would be up to 60 feet tall. Figure 6 provides a breakdown for the condominium/podium apartment units.

The proposed project would provide approximately 4,200 square feet of neighborhood commercial/retail space.

1.3.2 Open Space, Landscaping, and Stormwater Detention

The proposed project would include approximately 23 acres of open space throughout the site, including 2 acres of bioretention, 0.05 acre of active play area, 1.64 acres of passive open space (e.g., turf), and approximately 19 acres of non-designated open space (e.g., shrubs, groundcover, olive grove).

An existing 36-inch corrugated metal pipe (CMP) located at the southwest corner of the site conveys runoff west-southwest under the intersection of San Pablo Avenue and John Muir Parkway to an outfall above the east bank of Refugio Creek, which, in turn, conveys the runoff west to the San Francisco Bay. The majority of the project site drains to this CMP. The remainder of the site drains north and west to the residential subdivision to the north and to that portion of San Pablo Avenue, which slopes downhill to the north.

The proposed project would include construction of an in-tract storm drain system, which will convey stormwater runoff from the proposed development to four bioretention filters to comply with the requirements of Provision C.3 of the City's Municipal Regional Stormwater Permit. After passing through the bioretention filters, the runoff would be conveyed to an existing earthen swale, leading to the existing 36-inch CMP.

Table A: Comparison between 2009 and 2019 Project

	2009 Project			2019 Project		
Residential Units	**Number of dwelling units (du)**		**Site Acres[1]**	**Number of dwelling units (du)**		**Site Acres[1]**
Phase 1	N/A		N/A	204 du		19.6 acres
Phase 2	N/A		N/A	124 du		12.8 acres
Phase 3	N/A		N/A	72 du		6.8 acres
Subtotal	*447[2] du*			*400 du*		*39.2 acres*
Phase 4	193 du		N/A	197 du		5 acres
Subtotal	*193 du*			*197 du*		*5 acres*
Overall Project Total	**640 du**		**44.2 gross acres**	**597 du**		**44.2 gross acres**
Overall Project Density	**14.48 du/gross acre**			**13.51 du/gross acre**		
Retail						
Neighborhood Retail	4,000 sf			4,200 sf		
Parking						
Townhome/Courtyard/Rowhouse	**# of du or sf**	**Parking Ratio**	**Total Provided**	**# of du or sf**	**Parking Ratio**	**Total Provided**
Private Garage	447 du	2.0 spaces/du	894 spaces	400 du	2.0 spaces/du	782 spaces
Surface Parking	N/A	N/A	180 spaces	N/A	N/A	204 spaces
Subtotal			*1,074 spaces*			*986 spaces*
Parking Ratio			*2.40 spaces/du*			*2.47 spaces/du*
Podium	**# of du or sf**	**Parking Ratio**	**Total Provided**	**# of du or sf**	**Parking Ratio**	**Total Provided**
1-bed	28 du	1.5 spaces/du	42 spaces	64 du	1.5 spaces/du	96 spaces
2-bed +	165 du	2.0 spaces/du	330 spaces	133 du	2.0 spaces/du	266 spaces
Guest	193 du	0.25 spaces/du	48 spaces	197 du	0.36 spaces/du	70 spaces
Retail Parking (at 1 space/400 sf)	4000 sf	0.003 spaces	10 spaces	4,200 sf	0.0025 spaces	11 spaces
Subtotal			*430 spaces*			*443 spaces*
Parking Ratio			*2.23 spaces/du*			*2.25 spaces/du*
Project Parking Total			***1,504 spaces***			***1,429 spaces***
Project Parking Ratio			***2.35 spaces/du***			***2.39 spaces/du***
Open Space						
Bioretention and non-designated			N/A			21.28 acres
Active and Passive Open Space			N/A			1.69 acres
Roads						
Streets[1]			N/A			7.71 acres

Sources: Santa Clara Valley Housing Group, 2019 and Impact Sciences, Inc. 2009a

[1] Value excludes vacation area along San Pablo Avenue

[2] 38 townhomes, 209 courtyard, 200 rowhouse

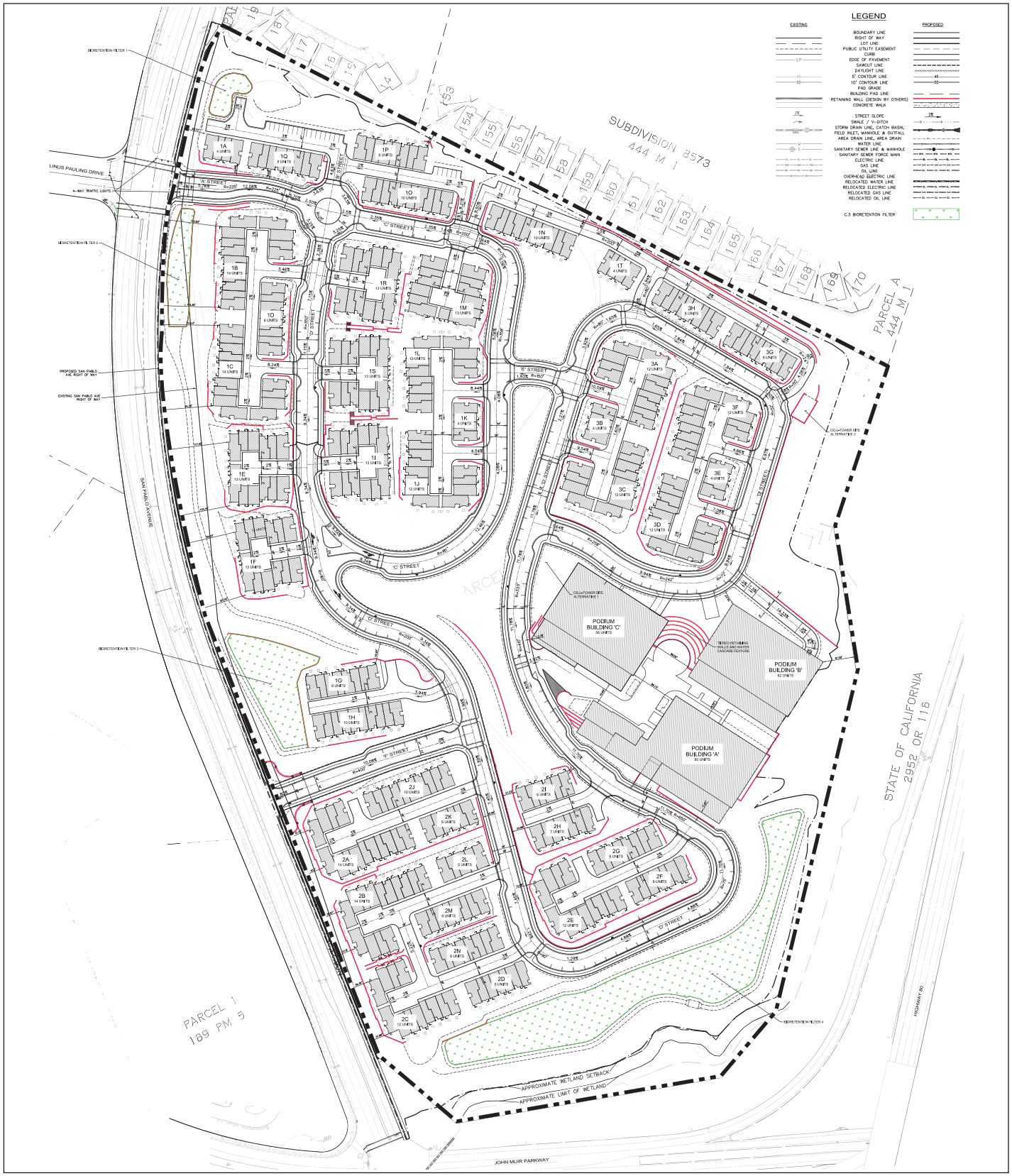

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FIGURE 3

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Project Site

City of Hercules Hilltown Development Project

Site Plan

SOURCE: D/K ENGINEERING, NOVEMBER 2019.

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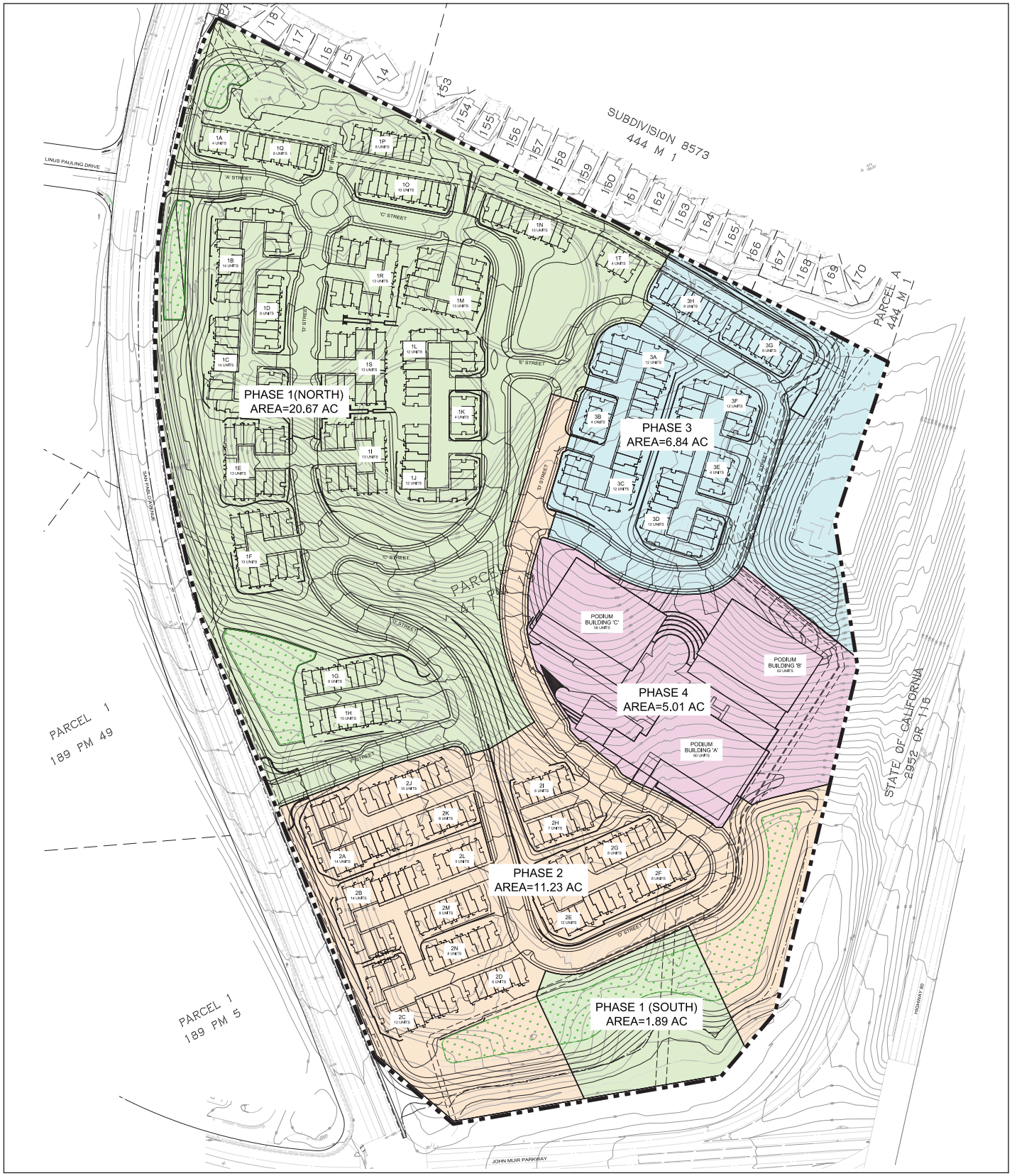

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FIGURE 4

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Project Site

City of Hercules Hilltown Development Project

Phasing Plan

SOURCE: D/K ENGINEERING, NOVEMBER 2019.

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PHASE I: UNIT SUMMARY

PLAN	DESCRIPTION	NSF	# OF PLANS ON SITE	%	TOTAL NSF	PRIVATE OPEN SPACE			GARAGE					
						DECK (SF)	PORCH (SF)	TOTAL (SF)	2-CAR	TANDEM	1-CAR	TOTAL	GARAGE AREA (SF)	TOTAL (SF)
PLAN 1	2 BD + 2.5 BA	1,383	63	31%	87,129	63	27	5,670		63		126	543	34,209
PLAN 2	2 BD + 3.5 BA + DEN	1,739	43	21%	74,777	88	30	5,074	43			86	449	19,307
PLAN 2X	2 BD + 3.5 BA + DEN	1,774	28	14%	49,672	88	43	3,668	28			56	437	12,236
PLAN 3	3 BD + 3.5 BA	2,022	12	6%	24,264	94	101	2,340	12			24	468	5,616
PLAN 4	3 BD + 3.5 BA	2,077	8	4%	16,616	141	29	1,360	8			16	469	3,752
PLAN 5	3 BD + 3.5 BA+ DEN	2,305	8	4%	18,440	133	46	1,432	8			16	426	3,408
PLAN 6	2 BD + 2 BA	1,373	12	6%	16,476	80	33	1,356			12	12	360	4,320
PLAN 7	4 BD + 3.5 BA	2,180	12	6%	26,160	126	72	2,376	12			24	455	5,460
PLAN 8	3 BD + 3.5 BA	1,787	12	6%	21,444	88	23	1,332	12			24	446	5,352
PLAN 9	3 BD + 3 BA	1,965	6	3%	11,790	82	23	630			6	6	326	1,956
PLAN 10	2 BD + 2.5 BA	1,580	0	0%	0	70	23	-					533	-
PHASE I TOTAL DWELLING UNITS:			**204**	**100%**	**346,768**			**25,238**	**123**	**63**	**18**	**390**		**95,616**

PHASE I: BUILDING SUMMARY

BUILDING TYPE STYLE	BUILDING TYPE	# OF BUILDING	BUILDING COVERAGE	TOTAL BUILDING COVERAGE
TOWNHOUSE	4 PLEX	3	3,201	9,603
TOWNHOUSE	5 PLEX	0	4,142	-
TOWNHOUSE	6 PLEX	0	4,710	-
TOWNHOUSE	7 PLEX	0	5,450	-
TOWNHOUSE	8 PLEX	4	6,219	24,876
COURTYARD	10 PLEX	3	7,729	23,187
COURTYARD	12 PLEX	2	10,512	21,024
COURTYARD	13 PLEX	6	10,785	64,710
COURTYARD	14 PLEX	2	12,022	24,044
PHASE I TOTAL BUILDING:		**20**	**64,770**	**167,444**

PHASE II: UNIT SUMMARY

PLAN	DESCRIPTION	NSF	# OF PLANS ON SITE	%	TOTAL NSF	PRIVATE OPEN SPACE			GARAGE					
						DECK (SF)	PORCH (SF)	TOTAL	2-CAR	TANDEM	1-CAR	TOTAL	GARAGE NSF	TOTAL GARAGE
PLAN 1	2 BD + 2.5 BA	1,383	49	40%	67,767	63	27	4,410		49		98	543	26,607
PLAN 2	2 BD + 3.5 BA + DEN	1,739	30	24%	52,170	88	30	3,540	30			60	449	13,470
PLAN 2X	2 BD + 3.5 BA + DEN	1,774	27	22%	47,898	88	43	3,537	27			54	437	11,799
PLAN 3	3 BD + 3.5 BA	2,022	0	0%	0	94	101	-					468	-
PLAN 4	3 BD + 3.5 BA	2,077	9	7%	18,693	141	29	1,530	9			18	469	4,221
PLAN 5	3 BD + 3.5 BA+ DEN	2,305	8	6%	18,440	133	46	1,432	8			16	426	3,408
PLAN 6	2 BD + 2 BA	1,373	0	0%	0	80	33	-					360	-
PLAN 7	4 BD + 3.5 BA	2,180	0	0%	0	126	72	-					455	-
PLAN 8	3 BD + 3.5 BA	1,787	0	0%	0	88	23	-					446	-
PLAN 9	3 BD + 3 BA	1,965	0	0%	0	82	23	-					326	-
PLAN 10	2 BD + 2.5 BA	1,580	1	1%	1,580	70	23	93		1		2	533	533
PHASE II TOTAL:			**124**	**100%**	**204,968**			**14,542**	**74**	**50**	**0**	**248**		**60,038**

PHASE II: BUILDING SUMMARY

BUILDING TYPE STYLE	BUILDING TYPE	# OF BUILDING	BUILDING COVERAGE	TOTAL BUILDING COVERAGE
TOWNHOUSE	4 PLEX	0	3,201	-
TOWNHOUSE	5 PLEX	1	4,142	4,142
TOWNHOUSE	6 PLEX	3	4,710	14,130
TOWNHOUSE	7 PLEX	1	5,450	5,450
TOWNHOUSE	8 PLEX	4	6,219	24,876
COURTYARD	10 PLEX	1	7,729	7,729
COURTYARD	12 PLEX	2	10,512	21,024
COURTYARD	13 PLEX	0	10,785	-
COURTYARD	14 PLEX	2	12,022	24,044
PHASE II TOTAL BUILDING:		**14**	**64,770**	**101,395**

PHASE III: UNIT SUMMARY

PLAN	DESCRIPTION	NSF	# OF PLANS ON SITE	%	TOTAL NSF	PRIVATE OPEN SPACE			GARAGE					
						DECK (SF)	PORCH (SF)	TOTAL	2-CAR	TANDEM	1-CAR	TOTAL	GARAGE NSF	TOTAL GARAGE
PLAN 1	2 BD + 2.5 BA	1,383	26	36%	35,958	63	27	2,340		26		52	543	14,118
PLAN 2	2 BD + 3.5 BA + DEN	1,739	14	19%	24,346	88	30	1,652	14			28	449	6,286
PLAN 2X	2 BD + 3.5 BA + DEN	1,774	16	22%	28,384	88	43	2,096	16			32	437	6,992
PLAN 3	3 BD + 3.5 BA	2,022	0	0%	0	94	101	-					468	-
PLAN 4	3 BD + 3.5 BA	2,077	8	11%	16,616	141	29	1,360	8			16	469	3,752
PLAN 5	3 BD + 3.5 BA+ DEN	2,305	8	11%	18,440	133	46	1,432	8			16	426	3,408
PLAN 6	2 BD + 2 BA	1,373	0	0%	0	80	33	-					360	-
PLAN 7	4 BD + 3.5 BA	2,180	0	0%	0	126	72	-					455	-
PLAN 8	3 BD + 3.5 BA	1,787	0	0%	0	88	23	-					446	-
PLAN 9	3 BD + 3 BA	1,965	0	0%	0	82	23	-					326	-
PLAN 10	2 BD + 2.5 BA	1,580	0	0%	0	70	23	-					533	-
PHASE III TOTAL:			**72**	**100%**	**123,744**			**8,880**	**46**	**26**	**0**	**144**		**34,556**

PHASE III: BUILDING SUMMARY

BUILDING TYPE STYLE	BUILDING TYPE	# OF BUILDING	BUILDING COVERAGE	TOTAL BUILDING COVERAGE
TOWNHOUSE	4 PLEX	2	3,201	6,402
TOWNHOUSE	5 PLEX	0	4,142	-
TOWNHOUSE	6 PLEX	0	4,710	-
TOWNHOUSE	7 PLEX	0	5,450	-
TOWNHOUSE	8 PLEX	2	6,219	12,438
COURTYARD	10 PLEX	0	7,729	-
COURTYARD	12 PLEX	4	10,512	42,048
COURTYARD	13 PLEX	0	10,785	-
COURTYARD	14 PLEX	0	12,022	-
PHASE III TOTAL BUILDING:		**8**	**64,770**	**60,888**

TOTAL FOR SALE: UNIT SUMMARY

PLAN	DESCRIPTION	NSF	# OF PLANS ON SITE	%	TOTAL NSF	PRIVATE OPEN SPACE			GARAGE					
						DECK (SF)	PORCH (SF)	TOTAL	2-CAR	TANDEM	1-CAR	TOTAL	GARAGE NSF	TOTAL GARAGE
PLAN 1	2 BD + 2.5 BA	1,383	138	35%	190,854	63	27	12,420		138		276	543	74,934
PLAN 2	2 BD + 3.5 BA + DEN	1,739	87	22%	151,293	88	30	10,266	87			174	449	39,063
PLAN 2X	2 BD + 3.5 BA + DEN	1,774	71	18%	125,954	88	43	9,301	71			142	437	31,027
PLAN 3	3 BD + 3.5 BA	2,022	12	3%	24,264	94	101	2,340	12			24	468	5,616
PLAN 4	3 BD + 3.5 BA	2,077	25	6%	51,925	141	29	4,250	25			50	469	11,725
PLAN 5	3 BD + 3.5 BA+ DEN	2,305	24	6%	55,320	133	46	4,296	24			48	426	10,224
PLAN 6	2 BD + 2 BA	1,373	12	3%	16,476	80	33	1,356			12	12	357	4,284
PLAN 7	4 BD + 3.5 BA	2,180	12	3%	26,160	126	72	2,376	12			24	455	5,460
PLAN 8	3 BD + 3.5 BA	1,787	12	3%	21,444	88	23	1,332	12			24	446	5,352
PLAN 9	3 BD + 3 BA	1,965	6	2%	11,790	82	23	630			6	6	349	2,094
PLAN 10	2 BD + 2.5 BA	1,580	1	0%	1,580	70	23	93		1		2	533	533
TOTAL:			**400**	**100%**	**675,480**			**48,660**	**243**	**139**	**18**	**782**		**190,312**

TOTAL BUILDINGS

BUILDING TYPE STYLE	BUILDING TYPE	# OF BUILDING	BUILDING COVERAGE	TOTAL BUILDING COVERAGE
TOWNHOUSE	4 PLEX	5	3,201	16,005
TOWNHOUSE	5 PLEX	1	4,142	4,142
TOWNHOUSE	6 PLEX	3	4,710	14,130
TOWNHOUSE	7 PLEX	1	5,450	5,450
TOWNHOUSE	8 PLEX	10	6,219	62,190
COURTYARD	10 PLEX	4	7,729	30,916
COURTYARD	12 PLEX	8	10,512	84,096
COURTYARD	13 PLEX	6	10,785	64,710
COURTYARD	14 PLEX	4	12,022	48,088
TOTAL BUILDINGS:		**42**	**64,770**	**329,727**

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FIGURE 5

City of Hercules Hilltown Development Project

Project Summary - Townhomes

SOURCE: KTGY ARCHITECTURE + PLANNING, JULY 2019.

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Hilltown Phase IV

Hercules, CA
Santa Clara Valley Housing Group
KTGY #180201

Total Project Summary - Buildings A / B / C

x Acres (Podium Site Only)
198 Total Units
#VALUE! Total Density (DU/AC)
195,942 Total Unit Area (NRSF)
989.6 Total Average Unit Size (NRSF)
4200 Total Retail Space (GSF)

Parking Summary
390 Total Residential Parking Stalls
37 Total Guest Parking Stalls
427

Total Unit Mix
31.8% 1 bdrm
68.2% 2 bdrm

Building A - Unit Mix

Unit	Description	Unit Area +/- (NRSF)	Units Per Level							Unit Mix		% of Mix	Total NRSF
			Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	1 Bd	2 Bd		
P1-0	1bd / 1ba	775	1	1	4	4	7	3	3	23			17,825
P2-0	2bd / 2ba	1,089	3	3	6	6	12	11	13		54		58,806
P2-1	2bd / 2ba [Inside Corner]	1,123	0	0	0	0	1	1	1		3		3,369
Total			**4**	**4**	**10**	**10**	**20**	**15**	**17**	**23**	**57**		**80,000**
										29%	**71%**		
										80 Total Units			
										1000 Avg. Unit Size (SF)			

**measured to outside face of stud including 1" air gap; does not include balconies or patios*

Total Unit Area:	80,000 NRSF
Retail Provided:	
Indoor Amenity & Leasing Provided:	

Required Vehicle Parking

Unit Type	Total Units or Area (GSF)	Parking Ratio	Parking Required
1 Bdrm	23	1.5	35
2 Bdrm	57	2	114
Guest	80	0.25	20
Retail	4200	0.0025	11
Total Required Parking Stalls			**179**
Total Required Parking Ratio			2.24

Proposed Vehicle Parking

Level	Residential	Guest	Combined Total
On Grade		19	19
Level 2	45		45
Level 3	60		60
Level 4	60		60
Res Subtotal	165	19	
Total Provided Parking Stalls			**184**
Total Provided Parking Ratio			2.30

Building B - Unit Mix

Unit	Description	Unit Area +/- (NRSF)	Units Per Level							Unit Mix		% of Mix	Total NRSF
			Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	1 Bd	2 Bd		
P1-0	1bd / 1ba	775	2	2	2	2	5	4	4	21			16,275
P2-0	2bd / 2ba	1,089	4	4	4	4	7	8	10		41		44,649
Total			**6**	**6**	**6**	**6**	**12**	**12**	**14**	**21**	**41**		**60,924**
										34%	**66%**		
										62 Total Units			
										983 Avg. Unit Size (SF)			

**measured to outside face of stud including 1" air gap; does not include balconies or patios*

Total Unit Area:	60,924 NRSF
Retail Provided:	
Indoor Amenity Provided:	

Required Vehicle Parking

Unit Type	Total Units or Area (GSF)	Parking Ratio	Parking Required
1 Bdrm	21	1.5	32
2 Bdrm	41	2	82
Guest	62	0.25	16
Retail	0	0.0025	0
Total Required Parking Stalls			**129**
Total Required Parking Ratio			2.08

Proposed Vehicle Parking

Level	Residential	Guest	Combined Total
On Grade		8	8
Level 3	55		55
Level 4	60		60
Res Subtotal	115	8	
Total Provided Parking Stalls			**123**
Total Provided Parking Ratio			1.98

Building C - Unit Mix

Unit	Description	Unit Area +/- (NRSF)	Units Per Level							Unit Mix		% of Mix	Total NRSF
			Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	1 Bd	2 Bd		
P1-0	1bd / 1ba	775	1	1	2	7	4	4	0	19			14,725
P2-0	2bd / 2ba	1,089	2	2	4	11	8	10	0		37		40,293
Total			**3**	**3**	**6**	**18**	**12**	**14**	**0**	**19**	**37**		**55,018**
										34%	**66%**		
										56 Total Units			
										982 Avg. Unit Size (SF)			

**measured to outside face of stud including 1" air gap; does not include balconies or patios*

Total Unit Area:	55,018 NRSF
Retail Provided:	
Indoor Amenity Provided:	

Required Vehicle Parking

Unit Type	Total Units or Area (GSF)	Parking Ratio	Parking Required
1 Bdrm	19	1.5	29
2 Bdrm	37	2	74
Guest	56	0.25	14
Retail	0	0.0025	0
Total Required Parking Stalls			**117**
Total Required Parking Ratio			2.08

Proposed Vehicle Parking

Level	Residential	Guest	Combined Total
On Grade		10	10
Level 2	55		55
Level 3	55		55
Res Subtotal	110	10	
Total Provided Parking Stalls			**120**
Total Provided Parking Ratio			2.14

Any information below red line will autofill any cells above.

Unit Types

Unit	Description	NRSF
P1-0	1bd / 1ba	775
P2-0	2bd / 2ba	1,089
P2-1	2bd / 2ba [Inside Corner]	1,123

LSA

FIGURE 6

City of Hercules Hilltown Development Project

Project Summary - Podium Units

SOURCE: KTGY ARCHITECTURE + PLANNING, JULY 2019.

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Because of elevation constraints it is not feasible to treat runoff from the podium units in one of the large bioretention filters, so runoff from the podium units will be treated internally to the podium unit complex. It is proposed to place four flow-through planters on the roofs of all three buildings and to place six more at ground level in the plaza. A dedicated storm drain system will carry treated runoff past the large bioretention filters to an outfall at the south swale.

The bioretention filters and flow-through planters would be designed and constructed in accordance with the criteria included in Contra Costa Clean Water Program Stormwater C.3 Guidebook, Seventh Edition.

1.3.3 Site Access and Parking

Vehicular access into the site would be provided by two new private streets off of San Pablo Avenue, which is categorized as a Route of Regional Significance[7] in the West County Action Plan[8] (see Figure 3). The northern entry drive at Linus Pauling Drive would be signalized with have one lane in each direction with a dedicated left-turn lane for traffic turning south onto San Pablo Avenue. The width would vary from 39 feet near San Pablo Avenue to 26 feet at the connection to the internal access roads. The southern entry driveway would be right-turn in and right-turn out only due to the center median in San Pablo Avenue. The width of this roadway would vary from 32 feet near San Pablo Avenue to 26 feet at the connection to the internal access roads. A portion of the southern entry drive would be widened to 8 feet to provide on-street parking on the north side. An internal access road would extend throughout the site in a meandering, curvilinear fashion, which would enable every portion of the site to be accessed with very few 90-degree intersections.

Due to site topography, the design of project roadways would not be consistent with the City's roadway design standards. Consistent with the Speed Limit Design Consideration Memorandum,[9] the posted speed limit for the proposed internal roadways would be set at the lowest recommended speed limit of 15 miles per hour (mph) and appropriate signage and traffic calming measures would be implemented in coordination with the City of Hercules Fire Department. In order to ensure continued compliance and safe operation, the future Homeowner's Association established as part of the Hill Town development would provide continued education to residents and enforcement of this posted speed. If needed, additional traffic calming measures could be implemented, with approval of the City of Hercules Fire Department to ensure adequate emergency vehicle access.

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7 Routes of Regional Significance are roadways that connect two or more subareas of Contra Costa County, cross County boundaries, carry significant through traffic, and/or provide access to a regional highway or transit facility. Due to their importance in the County, the Contra Costa County Transportation Authority has established performance measures (called Multi-modal Transportation Service Objectives) for these routes, which differ from local jurisdiction standards.

8 Fehr & Peers, 2014. West County Action Plan for Routes of Regional Significance. January. Available online at: https://www.wcctac.org/files/managed/Document/239/West%20County%20Action%20Plan%20Final%20Draft%2001-2014.pdf (access December 17, 2019).

9 DKS Associates, 2020. Review of Speed Limit Requirement of the Hill Town Mixed Use Development P# 19153-000. February 3.

Nine different building plans are proposed for the townhome/courtyard units; five of these would include two-car garages, two site plans would include two-car tandem garages, and two plans would include a one-car garage for a total of 782 dedicated vehicle parking spaces. The Podium Condominium/Apartment units would include a total of 362 dedicated parking spaces. A total of 98 outdoor guest vehicle parking spaces and 176 on-street parking spaces would be provided as part of the proposed project.

Pedestrian access to the site would be provided via new sidewalks along San Pablo Avenue and interior sidewalks throughout the site.

1.3.4 Public Right-of-Way and Utility Improvements

As part of a previous roadway widening project, the existing San Pablo Avenue right-of-way was extended west into the project site with the built infrastructure of a curb, gutter, and lane. As part of the proposed project, it is anticipated that the City would abandon this public right-of-way to the applicant. The approval process for the proposed roadway abandonment is occurring concurrently with the entitlement process for excess right-of-way behind future sidewalks once a final map is recorded.

The proposed project would require the extension of main line utilities into the project site. The main water line would be extended from an existing water main in San Pablo Avenue. The sewer line would begin at an existing sewer line located near the corner of John Muir Parkway and Alfred Nobel Drive. Utilities would be located within the proposed public drives into the project site. “Dry” utilities would be extended from San Pablo Avenue. The on-site storm drains would discharge to the various bioretention areas located throughout the site and the outfall lines from these bioretention basins would discharge either directly to the unnamed ditch/swale at the south side of the project site or to a storm drain to be constructed in San Pablo Avenue. This storm drain would connect to an existing storm drain, which discharges to the unnamed ditch/swale.

The proposed project would require the relocation of existing utilities on the site including two large diameter (24-inch and 36-inch) water lines owned by the East Bay Municipal Utilities District (EBMUD), a 6-inch diameter oil pipeline owned by Union Oil Company of California, utility lines associated with the existing on-site cell tower (to be relocated), underground PG&E high pressure gas line along San Pablo Avenue, and two sets of dual 6-inch PG&E electric conduits located along the northern boundary of the project site.

1.3.4 Construction and Phasing

Construction of the proposed project is estimated to occur over an approximately 24 to 36 month period, beginning in April 2020 through April 2023. Preparation and grading of the site would occur first, followed by construction of the structures and other site improvements. Project construction would likely be completed in 3 to 4 phases. Construction staging would occur within the project site.

Due to the site topography, cut and fill would be required to achieve appropriate grades. It is anticipated that the proposed project would require approximately 737,000 cubic yards of cut and 350,000 cubic yards of fill; therefore, approximately 387,000 cubic yards of existing surface soils

would be exported. The resulting grades would be similar to existing grades, which range from 240 to 30 feet above mean sea level.

1.4 AMENDMENTS AND PERMITS

As part of the proposed project evaluated in this Addendum, the following approvals and permits would be required:

- Design Review
- Conditional Use Permit
- Final Development Plan
- Vesting Tentative Map
- Grading Permit
- Building Permit
- Partial Street Abandonment of San Pablo Avenue
- Speed Limit Reduction Ordinance

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ATTACHMENT B
ENVIRONMENTAL CHECKLIST PURSUANT TO CEQA GUIDELINES SECTION 15168

CEQA Guidelines 15168(c)(4) recommends using a written checklist or similar device to determine whether the environmental effects of a subsequent activity were adequately covered in a previous environmental document. This checklist confirms that the Hill Town Residential Development Project (proposed project or 2019 Project) described in Attachment A is within the scope of the Hercules 2009 Project Environmental Impact Report (2009 EIR), which was certified by the City of Hercules in April 2009.

Per CEQA Section 15164, this Addendum evaluates whether modifications and refinements to the proposed activities and improvements identified in the 2009 EIR would result in new or substantially more adverse significant effects or require new mitigation measures not identified in the 2009 EIR. The City of Hercules is the CEQA Lead Agency for this Addendum. In accordance with CEQA Section 21093(b) and CEQA Guidelines Section 15152(a), this Addendum tiers off the 2009 EIR, which is hereby incorporated by reference.

This environmental checklist is used to: (1) compare the environmental impacts of the proposed project with impacts expected to result from development approved in the 2009 Project and evaluated in the 2009 EIR; (2) to identify whether the 2019 Project would result in new or more severe significant environmental impacts as compared to the 2009 Project; (3) to identify if new or revised mitigation measures would be required by the project applicant; and (4) to identity if substantial changes with respect to the circumstances under which the project would be undertaken since the 2009 EIR was certified would result in new or more severe significant environmental effects.

In summary, and as demonstrated in the checklist responses below, approval and development of the 2019 Project would not result in or lead to any of the conditions described in Section 15162 and 15163 of the CEQA Guidelines requiring the preparation of a subsequent or supplemental EIR. Therefore, no subsequent EIR or CEQA evaluation is required for the 2019 Hill Town Residential Development Project.

1.1 AESTHETICS

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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 buildings within a state scenic highway	☐	☐	☐	☒
c. 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?	☐	☐	☐	☒

1.1.1 Discussion

The following includes a discussion of the potential impacts to aesthetics associated with the proposed 2019 Project. With respect to scenic vistas, scenic resources, visual character and quality, and lighting and glare conditions within the project site and vicinity, conditions are generally the same as discussed in the 2009 EIR.

1.1.1.1 Scenic Vistas

Hercules has a scenic setting where the higher areas east of I-80 overlook 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 State Route 4 corridor through Franklin Canyon provides scenic views of the valley and adjacent hillside grasslands and oak woodlands. The Circulation Element of the City's General Plan has recognized the scenic character of San Pablo Avenue and State Route 4 by designating them as scenic routes and providing implementation measures for development along these corridors.

The project site is located west of Interstate 80 (I-80) in an area with varying topography. San Pablo Avenue provides limited views of San Pablo Bay due to intervening topography and existing development. The 2009 EIR determined that development of the Hill Town site would not obstruct views to the west from any publicly accessible viewpoint as San Pablo Avenue is located on the west side of the project site. Scenic vistas to the west and northwest beyond the project site are limited for motorists on I-80 given the intervening topography of the project site. In addition, the project is not currently accessible to the public; therefore, no public viewpoints are currently located on the project site. Once developed, some view corridors to the west and southwest would be maintained for viewers on the site. Buildings and streets on the east side, at higher elevations, would have views to the west. As a result, the 2009 EIR concluded that the 2009 Project would have less than significant impact related to scenic vistas.

The 2019 Project would result in a similar pattern of development to that proposed by the 2009 Project. Existing publicly-accessible viewpoints along San Pablo Avenue have limited views to the west and northwest due to the intervening topography of the project site. Once developed, the proposed project would create new publicly accessible viewpoints from site roadways and public spaces. Due to site topography, buildings and streets on the east side, at higher elevations, would have views to the west. Because existing public views have limited scenic vistas due to the topography of the project site and the proposed project would create new publicly accessible viewpoints within the higher elevations of the site, the proposed 2019 Project, like the 2009 Project, would have a less than significant impact related to scenic vistas.

1.1.1.2 Scenic Resources

No officially designated State scenic highways are located within the project area. State Route 4 between Route 160 near Antioch and Route 84 near Brentwood is an eligible State scenic highway. The proposed project is not located in the vicinity of this segment of State Route 4. However, both San Pablo Avenue between Pinole Valley Road and Willow Avenue and State Route 4 are identified as Scenic Routes in the Hercules General Plan. Consistent with General Plan policies, the design and site layout of new development in or in close proximity to a Scenic Route shall take into account the visual impact of the development on the Scenic Route, and any impact on existing vistas from the Scenic Route.

The 2009 EIR found that unobstructed views of Hill Town's scenic resources from the intersection of San Pablo Avenue and Sycamore Avenue would be substantially altered by development, resulting in a potentially significant impact. Implementation of Mitigation Measures AES-2a through AES-2e and compliance with City of Hercules performance standards and design review requirements would reduce this impact; however, given the extent of changes to the Hill Town site, the 2009 EIR determined that impacts to scenic resources would be significant and unavoidable.

Existing scenic resources on the project site include grassy hillside areas studded with oak trees and large stands of mature eucalyptus trees. The project site consists of 44 developable acres, of which approximately 13 are envisioned to be developed with residential and commercial uses, approximately 8 acres as major roadways, and 23 acres retained as open space, including landscaping, bioretention, and active and passive open space areas. Like the 2009 Project, in order to accommodate the proposed development, the natural terrain of the site would be modified through extensive grading and the removal of natural resources (e.g., trees and vegetation). Changes to the project site, under the proposed 2019 Project, would be similar to those evaluated in the 2009 EIR, and would be highly visible from the San Pablo Avenue Scenic Route, resulting in a potentially significant impact. Mitigation Measures AES-2a through AES-2e, identified in the 2009 EIR, would apply to the proposed project. However, implementation of these measures would not reduce potential impacts to a less than significant level. Therefore, impacts to scenic resources would remain significant and unavoidable.

1.1.1.3 Visual Character

The project site is characterized by vacant land covered with grasses, shrubs, and trees with some areas used in the past as part of the PG&E tank farm. Views of the project site are available looking northeast from the Sycamore Avenue-San Pablo Avenue intersection and to viewers traveling north

on San Pablo Avenue towards John Muir Parkway. Tree and shrubs along San Pablo Avenue offer some existing visual screening of the project site; however, the majority of the site is located at a higher elevation than the roadway and would be visible from public viewpoints.

The 2009 EIR determined that future development of the Hill Town site would permanently alter the existing visual qualities of the project area. Mitigation Measure AES-2 was identified to reduce the visual prominence and visual impacts of the Hill Town project. The project would also be required to be consistent with City of Hercules design regulations and performance standards, as well as General Plan policies related to aesthetics, view preservation, and control of light and glare, which are designed to promote high quality design and compatibility with surrounding uses. Proposed development at the Hill Town project site must also be consistent with the requirements outlined in the Development Agreement (DA) and the Initial Planned Development Plan (IPDP), which include provisions related to development density and scale. However, given the complete change in character of the site from undeveloped land to urban development, impacts associated with the 2009 Project were found to be significant and unavoidable.

Like the 2009 Project, the 2019 Project would substantially alter the visual character of the project site, which would be converted from open space to a developed urban area with multi-storied residential buildings. As described above, development of the proposed project would require extensive cuts and fills, as well as tree removal, to create building pads and roadways and retaining walls to support slopes. Due to site topography, portions of the proposed development would be located at elevations above the roadway, rendering them visually prominent to viewers from nearby publicly accessible viewpoints.

As described in the 2009 EIR, proposed development under the 2009 Project would result in the construction of proposed structures up to four stories (55 feet) in height. The podium condominiums/apartments to be constructed as part of the proposed project could extend up to 60 feet in height. This difference in height would not substantially increase the severity of the previously identified impact. According to the Zoning Ordinance, a maximum height of 65 feet is allowed for major frontages along Sycamore Avenue and San Pablo Avenue, provided a Planned Development Plan has been adopted. Like the 2009 Project, the 2019 Project would be required to comply with the Property Development Regulations for development within the PC-R district, as designated in the City's Zoning Ordinance (Section 13-15 of the City of Hercules Municipal Code), as well as the requirements outlined in the DA and IPDP.

The 2019 Project would be required to undergo site-specific design review to ensure the project is consistent with City of Hercules design standards, property development regulations and performance standards related to aesthetics and to lessen the severity of visual changes resulting from the proposed project. Nevertheless, the 2019 Project, like the 2009 Project, would completely change the visual character of the project site. Therefore, impacts associated with visual quality would remain significant and unavoidable.

1.1.1.4 Light and Glare

No substantial sources of light and glare currently exist at the project site. Night lighting, which was once used throughout the Hill Town oil storage site for security purposes, is maintained at minimal

levels. Lighting sources in the project area include the existing residential uses northeast and southeast of the site, security lighting for the business park northwest of the project site, and car headlights and streetlights along San Pablo Avenue and Interstate 80 (I-80). Existing sources of glare include daytime reflections off existing structures surrounding the site and vehicles traveling on the surrounding roadways.

As discussed in the 2009 EIR, the proposed project would create new sources of light and glare, including street lights, automobile lights, landscape/accent lights, and other lighting characteristic of residential development. Such illumination would be consistent with the existing sources of light and glare in the project area (e.g., street lighting along San Pablo Avenue and adjacent residential development). Like the previous project, the proposed project would include approximately 4,200 square feet of retail/commercial uses that would be adjacent to residential uses. Given that these uses tend to use higher intensity night lighting for security purposes, night lighting could create some disturbance for nearby residents or motorists on adjacent roadways. Daytime glare would also be created by the introduction of new buildings and vehicles on the project site. Implementation of Mitigation Measures AES-4a and AES-4b, as identified in the 2009 EIR would apply to the proposed project and would reduce potentially significant light and glare impacts to a less than significant level.

1.1.2 Applicable Mitigation

As described in the 2009 EIR, mitigation measures were identified to reduce the prominence of the proposed Hill Town project and reduce its visual impacts. However, impacts would remain significant even after mitigation is incorporated. No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2009 EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required. Mitigation Measures AES-2 and AES-4, would remain applicable to the proposed project, as follows:

MM AES-2a: Development on the Sycamore Crossing and Hill Town sites shall retain or replace the existing trees on the site to the extent feasible.

MM AES-2b: Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, shall be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors. If specific trees are to be removed, such as eucalyptus trees, replace with tress, preferably native species, that will provide suitable screening while retaining the view corridor along San Pablo Avenue.

MM AES-2c: Buildings on the Sycamore Crossing and Hill Town sites shall be sited so as to minimize view obstruction from sensitive viewpoints.

MM AES-2d: New development shall avoid the use of designs and materials that are inconsistent with the existing development along San Pablo Avenue and Sycamore Avenue in the vicinity of the project sites.

MM AES-2e: New development on the Hill Town site shall be consistent in form and exterior finishes with the natural surroundings and topography. Building height and placement on the site shall be deigned to avoid obstruction of views of the ridgelines to the east and north sides of the site. The materials and color of exposed retaining walls shall be chosen to blend visually with the natural terrain.

MM AES-2f: Landscaping consistent with the existing terrain and landscaping of San Pablo Avenue and Sycamore Avenue shall be incorporated to soften the visual mass of the building frontages and parking areas. The developer of each specific development proposed within the Updated 2009 Redevelopment Area shall provide usable open space areas within the project.

MM AES-4a: The parking areas on the Sycamore Crossing and Hill Town sites shall be screened with vegetation and/or trees.

MM AES-4b: The developer for the Sycamore Crossing and Hill Town sites shall use hooded and down-directed lights for nighttime illumination in parking areas, shipping and receiving docks and other areas of the site, as applicable.

1.1.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. Visual impacts associated with the 2019 Project would be similar to the impacts resulting from the 2009 Project; therefore, the mitigation measures identified in the 2009 EIR would continue to be effective in reducing visual impacts associated with the 2019 Project. As described above, the 2019 Project, like the 2009 Project, would completely change the visual character of the project site; therefore, impacts related to scenic resources and visual character/quality would remain significant and unavoidable even with implementation of Mitigation Measure AES-2. Impacts to scenic vistas would remain less than significant. Impacts associated with light and glare would be reduced to less than significant with implementation of Mitigation Measure AES-4. No additional mitigation is required.

1.2 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 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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 non-agricultural 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 non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

1.2.1 Discussion

The project site is located on land classified as "Urban and Built Up Land" by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP).[1] Urban and Built Up Land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10 acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment and water control structures. The project site is zoned PC-R (Planned Commercial Residential) on the City's zoning map;[2] therefore, the project area is not zoned for agricultural use. In

1 California, State of, 2016. Department of Conservation. California Important Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff (accessed October 28, 2019).

2 Hercules, City of, 2014. City of Hercules Land Use and Zoning. Available online at: www.ci.hercules.ca.us/Home/ShowDocument?id=193 (accessed October 28, 2019)

addition, the project area is not under a Williamson Act contract.[3] No forest land or timberland is identified on or in the vicinity of the project area, and the project area is not zoned for forest or timber uses.

These conditions remain unchanged. As such, the proposed project would continue to have no impact on agricultural and forestry resources.

1.2.2 Applicable Mitigation

The 2009 Project was determined to have no impact on agricultural and forestry resources. Therefore, no mitigation measures were identified.

1.2.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. Like the 2009 Project, the 2019 Project would have no impact on agricultural or forestry resources and additional mitigation would not be required.

[3] Contra Costa County Department of Conservation and Development, 2017. *2016 Agricultural Preserves Map.* Available online at: www.contracosta.ca.gov/DocumentCenter/View/882/Map-of-Properties-Under-Contract?bidId= (accessed October 28, 2019).

1.3 AIR QUALITY

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

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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) affecting a substantial number of people?	☐	☐	☐	☒

1.3.1 Discussion

The project site is located with the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the regional government agency that monitors and regulates air pollution within the air basin. The Federal Clean Air Act and the California Clean Air Act mandate the control and reduction of specific air pollutants. Under these Acts, the U.S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for specific "criteria" pollutants, designed to protect public health and welfare. Primary criteria pollutants include carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), particulate matter (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). Secondary criteria pollutants include ozone (O_3), and fine particulate matter ($PM_{2.5}$).

Based on the BAAQMD attainment status and ambient air quality monitoring data, ambient air quality in the vicinity of the project site has basically remained unchanged since approval of the 2009 EIR. However, the BAAQMD has made two key regulatory changes since the 2009 EIR was certified. The updated Clean Air Plan was adopted in April 2017 and revised BAAQMD CEQA Guidelines were adopted in May 2017. These changes in the project circumstances as well as changes to the proposed project itself are discussed and evaluated in the following section.

1.3.1.1 Clean Air Plan Consistency

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of an air quality plan is to bring an area into compliance with the requirements of federal and State air quality standards.

The 2009 EIR referenced the BAAQMD Bay Area 2000 Clean Air Plan (2000 CAP) to determine if the 2009 Updated Redevelopment Plan would conflict with or obstruct implementation of an applicable air quality plan. The 2009 EIR found that although the 2009 Project would be consistent with the

2000 CAP because the City's land use planning would achieve the same results as Transportation Control Measures and the land use plans provide adequate buffers around sources of odors and toxic air contaminants, the population and vehicle trip increases associated with the 2009 Project were not included in the 2000 CAP population and vehicle trip inventory. Therefore, the 2009 EIR found that the 2009 Project would not be consistent with the 2000 CAP. The impact was determined to be significant.

The current BAAQMD clean air plan is the 2017 Clean Air Plan, which was adopted on April 19, 2017.[4] The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the BAAQMD will continue progress toward attaining all State and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve greenhouse gas (GHG) reduction targets.

The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants. It also includes control measures to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

Consistency with the Clean Air Plan can be determined if a project does the following: (1) supports the goals of the Clean Air Plan; (2) includes applicable control measures from the Clean Air Plan; and (3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan. Because the 2017 Clean Air Plan is the most current clean air plan applicable to the region, the proposed project is evaluated for compliance with this plan below.

The proposed 2019 Project would comply with all applicable control measures as mandated by the City and BAAQMD, as follows:

Stationary Source Control Measures. The stationary source measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by the BAAQMD's Permit and Inspection programs. Since implementation of the proposed project would not include any stationary sources, the Stationary Source Measures of the Clean Air Plan are not applicable.

Transportation Control Measures. The BAAQMD identifies control measures as part of the Clean Air Plan to reduce ozone precursor emissions from stationary, area, mobile, and transportation sources. The Transportation Control Measures are designed to reduce emissions from motor vehicles by reducing vehicle trips and VMT in addition to vehicle idling and traffic congestion. The proposed project is a residential project that would locate residences near employment, commercial, and public transportation facilities as the relocated Bay Area Rapid Transit (BART) Park and Ride lot is located southeast of the project site on Willow Avenue, approximately one mile from the project

[4] Bay Area Air Quality Management District, 2017. *Bay Area 2017 Clean Air Plan*. April 19.

site. In addition, the proposed project would include pedestrian access to the site would be provided via new sidewalks along San Pablo Avenue and interior sidewalks throughout the site. Therefore, the proposed project would support the ability to use alternative modes of transportation, would promote initiatives to reduce vehicle trips and vehicle miles traveled, and would increase the use of alternate means of transportation. Therefore, the proposed project would not conflict with the identified Transportation and Mobile Source Control Measures of the Clean Air Plan.

Energy Control Measures. The Clean Air Plan also includes Energy and Climate Control Measures, which are designed to reduce ambient concentrations of criteria pollutants and to reduce emissions of CO_2. Implementation of these measures is intended to promote energy conservation and efficiency in buildings throughout the community, promote renewable forms of energy production, reduce the "urban heat island" effect by increasing reflectivity of roofs, roads, and parking lots, and promote the planting of (low-volatile organic compound [VOC]-emitting) trees to reduce biogenic emissions, lower air temperatures, provide shade, and absorb air pollutants. The measures include voluntary approaches to reduce the heat island effect by increasing shading in urban and suburban areas through the planting of trees. Implementation of the proposed project would include paved areas that could result in a heating effect. The proposed project would include approximately 12.39 acres of landscaping, walkways, and common open space throughout the site. In addition, approximately 1.96 acres of bioretention would be provided. In addition, the proposed project would be required to comply with the latest CALGreen standard building measures and Title 24 standards. Therefore the proposed project would not conflict with the Energy and Climate Control Measures.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes, to facilitate adoption of best GHG control practices and policies. As identified above, the proposed project would be required to comply with the latest CALGreen standard building measures and Title 24 standards. Therefore, the proposed project would not conflict with these measures.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Since the proposed project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan are not applicable.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to adopt ordinances that promote urban-tree plantings. Since implementation of the proposed project would not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan would not be applicable.

Waste Management Control Measures. The Waste Management Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with local requirements for waste management (e.g.,

recycling and composting services). Therefore, the proposed project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works (POTWs), and promoting the use of biogas recovery systems. Since these measures apply to POTWs and local government agencies, the Water Control Measures are not applicable to the proposed project.

Super GHG Control Measures. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. As identified above, the proposed project would be required to comply with the latest CALGreen standard building measures and Title 24 standards reducing GHG emissions. Therefore, the proposed project would not conflict with the Super-GHG Control Measures.

As discussed above, implementation of the proposed project would not disrupt or hinder implementation of the applicable measures outlined in the Clean Air Plan, including Transportation and Mobile Source Control Measures, Land Use and Local Impact Measures, and Energy Measures. Therefore, the proposed project supports the goals of the Clean Air Plan and would not conflict with any of the control measures identified in the plan or designed to bring the region into attainment. In addition, as discussed below, construction of the proposed project would not result in the generation of criteria air pollutants that would exceed BAAQMD thresholds of significance. Implementation of Mitigation Measure AQ-2, as identified in the 2009 EIR and modified below, would further reduce construction dust impacts. Operational emissions associated with the proposed project would also not exceed BAAQMD established significance thresholds. Therefore, the proposed project's potential conflicts with the applicable Clean Air Plan would be less than significant and no new or more severe impacts would result due to the changes in the proposed project or changes in the applicable clean air plan.

1.3.1.2 Construction-Related Emissions

According to the BAAQMD CEQA Guidelines, to meet air quality standards for operational-related criteria air pollutant and air precursor impacts, the proposed project must not:

- Contribute to CO concentrations exceeding the State ambient air quality standards;
- Generate average daily construction emissions of ROG, NO_x or $PM_{2.5}$ (exhaust) greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day; or
- Generate operational emissions of ROG, NO_x or $PM_{2.5}$ of greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

The BAAQMD is currently designated as a nonattainment area for State and national ozone standards and national particulate matter ambient air quality standards. The BAAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The following sections describe the proposed project's construction- and operation-related air quality impacts and CO impacts.

Construction Emissions. Similar to the Updated 2009 Redevelopment Plan, construction activities associated with the proposed project would temporarily affect local air quality. Construction activities associated with project-facilitated public and private development in the Added Area would include demolition, grading, new building construction, and paving. Generally, the most substantial air pollutant emissions associated with these activities would be dust generated from demolition or site grading. The physical demolition of existing structures and other infrastructure could generate substantial dust. In addition to the dust created during demolition, substantial dust emissions could be created as debris is loaded into trucks for disposal. Without adequate particulate matter dust control measures, visible dust clouds extending beyond the construction or demolition site could occur.

The 2009 EIR did not quantify construction emissions; however the 2009 EIR determined that demolition and construction activities permitted and/or facilitated by the 2009 Project could generate construction-period exhaust emissions and fugitive dust that could temporarily affect local air quality, and therefore would result in a significant impact. The 2009 EIR identified Mitigation Measure AQ-2 to reduce construction emissions to a less-than-significant level.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) version 2016.3.2, consistent with BAAQMD recommendations. Project construction would occur for 24 to 36 months, beginning in April 2020 through April 2023. Preparation and grading of the site would occur first, followed by construction of the structures and other site improvements. Project construction would likely be completed in 3-4 phases. Construction staging would occur within the project site. To be conservative, this analysis assumes construction would occur for approximately 24 months. It is anticipated that the proposed project would require approximately 737,000 cubic yards of cut and 350,000 cubic yards of fill; therefore, approximately 387,000 cubic yards of existing surface soils would be exported, which was included in the CalEEMod analysis. Construction-related emissions are presented in Table A. CalEEMod output sheets are included in Appendix A.

Table A: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO_x	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
Average Daily Emissions	15.0	43.7	4.9	0.9	1.5	0.8
BAAQMD Thresholds	54.0	54.0	54.0	BMP	82.0	BMP
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA (October 2019).

As shown in Table A, construction emissions associated with the proposed project would be less than significant for ROG, NO_x, $PM_{2.5}$, and PM_{10} emissions. As identified above, the 2009 EIR required the implementation of Mitigation Measure AQ-2, which included the BAAQMD's best management practices to reduce construction emissions to a less-than-significant level. As identified above, since the 2009 EIR was certified, the revised BAAQMD CEQA Guidelines were adopted in May 2017. The May 2017 CEQA Guidelines includes updated Basic Construction Mitigation Measures to reduce construction fugitive dust impacts to a less-than-significant level. Mitigation Measure AQ-2 has been modified as shown below to include the updated Basic Construction Measures. With implementation of Mitigation Measure AQ-2, as identified in the 2009 EIR and modified below, the proposed 2019 Project would not result in new significant impacts beyond those identified in the 2009 EIR and no new mitigation measures are required.

1.3.1.3 Regional Air Pollutant Emissions

The proposed project would develop the site with new residential uses. The new land uses would result in emissions associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project. The 2009 EIR determined that development facilitated by the 2009 Project would result in new air pollutant emissions within the air basin. The emissions from the new vehicle trips and area sources would exceed the BAAQMD thresholds of significance for regional pollutants, and would represent a significant impact that cannot be mitigated to a level of insignificance. The 2009 EIR identified Mitigation Measures AQ-5a and AQ-5b to reduce project-related vehicle, operation, and area source emissions; however impacts were determined to be significant and unavoidable

Emission estimates for operation of the proposed project were calculated using CalEEMod. The daily and annual emissions associated with project operational trip generation, energy, and area sources are identified in Table B below for, ROG, NO_x, PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix A.

The results shown in Table B indicate that the proposed project would not exceed the significance criteria for daily ROG, NO_x, PM_{10} or $PM_{2.5}$ emissions; therefore, the proposed project would not have a significant effect on regional air quality and mitigation would not be required. In addition, these emissions would be lower than the emissions previously assumed for the Hill Town Site as evaluated in the 2009 EIR, which were calculated in pounds per day as follows: ROG (38.4); NO_x (37.2); and PM_{10} (100.7). Emissions of criteria air pollutants would be reduced with the proposed project. This reduction is primarily attributable to the ongoing implementation of more stringent air quality

standards and regulations. Therefore, as shown in Table B, the proposed project would not result in the new or more significant operation-related air quality impacts, and impacts would be less than significant. Nevertheless, the City would require the applicant to implement measure AIR-5, identified in the 2009 EIR, to further minimize operation-related air quality impacts.

Table B: Project Operational Emissions

	ROG	NO_x	PM_{10}	$PM_{2.5}$
Pounds Per Day				
Area Source Emissions	17.2	4.3	0.6	0.6
Energy Source Emissions	0.4	3.1	0.3	0.3
Mobile Source Emissions	8.9	37.4	25.1	6.9
Total Emissions	**26.5**	**44.8**	**25.9**	**7.7**
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceed Threshold?	**No**	**No**	**No**	**No**
Tons Per Year				
Area Source Emissions	2.9	0.1	<0.1	<0.1
Energy Source Emissions	0.1	0.6	<0.1	<0.1
Mobile Source Emissions	1.4	6.7	4.4	1.2
Total Emissions	**4.4**	**7.4**	**4.5**	**1.3**
BAAQMD Thresholds	10.0	10.0	15.0	10.0
Exceed Threshold?	**No**	**No**	**No**	**No**

Source: LSA (October 2019).

1.3.1.4 Local CO Impacts

As discussed in the 2009 EIR, traffic generated by the development facilitated by the 2009 Project would add to CO concentrations near streets and intersections that provide access to the sites. However, these CO concentrations would not exceed state/federal ambient air quality standards at any of the study intersections. As such, the impact of the 2009 Project on local CO concentrations would be considered less than significant.

The BAAQMD 2017 CEQA Guidelines establishes a screening methodology that provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.

- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

- The project 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, or below-grade roadway).

Implementation of the proposed project would not conflict with the Contra Costa Transportation Authority (CCTA) for designated roads or highways, a regional transportation plan, or other agency plans. Additionally, the intersection with the highest traffic volume near the site has peak hour traffic of 3,477 vehicles per hour and the proposed project is expected to generate approximately 487 AM peak hour trips and approximately 411 PM peak hour trips. Therefore, the proposed project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. The project site is not located in an area where mixing of air is limited. Therefore, because the project does not exceed the screening criteria, the project would not result in localized CO concentrations that would exceed State or federal standards and this potential impact would remain less than significant.

1.3.1.5 Local Community Risk and Hazard Impacts to Sensitive Receptors

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

As discussed in the 2009 EIR, development of the Hill Town site has the potential to result in the construction of new residences that would be closer than 500 feet from the nearest traffic lane of I-80.[5] CARB has published an air quality/land use handbook, that was developed in response to recent studies that have demonstrated a link between exposure to poor air quality and respiratory illnesses, both cancer and non-cancer related. The CARB handbook recommends that planning agencies strongly consider proximity to these sources when finding new locations for ”sensitive” land uses such as homes, medical facilities, daycare centers, schools, and playgrounds. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations.

Key recommendations in the handbook include taking steps to avoid siting new, sensitive land uses:

[5] It should be noted that the California Supreme Court concluded in its California Building Industry Association (CBIA) v. BAAQMD decision that “CEQA generally does not require an analysis of how existing environmental conditions will affect a project’s future users or residents.” With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of the existing highway on future residents of the Hill Town project) to be an environmental impact, unless the project could exacerbate an existing environmental hazard. The proposed project would not change existing hazards associated with I-80, and, therefore, would not exacerbate existing hazards related to air quality. As such, the discussion related to air quality hazards are provided for informational purposes only and to fully evaluate all possible effects relating to the project.

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gasoline dispensing facility.

While the CARB recommendation does not preclude residential development in these areas, the handbook recommends that a site-specific analysis be made whenever possible. However, buildout of the Hill Town site would result in the location of sensitive receptors within 500 feet of the freeway, which would be considered a potentially significant impact. It should be noted that, based on the conceptual site plan, residences on the Hill Town site would be located upwind of I-80 under prevailing wind conditions, and much of the site is topographically isolated from the adjacent freeway segment by both elevation difference and an intervening ridgeline.

In order to prevent significant TAC impacts to sensitive receptors, Mitigation Measure AQ-3 requires project-level design for the Hill Town site to be developed in consideration of proximity to the adjacent source of TAC (I-80). Mitigation Measure AQ-3 would reduce the indirect impact of locating sensitive receptors near a freeway to a less-than-significant level. Mitigation Measure AQ-3 would also be applicable to the proposed project.

The closest proposed residences would be located approximately 300 feet from the centerline of the outermost travel lane of I-80. Based on the BAAQMD Highway Screening Analysis Tool, the proposed project would be exposed to an inhalation cancer risk of 21.4 in 1 million, which would exceed the threshold of 10 in 1 million. The maximum chronic Hazard Index would be 0.019 and the maximum acute Hazard Index would be 0.012, which would both be below the BAAQMD significance threshold of 1.0. The tool also indicates that the maximum $PM_{2.5}$ concentration would be 0.116 µg/m^3, which is also below the BAAQMD significance threshold of 0.3 µg/m^3. Therefore, because the inhalation cancer risk would exceed BAAQMD thresholds, consistent with Mitigation Measure AQ-3 of the 2009 EIR, the proposed project would be required to provide mechanical ventilation to residences with filtration units to remove fine particulate at all residences within 500 feet of I-80. Since the CARB recommendation for a setback is based on a 70 percent reduction in particulate concentration, the air handling system shall have an efficiency of no less than 70 percent in removing particles less than 0.3 microns in diameter. Commercially available systems with this efficiency utilize either special pleated filter mediums or electrostatic filters to clean the air. These systems will increase project costs, increase energy consumption slightly, and will require regular maintenance. Therefore, with compliance with Mitigation Measure AQ-3, the proposed 2019 Project would not result in new significant impacts beyond those identified in the 2009 EIR and no new mitigation measures are required.

1.3.1.6 Objectionable Odors

The 2009 EIR determined that buildout of the 2009 Project may generate mild odors from construction activities and typical residential and commercial operation and maintenance activities, such as vehicle/equipment operations, fertilizer, cooking, and household waste. However, the project would not expose a large number of people to objectionable odors. Therefore, impacts were determined to be less than significant.

Some objectionable odors may be generated from the operation of diesel-powered construction equipment and/or asphalt paving during the project construction period. However, these odors would be short term in nature and would not result in permanent impacts to surrounding land uses, including sensitive receptors within to the project site. Consistent with the findings of the 2009 EIR, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant. No mitigation is required.

1.3.2 Applicable Mitigation

Below are mitigation measures that were included in the 2009 EIR. In some cases, the language of the mitigation measures have been updated or modified to reflect current BAAQMD requirements. Double-underlined text represents language that has been added to the mitigation measure, and text with strikethrough represents language that has been deleted from the mitigation measure. Mitigation Measures AIR-2, and AIR-3, previously identified in the 2009 EIR and modified below, would remain applicable to the proposed project. Although not required to mitigate significant air quality impacts, Mitigation Measures AIR-5 and AIR-6, as identified in the 2009 EIR, would be included as conditions of approval for the 2019 Project, to further minimize air emissions.

MM AQ-2: For all discretionary grading, demolition, or construction activity in the Updated 2009 Redevelopment Plan Area, require implementation of the following dust control measures by construction contractors, where applicable:

During demolition of existing structures:

1. Water active demolition areas to control dust generation during demolition of structures and break-up of pavement.

2. Cover all trucks hauling demolition debris from the site.

3. Use dust-proof chutes to load debris into trucks whenever debris being loaded is sufficiently elevated above the truck.

During all construction phases:

1. Water all ~~active construction areas~~ <u>exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads)</u> at least twice daily.

2. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind.

3. Cover all trucks ~~hauling~~ transporting soil, sand, and other loose materials~~, or require all trucks to maintain at least 2 feet of freeboard~~.

4. Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

5. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.

6. Sweep streets ~~daily~~ at least once per day using wet power vacuum street sweepers~~(with water sweepers)~~ if visible soil material is carried onto adjacent public streets. The use of dry power sweeping is prohibited.

7. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).

8. Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).

9. Limit traffic speeds on unpaved roads to 15 miles per hour.

10. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

11. Replant vegetation in disturbed areas as quickly as possible.

The following additional mitigation measures, which are recommended by the BAAQMD ~~to reduce engine exhaust emissions,~~ shall be ~~considered for~~ implemented during construction activities in the proposed Updated 2009 Redevelopment Plan area ~~but are not required to reduce construction impacts to a less than significant level~~:

1. Use alternative fueled construction equipment.

2. Minimize idling time ~~(5 minutes maximum)~~ 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 Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

3. Maintain and properly tun~~ed~~ all construction equipment 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.

4. Limit the hours of operation of heavy equipment and/or the amount of equipment in use.

5. Post a publicly-visible sign with the telephone number and person to contact at the City of Hercules regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

6. Pave all roadways, driveways, and sidewalks as soon as possible.

7. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

MM AQ-3: The siting of residential uses on the Hill Town site in proximity to I-80 shall follow one or more of the following approaches to the satisfaction of the City of Hercules Planning Director:

1. Site residential structures on the Hill Town site further than 500 feet from the nearest lane of I-80. This could be accomplished by placing open space, roads and/or parking along the eastern portion of the Hill Town site.

2. Alternatively, air quality sampling studies or air quality modeling could be undertaken to establish an appropriate alternate residential setback from the freeway. The alternate residential setback must provide a reduction in exposure to toxic air contaminants equivalent to the 70 percent reduction upon which the CARB distance recommendation is based.

3. A third alternative measure would be to provide mechanical ventilation to residences with filtration units to remove fine particulate at all residences within 500 feet of I-80. Since the CARB recommendation for a setback is based on a 70 percent reduction in particulate concentration, the air handling system shall have an efficiency of no less than 70 percent in removing particles less than 0.3 microns in diameter. Commercially available systems with this efficiency utilize either special pleated filter mediums or electrostatic filters to clean the air. These systems will increase project costs, increase energy consumption slightly, and will require regular maintenance.

MM AQ-5a: All development shall be required to implement feasible BAAQMD mitigation measures for reducing vehicle and area source emissions from suburban residential projects. Feasible mitigation measures to reduce vehicle and area source emissions for a suburban residential development include:

1. Provide bicycle lanes, sidewalks, and/or paths connecting project residences to adjacent schools, parks, nearest transit stop and nearby commercial areas.

2. Construct transit amenities such as bus turnouts/bus bulbs, benches, shelters, etc.

3. Provides direct, safe, attractive pedestrian access from project land uses to transit stops and adjacent development.

4. Utilize reflective (or high albedo) and emissive roofs and light colored construction materials to increase the reflectivity of roads, driveways, and other paves surfaces, and includes shade trees near buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand.

5. Eliminate wood burning fireplaces or devices. Install a gas outlet in proposed outdoor recreational fireplaces or pits. Offer as an option on homes to install a gas outlet for use with outdoor cooking appliances, such as a gas barbeque.

6. Use efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces, and boiler units that meet or exceed Title 24 requirements (Energy Efficiency Standards for Residential and Nonresidential Buildings and Green Building Standards). Use window glazing and insulation, wall insulation, and efficient ventilation methods.

7. Encourage the use of battery-powered or electrical landscaping equipment and discourage the use of leaf blowers and other dust-producing equipment by installing electrical outlets on the exterior walls of both the front and back of all residences and requiring home owners association prohibit the use of leaf blowers.

8. Landscape with drought resistant and low maintenance species of plants, trees, and shrubs to reduce the demand for gas-powered landscape maintenance equipment.

9. Provide a 220-volt utility drop or other dedicated outlet that is adapatable for use by electric or rechargeable hybrid vehicles that are generally available to consumers.

MM AQ-5b: All commercial uses shall apply Transportation System Management measures to reduce trips and incorporate design features to reduce area source emissions. Appropriate strategies include:

1. Provide physical improvements, such as sidewalk improvements, landscaping, and bicycle parking that would act as incentives for pedestrian and bicycle modes of travel.

2. Connect site with regional bikeway/pedestrian trail system.

3. Provide transit information kiosks.

4. Provide secure and conveniently located bicycle parking and storage for workers and patrons.

5. Provide electric vehicle charging facilities.

6. Provide preferential parking for Low Emission Vehicles (LEVs).

7. Utilize reflective (or high albedo) and emissive roofs and light colored construction materials to increase the reflectivity of roads, driveways, and other paved surfaces, and include shade trees near buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand.

8. Use efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces, and boiler units that meet or exceed Title 24 requirements (Energy Efficiency Standards for Residential and Nonresidential Buildings and Green Building Standards). Use window glazing and insulation, wall insulation and efficient ventilation methods.

9. Landscape with drought resistant and low maintenance species of plants, trees, and shrubs to reduce the demand for gas-powered landscape maintenance equipment.

MM AQ-6: The project's residential and commercial land uses as whole shall achieve an energy efficiency standard equivalent to the California Energy Commission's Tier II standard.

1.3.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. As described above, operation-related air emissions associated with the 2019 Project would be lower than the emissions identified for the 2009 Project as evaluated in the 2009 EIR, due to the ongoing implementation of more stringent air quality standards and regulations. Air emissions associated with construction of the 2019 project would be similar to those identified in the 2009 EIR and would be reduced with implementation of Mitigation Measures AIR-2 and AIR-3, which have been modified to reflect current BAAQMD requirements and best management practices. Although no significant impacts were identified for the 2019 Project related to operation-related air emissions and greenhouse gas emissions, the City would require implementation of measures AIR-5 and AIR-6, as conditions of approval, to further minimize air quality effects of the 2019 Project. No additional mitigation is required.

1.4 BIOLOGICAL RESOURCES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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 Game or U.S. 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, regulations or by the California Department of Fish and Game or U.S. 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 native 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?	☐	☐	☐	☒

1.4.1 Discussion

1.4.1.1 Methods

LSA conducted a site assessment of the project site on October 3, 2019. The purpose of the site assessment was to evaluate whether conditions had changed since the initial Biological Resources Report was written in 2008[6]. Prior to conducting the survey, special-status species lists for the project site and surrounding area were updated and reviewed, including lists from the California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory, and the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) website. During the survey habitat types occurring on the site were documented and plant and animal species observed during the site visit were recorded.

[6] SWCA, 2008. Biological Resources Assessment for Hercules Updated 2009 Redevelopment Plan, Hercules, California. December.

1.4.1.2 Affected Environment

A portion of the project site was formerly a petroleum tank farm, which has since been removed and approved for residential use. The site also contains stormwater treatment detention basins, a cell tower, and vacant lands. The site is bounded by urban development, including the Victoria by the Bay residential development to the north, John Muir Parkway and a Safeway shopping center on the south, I-80 to the east, and San Pablo Avenue and the North Shore Business Park to the west.

Vegetation on the project site consists largely of non-native annual grassland with scattered non-native eucalyptus (*Eucalyptus globulus*) groves and native coast live oak (*Quercus agrifolia*) trees. The site of the former petroleum tank farm is partially paved with ruderal vegetation growing through the pavement and patches of native coyote brush (*Baccharis pilularis*) within the former tank locations. One native grass species, blue wildrye (*Elymus glaucus*), is scattered throughout portions of the non-native grassland. Two detention basins are located at the lower end of the project site that fill with water during the winter rains. These detention basins were determined to be non-jurisdictional.[7] There is also a drainage containing freshwater marsh habitat, consisting largely of cattails (*Typha angustifolia*), at the southern end of the project site. Water appears to flow into the drainage through a 4-6 inch pipe at the eastern end and out through a 36-inch culvert at the western end, ultimately draining into Refugio Creek and San Pablo Bay.

Wildlife species seen during the site assessment were Canada goose (*Branta canadensis*), wild turkey (*Meleagris gallopavo*), rock pigeon (*Columba livia*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), California scrub-jay (*Aphelocoma californica*), bushtit (*Psaltriparus minimus*), white-crowned sparrow (*Zonotrichia leucophrys*), song sparrow (*Melospiza melodia*), and western fence lizard (*Sceloporus occidentalis*).

1.4.1.3 Special-Status Species

For the purpose of this report, special-status species are defined as follows:

- Species that are listed, formally proposed for listing, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA);
- Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA);
- Plant species on California Rare Plant Rank (CRPR) Lists 1A, 1B, and 2 in the CNPS Inventory of Rare and Endangered Plants;
- Animal species designated as Species of Special Concern or Fully Protected by the California Department of Fish and Wildlife (CDFW);
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA guidelines; and
- Species considered being a taxon of special concern by the relevant local agencies.

[7] WRA Environmental Consultants, 2019. Jurisdictional Status of Potential Wetlands Features at Hilltown Site, Hercules, CA. August 28.

Based on the results of the database searches, observed habitat conditions, and LSA's knowledge of biological resources in Contra Costa County, LSA identified three special-status plants and one special-status animal as potentially occurring on the project site. These species include bent-flowered fiddleneck (*Amsinckia lunaris)*, fragrant frittilary (*Fritillaria liliacea*), Diablo helianthella (*Helianthella castanea*), and monarch butterfly (*Danaus plexippus plexippus*). An additional 12 plant and 28 animal species were identified as potentially occurring on site during the database searches, but are highly unlikely to occur due to lack of suitable habitat at the project site (Tables C and D). A brief summary of potentially occurring species is included below.

Bent-flowered fiddleneck. Bent-flowered fiddleneck has a California Rare Plant Rank of 1B. It occurs in cismontane woodland and valley and foothill grassland habitats from 50-500 meters in elevation. It blooms from May-June. There are two CNDDB occurrences within 5 miles of the project site. There is some potential for this species to occur in the grassland habitats at the project site.

Fragrant fritillary. Fragrant fritillary has a California Rare Plant Rank of 1B. It occurs in coastal scrub, valley and foothill grassland, and coastal prairie habitats from 3-410 meters in elevation. It blooms from February-April. There is one CNDDB record within 5 miles of the project site, though it is considered possibly extirpated. There is some potential for this species to occur in the grassland habitats at the project site.

Diablo helianthella. Diablo helianthella has a California Rare Plant Rank of 1B. It occurs in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland habitats from 60-300 meters. It blooms from April-June. There are ten CNDDB occurrences within 5 miles of the project site. There is some potential for this species to occur in the grassland habitats at the project site.

Monarch butterfly. The monarch butterfly is currently being considered for listing under the U.S. Endangered Species Act, and is considered a special-status insect (California overwintering population) by the California Department of Fish and Wildlife (CDFW). The western population of monarch butterflies overwinters in large groves of trees along the California Coast, moving inland in the spring to mate and lay eggs on a variety of milkweed species that serve as the sole source of food for monarch caterpillars. Eucalyptus groves are often used as overwintering sites. There are three overwintering CNDDB occurrences within 5 miles of the project site. The eucalyptus groves on the project site may provide overwintering habitat for monarch butterflies, though the small size and openness of the groves limits their potential as suitable habitat.

Overall, the grasslands provide potential habitat for bent-flowered fiddleneck, fragrant fritillary, and Diablo helianthella, and the eucalyptus groves provide potential overwintering habitat for monarch butterfly. The larger trees (e.g., coast live oak, eucalyptus) could provide habitat for nesting raptors, such as the red-tailed hawk, and the trees, shrubs, and grasslands could provide nesting habitat for other birds that are protected under Sections 3503 and 3513 of the California Fish and Game Code. Mitigation Measures BIO-2a through BIO-2c identified in the 2009 EIR have been modified to provide greater specificity, as described below. Implementation of these mitigation measures would reduce potential impacts to special-status species to less than significant levels.

1.4.1.4 Sensitive Natural Communities

The CDFW tracks the occurrences of natural plant communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. In the CDFW's Natural Communities List,[8] vegetation alliances with State rarity rankings of S1–S3 are considered "highly imperiled" and project impacts to "high-quality occurrences" of these alliances could be considered significant under CEQA. Most types of wetlands and riparian communities are also considered special-status natural communities due to their limited distribution in California. The CNDDB records include two sensitive communities within 5 miles of the project site, northern coastal salt marsh and northern maritime chaparral, but neither of these communities occurs on the project site. There is a small area of freshwater marsh at the southern end of the project site that was determined to be jurisdictional wetland[9] and is also a sensitive natural community under CEQA. Current project plans avoid impacts to the wetland area, with the exception of an outfall from the proposed bioretention basin into the drainage in which the wetland occurs. Mitigation Measures BIO-1a through BIO-1d identified in the 2009 EIR have been modified, as described below. Implementation of these mitigation measures would reduce potential impacts to sensitive natural communities to less than significant levels.

1.4.1.5 Wetlands

As noted above, a small area of freshwater marsh is located at the southern end of the project site that was determined to be jurisdictional wetland[10]. Incorporation of Mitigation Measures BIO-1a through BIO-1d, identified in the 2009 EIR and modified below, would reduce these impacts to a less than significant level.

1.4.1.6 Wildlife Movement

The project site is isolated from surrounding habitats by urban development and major freeways and is highly unlikely to serve as a movement corridor for terrestrial species. There are also no wildlife nursery sites located on or adjacent to the project site.

1.4.1.7 Local Polices or Ordinances

The City's General Plan, Open Space and Conservation Element, Policy 2a requires that projects be designed to avoid wetlands and buffer zones around wetlands or, if impacts are unavoidable, that they be designed with the least amount of impacts to wetlands possible. The proposed project is consistent with this policy in that it avoids impacts to the on-site freshwater marsh, with the exception of an outfall from the bioretention basin that will be placed in the drainage containing the marsh. Mitigation Measures BIO-1a through BIO-1d ensure that any impacts to wetlands would be reduced to a less than significant level.

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8 California Department of Fish and Wildlife (CDFW), 2019. California Natural Communities List. Available online at: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities (accessed November 9, 2019).

9 WRA Environmental Consultants, 2019. op. cit.

10 Ibid.

Table C: Special-Status Plant Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CRPR)[1,2]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Amsinckia lunaris	Bent-flowered fiddleneck	--/--/1B	Cismontane woodland, valley and foothill grassland. Elevation: 50-500 m. Blooms: May-June.	Present	Species may occur in grassland habitats at the site.
Arctostaphylos pallida	Pallid manzanita	FT/SE/1B	Chaparral, foothill woodland, mixed evergreen forest. Elevation: 185-465 m. Blooms: December-March.	Absent	There is no appropriate habitat within or adjacent to the project site.
Chloropyron molle ssp. molle	Soft bird's-beak	FE/SR/1B	Coastal salt marshes, typically in the marsh/upland transition zone. Elevation: 0-3 m. Blooms: July-November.	Absent	There is no appropriate habitat within or adjacent to the project site.
Dirca occidentalis	Western leatherwood	--/--/1B	Broadleaved upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, and riparian woodland on brushy slopes, mesic sites. Elevation: 30-395 m. Blooms: January-March (April)	Absent	There is no appropriate habitat within or adjacent to the project site.
Eryngium jepsonii	Jepson's coyote-thistle	--/--/1B	Vernal pools in valley and foothill grassland. Elevation: 3-300 m. Blooms: April-August.	Absent	There is no appropriate habitat within or adjacent to the project site.
Fritillaria liliacea	Fragrant fritillary	--/--/1B	Coastal scrub, valley and foothill grassland, and coastal prairie. Often on serpentine soils. Other various soils reported, though usually clay. Elevation: 3-410 m. Blooms: February-April.	Present	Species may occur in grassland habitats at the site.

Table C: Special-Status Plant Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CRPR)[1,2]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Helianthella castanea	Diablo helianthella	--/--/1B	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland, usually within rocky azonal soils. Elevation: 60-300 m. Blooms: April-June.	Present	Species may occur in grassland habitats at the site.
Hoita strobilina	Loma Prieta Hoita	--/--/1B	Chaparral and woodlands. Often associated with serpentine soils. Elevation: 30-860 m. Blooms: May-July.	Absent	There is no appropriate habitat within or adjacent to the project site.
Holocarpha macradenia	Santa Cruz tarplant	FT/SE/1B	Coastal prairie, coastal scrub, valley and foothill grassland. Often on terraced locations with sandy clay soils. Elevation: 0-110 m. Blooms: June-October.	Absent	There are grassland habitats on site, but this species is highly endangered and largely extirpated from known sites in the San Francisco Bay Area. CNDDB reports two "presumed extant" populations in Wildcat Canyon Regional Park, approximately 4.5 miles from the project site.
Isocoma arguta	Carquinez goldenbush	--/--/1B	Valley grassland in the Sacramento-San Joaquin River Delta. Alkali flats and other mineral rich soils. Elevation: 1-20 m. Blooms: August-December.	Absent	There is no appropriate habitat within or adjacent to the project site.
Lasthenia conjugens	Contra Costa goldfields	FE/--/1B	Valley and foothill grassland and cismontane woodland in vernal pools, swales, and moist depressions (alkaline). Extirpated from most of its range; extremely endangered. Elevation: 0-470 m. Blooms: March-June.	Absent	There is no appropriate habitat within or adjacent to the project site.
Lathyrus jepsonii var. jepsonii	Delta tule pea	--/--/1B	Tidally influenced freshwater and brackish marshes in the Napa River and the Sacramento-San Joaquin river delta. Elevation: 0-5 m. Blooms: May-September.	Absent	There is no appropriate habitat within or adjacent to the project site.

Table C: Special-Status Plant Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CRPR)[1,2]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Lilaeopsis masonii	Mason's lilaeopsis	--/SR/1B	Regularly flooded tidal zones, including mud banks and flats along creek banks, sloughs, and rivers; freshwater marshes; brackish marshes; and riparian scrub. Elevation: 0-10 m. Blooms: April-November.	Absent	There is no appropriate habitat within or adjacent to the project site.
Senecio aphanactis	Chaparral ragwort	--/--/2B	Occurs in drying alkaline flats in cismontane woodland and coastal scrub. Elevation: 20-575 m. Blooms: January-April.	Absent	There is no appropriate habitat within or adjacent to the project site.
Symphyotrichum lentum	Suisun marsh aster	--/--/1B	Brackish and freshwater marshes and swamps. Elevation: 0-3 m. Blooms: (Apr.) May-November.	Absent	There is no appropriate habitat within or adjacent to the project site.

Source: LSA 2019

[1] Status: FE = Federally Endangered; FT = Federally Threatened; SE = State Endangered; ST = State Threatened; SR = State Rare; CRPR = California Rare Plant Rank.

[2] California Rare Plant Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere; California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere; California Rare Plant Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere.

Table D: Special-Status Animal Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CDFW)[1]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Invertebrates					
Branchinecta conservatio	Conservancy fairy shrimp	FE/--/--	Large, steep-sided, alkali playa-type pools with moderately turbid water.	Absent	There is no suitable habitat at the project site.
Syncaris pacifica	California freshwater shrimp	FE/SE/--	Low-elevation, low-gradient streams with submerged undercut banks and overhanging vegetation. Currently known only from stream segments in Marin, Sonoma, and Napa counties.	Absent	The project site is outside of the known range of this species. There is no suitable stream habitat at the project site.
Speyeria callippe callippe	Callippe silverspot butterfly	FE/--/--	Grassland habitats, especially hilltops and ridges. Closely associated with larval host plant *Viola pedunculata*.	Absent	Currently only known to occur on San Bruno Mountain and Sign Hill near South San Francisco (San Mateo County), in the hills near Pleasanton (Alameda County), at Sears Point (Sonoma County), and in the hills between Vallejo and Cordelia. The project site is not located near a known population and does not support the host plant of this species.
Callophrys mossii bayensis	San Bruno elfin butterfly	FE/--/--	Coastal mountainous areas with grassy ground cover within fog belt. Associated with host plant *Sedum spathulifolium*.	Absent	The project site is not located within the fog belt along the coastal mountains and is not known for supporting the host plant of this species.
Danaus plexippus plexippus	Monarch butterfly (California overwintering population)	FC/--/SSC	Overwinters in large groves of trees along the California Coast. Moves inland in spring to mate and lay eggs on various species of milkweed.	Present	Eucalyptus groves on site may provide marginally suitable overwintering habitat.
Bombus caliginosus	Obscure bumble bee	--/--/SSC	Open grassy coastal prairies and Coast Range meadows. Occupies areas within the coastal fog zone in California.	Absent	Grassland habitat is present at the project site; however, within California, this species appears to be restricted to the immediate coast south of San Francisco Bay and in the northwestern corner of the state. There is one CNDDB record from 1964 within 5 miles of the project site.

Table D: Special-Status Animal Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CDFW)[1]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Bombus occidentalis	Western bumble bee	--/SC/SSC	Open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows.	Absent	Grassland habitat is present at the project site; however, within California, this species is currently only known to occur in high-elevation sites in the Sierra Nevada and in a couple of locations on the northern California coast. All CNDDB records within 5 miles of the project site are from observations prior to 1964.
Helminthoglypta nickliniana ssp. *bridgesi*	Bridges' Coast Range Shoulderband	--/--/SSC	Downed branches or logs and crevices in rocky areas.	Absent	No suitable habitat observed at the project site.
Fish					
Hypomesus transpacificus	Delta smelt	FT/SE/--	Estuarine areas with salinities below 2 grams per liter. Spawns in tidally influenced backwater sloughs and channel edge-waters. Currently only found in Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. Generally not found in smaller freshwater streams.	Absent	The project site is not within or adjacent to estuarine habitats.
Spirinchus thaleichthys	Longfin smelt	--/ST/--	Bay, estuary, and nearshore coastal environments from San Francisco Bay northward. Migrates into freshwater rivers with gravel or sandy substrates to spawn, typically at the interface between freshwater and brackish water.	Absent	The project site is not within or adjacent to estuarine habitats.
Amphibians					
Rana boylii	Foothill yellow-legged frog	--/--/SSC	Streams with rocky or cobbly substrate that flow at least to May.	Absent	There is no suitable stream habitat at the project site.

Table D: Special-Status Animal Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CDFW)[1]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Rana draytonii	California red-legged frog	FT/--/SSC	Creeks, ponds, marshes. Prefers aquatic habitat with deep (2 feet or deeper) areas and undercut banks, emergent aquatic vegetation, and bank cover. Does not occur in brackish water.	Absent	There is no suitable breeding habitat at the project site. Freshwater marsh could provide movement and/or foraging habitat, but individuals are unlikely to occur on site due to surrounding urban development. The nearest CNDDB occurrence is southeast of the I-80 / State Route 4 interchange. Movement from this area, across major roads, into the project site is highly unlikely.
Reptiles					
Actinemys marmorata	Western pond turtle	--/--/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation.	Absent	There are no perennial waterbodies suitable for this species at the project site.
Masticophis lateralis euryxanthus	Alameda whipsnake	FT/ST/--	Chaparral, rocky outcrops, south facing slopes and ravines within valley-foothill grassland with shrubs and oak trees in Alameda and Contra Costa counties.	Absent	There is no chaparral or rocky habitat at the project site. Surrounding urbanization precludes movement into the area.
Birds					
Laterallus jamaicensis coturniculus	California black rail	--/ST/FP	Freshwater and tidal marshes.	Absent	Freshwater marsh at the project site is not extensive enough to support this species.
Rallus obsoletus obsoletus	California Ridgway's rail	FE/SE/FP	Saltwater and brackish marshes often crossed by tidal sloughs in San Francisco Bay. Closely associated with cordgrass (*Spartina* sp.).	Absent	There are no tidal or brackish marshes at the project site.
Charadrius nivosus nivosus	Western snowy plover	FT/--/SSC	Nests above high tide on coastal beaches, sparsely-vegetated dunes, sandy or gravelly beaches at creek and river mouths.	Absent	There is no suitable habitat for this species at the project site.
Sternula antillarum browni	California least tern	FE/SE/FP	Coastal estuaries, lagoons, tidal flats, salt flats.	Absent	There is no suitable habitat for this species at the project site.
Falco peregrinus anatum	Peregrine falcon	--/--/FP	Nests on cliffs, transmission towers, skyscrapers.	Absent	There is no suitable nesting habitat at the project site.
Strix occidentalis caurina	Northern spotted owl	FT/ST/SSC	Mature forest with multi-layer canopy and moderate to high canopy closure. Snags, large branches, or cavities for nesting.	Absent	There is no suitable habitat at the project site.

Table D: Special-Status Animal Species Potentially Occurring at the Project Site

Scientific Name	Common Name	Status (F/S/CDFW)[1]	General Habitat Description	Habitat Present/ Absent in BSA	Rationale
Melospiza melodia samuelis	Samuels song sparrow	--/--/SSC	Tidal marsh and brackish marsh. Restricted to tidal marshes on the fringes of San Pablo Bay.	Absent	The project site is outside of the known range of this species. There are no tidal or brackish marshes on site.
Melospiza melodia maxillaris	Suisun song sparrow	--/--/SSC	Tidal salt and brackish marsh. Restricted to Suisun Marsh, from the Carquinez Strait east to the confluence of the San Joaquin and Sacramento rivers near Antioch.	Absent	The project site is outside of the known range of this species. There are no tidal or brackish marshes on site.
Xanthocephalus xanthocephalus	Yellow-headed blackbird	--/--/SSC (breeding)	Freshwater marsh with dense vegetation. Nests in large colonies.	Absent	Freshwater marsh at the project site is not extensive enough to support this species.
Mammals					
Antrozous pallidus	Pallid bat	--/--/SSC	Found in a variety of open habitats where it forages for large arthropods on the ground or on vegetation. Roosts in rock crevices, expansion joints under bridges, buildings, mines, and hollow trees. Also uses the underside of bridges for night roosts.	Absent	There is no suitable roosting habitat at the project site. The nearest CNDDB occurrence is from 1937, 0.99 mile from the project site. The site is unlikely to be used as primary foraging habitat at this time.
Reithrodontomys raviventris	Salt-marsh harvest mouse	FE/SE/FP	Middle and upper zone of salt marshes. Favors pickleweed (*Salicornia* sp.) and thick damp grass for cover. Restricted to salt marshes around San Francisco Bay. Uses adjacent upland areas with tall vegetation for cover during high tides.	Absent	There is no salt marsh habitat on or adjacent to the project site.
Sorex vagrans halicoetes	Salt-marsh wandering shrew	--/--/SSC	Occupies remnant stands of salt marshes around the southern arm of San Francisco Bay.	Absent	There is no salt marsh habitat on or adjacent to the project site.
Microtus californicus sanpabloensis	San Pablo vole	--/--/SSC	Occupies salt marshes on the south shore of San Pablo Bay, near San Pablo Creek.	Absent	There is no salt marsh habitat on or adjacent to the project site.
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	--/--/SSC	Forest habitats with moderate canopy and a brushy understory.	Absent	There is no suitable habitat for this species at the project site.

Source: LSA 2019

[1] Status: FE = Federally Endangered; FT = Federally Threatened; FC = Federal Candidate for Listing; SE = State Endangered; ST = State threatened; SC = State Candidate for Listing; FP = State fully protected; SSC = State species of special concern.

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In addition, the City of Hercules Municipal Code includes a tree ordinance (Ordinance 331) prohibiting the removal of mature trees (i.e., trees measuring 12 inches or greater in diameter when measured at breast height). Some of the larger coast live oak and eucalyptus trees on the project site may fall into this category. Implementation of Mitigation Measure BIO-3, as identified in the 2009 EIR, would ensure that impacts to mature trees are reduced to a less than significant level.

1.4.1.8 Habitat Conservation Plan or Natural Community Conservation Plan

The project site is not located in an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; therefore, the proposed project would not conflict with any such plans.

1.4.2 Applicable Mitigation

Below are mitigation measures that were included in the 2009 EIR. In some cases, the language of the mitigation measures has been updated or modified as a result of the project, or because specific mitigation measures have already been implemented. Double-underlined text represents language that has been added to the mitigation measure, and text with strikethrough represents language that has been deleted from the mitigation measure. Mitigation Measures BIO-1a through BIO-3, previously identified in the 2009 EIR and modified below, would remain applicable to the proposed project, as follows:

MM BIO-1a: Prior to any specific project development approval, the project proponent shall contact the U.S. Army Corps of Engineers (USACE) to identify the jurisdictional status and extent of (1) the freshwater wetland and detainment pond features on the Hill Town site and (2) the intermittent drainage on the Sycamore Crossing site. Project plans shall identify all jurisdictional boundaries with a unique graphic symbol. No construction, landscape irrigation, paving, or other impermeable surface treatment shall be placed within any jurisdictional area or within a minimum of 25 feet (or other USACE-identified appropriate buffer perimeter) beyond any jurisdictional boundary. Encroaching into the USACE's jurisdictional area and corresponding buffer shall be allowed only if it is not possible to create a development plan for the subject site that avoids the USACE's jurisdictional area and corresponding buffer without conflicting with the proposed 2009 Project or the City's General Plan (as determined by the City's Planning Director). In such a case, encroachment into the USACE's jurisdictional area shall not occur unless a Section 404 permit is acquired from the USACE, and the project proponent(s) replaces the lost value of the jurisdictional area to the satisfaction of the USACE.

MM BIO-1b: Prior to any specific project development approval, the project proponent shall contact the California Department of Fish and ~~Game~~Wildlife (CDF~~G~~W) and the Regional Water Quality Control Board (RWQCB) to identify the state jurisdictional status and extent of (1) the freshwater wetland and detainment pond features of the Hill Town site and (2) the intermittent drainage on the Sycamore Crossing site. Project plans shall identify all jurisdictional boundaries with a unique graphic symbol. No construction, landscape irrigation, paving or other impermeable surface treatment shall be placed within any jurisdictional area or within a minimum of 25

feet (or other CDF~~G~~W- or RWQCB-identified appropriate buffer perimeter) beyond any jurisdictional boundary. In the event of a conflict between responsible agency requirements for Mitigation Measure BIO-1a and Mitigation Measure BIO-1b, the larger buffer perimeter shall be established. Encroaching into the CDF~~G~~W's or RWQCB's jurisdictional area and corresponding buffer shall be allowed only if it is not possible to create a development plan for the project sites that avoids the CDF~~G~~W's jurisdictional area and corresponding buffer without conflicting with the Updated 2009 Redevelopment Plan or the City's General Plan (as determined by the City's Planning Director). In such a case, encroachment into the CDF~~G~~W's jurisdictional area shall not occur unless a Streambed/Lake Alteration Agreement is acquired from the CDF~~G~~W, and the project proponent(s) replaces the lost habitat to the satisfaction of the CDF~~G~~W. Encroachment into the RWQCB's jurisdictional area shall not occur unless a Section 401 permit is acquired from the RWQCB, and the project proponent(s) replaces the lost value of the jurisdictional area to the satisfaction of the RWQCB through on- or off-site mitigation or purchase of mitigation credits at an approved mitigation bank.

MM BIO-1c: Certain project components, such as nature trails, wildlife observation areas, etc., may not be compatible with sensitive habitats. Prior to incorporating such features into project plans for Hill Town, the project proponent shall obtain permission from the USACE, the CDF~~G~~W, and the ~~Regional Water Quality Control Board~~RWQCB, and agree to comply with permit-related conditions. Permission constitutes CWA Section 401 and 404 permits, and California Fish and Game Code Section 1600 Streambed Alteration Agreement, or other permit issued by the responsible agency. If any or all of these responsible agencies do not require permits for these features, then the project proponent shall obtain relevant approvals from the City of Hercules Planning and/or Parks and Recreation Department.

MM BIO-1d: Prior to issuance of grading permits for the Sycamore Crossing or Hill Town projects, the project proponent shall submit a fencing plan to the City of Hercules Planning Department for approval that corresponds to the USACE, CDF~~G~~W-, and/or RWQCB-approved perimeter beyond the sensitive habitat areas described in Mitigation Measures BIO-1a and BIO-1b above, and install temporary construction fencing according to the approved plan. The temporary fencing shall be silt fencing, and the bottom edge of the fencing shall be buried 2-4 inches to protect the freshwater marsh/drainage from construction activities and prevent special-status wildlife species from entering the project site. Orange fencing designating an "Environmentally Sensitive Area" will be installed on the inside (project side) of the silt fencing. The fencing plan may be superimposed on the grading plan or may be a separate plan; if on a separate plan, the fencing plan shall show existing and proposed contour lines in the vicinity of the fence.

MM BIO-2a (Special-Status Plants): (a) Prior issuance of a grading permit, prior to any vegetation removal, and as feasible, during the late spring season from April through May, the project proponent shall engage a qualified botanist to conduct focused surveys for

the bent-flowered fiddleneck (*Amsinckia lunaris*), fragrant fritillary (*Fritillaria liliacea*), and Diablo helianthella (*Helianthella castanea*) in the grassland habitat at the project site. Surveys shall comply with the ~~Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000)~~ Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). (b) If the project botanist discovers any of these species, the individual plant locations shall be located on the site map ~~with GPS UTM markers~~ and flagged in the field. No grading No grading ~~plan review shall proceed~~ permit shall be issued until the project proponent informs CDF~~G~~W and commits to appropriate mitigation measures that meet the satisfaction of CDF~~G~~W, such as avoidance, creation of buffers, transplantation, or off-site mitigation.

MM BIO-2b (Special-Status Animals): (a) Prior to ~~submission of grading plans~~ issuance of a grading permit, the project proponent shall engage a qualified biologist to conduct focused surveys for the monarch butterfly (*Danaus plexippus*), ~~the pallid bat (*Antrozous pallidus*), and the salt marsh common yellowthroat (*Geothlypis trichas sinuosa*),~~ and to identify any raptor species hunting or nesting in the project area. Surveys shall take place during the ~~appropriate nesting/roosting and breeding periods for each listed species: the monarch butterfly during~~ winter roosting period (October–February~~), for the pallid bat during hibernation (December–April), and the salt marsh common yellowthroat during breeding (March–September~~). Surveys shall comply with applicable CDF~~G~~W protocols. (b) If the project biologist discovers ~~any of these species, the species' nest or roosting~~ a roost site, it ~~locations~~ shall be located on the site map ~~with GPS UTM markers~~. No grading plan review shall proceed until the project proponent informs CDF~~G~~W and commits to appropriate mitigation measures that meet the satisfaction of the CDFW, such as avoidance, creation of buffers, transplantation, timing of construction activities to avoid active nests/roosts, or off-site mitigation. (c) Vegetation removal shall be conducted during the non-nesting season for birds (i.e., between September 1 and January 31) if possible. If vegetation removal occurs during the nesting season (February 1 to August 31), suitable nesting habitat within the project site shall be surveyed by a qualified biologist no more than 5 days prior to ground disturbing/vegetation removal activities. Areas outside of the project site shall not be surveyed for active nests unless nests are visible from the project site. If an active nest is found, the qualified biologist shall delineate an appropriate buffer around the nest site based on the nesting species and specifics of the nest location. Construction within the buffer zone shall be prohibited until the qualified biologist determines that the nest is no longer active. If an active nest is found during construction, all activity in the vicinity shall stop until the qualified biologist has evaluated the nest and set up an appropriate buffer. If a buffer is not feasible, CDFW shall be contacted for further avoidance and minimization guidelines.

MM BIO-2c: The project proponent for the Sycamore Crossing or Hill Town project shall engage a California-registered landscape architect and qualified botanist to prepare

landscape plans for any project-area open space or manufactured slopes. The open-space and slope landscape plans shall use only region-specific native plants, and shall be designed to promote habitat value.

MM BIO-3: Project proponents shall adhere to the requirements of the City's tree ordinance, ~~Ordinance No. 331~~ Title 4, Chapter 15 of the City's Municipal Code, which includes the submittal of a tree replacement plan to the City for approval. Prior to issuance of a grading permit, a certified arborist shall conduct a tree survey to determine the number and type of trees to be removed. The tree replacement plan should include a minimum 1:1 replacement for native trees impacted by the proposed project and should include a monitoring period of at least five years post-mitigation.

1.4.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to biological resources, the 2019 Project is identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with biological resources would be the same as those identified in the 2009 EIR and implementation of Mitigation Measures BIO-1 through BIO-3, as modified above to reflect current regulatory requirements, would continue to effectively reduce impacts to biological resources. No additional mitigation is required.

1.5 CULTURAL RESOURCES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

1.5.1 Discussion

The 2009 EIR determined that significant impacts to cultural resources would be reduced to less than significant with the implementation of mitigation measures. Conditions related to historic and archaeological resources remain unchanged and, with respect to cultural resources (e.g., extent and depth of ground disturbance), the 2019 Project, as proposed, is identical to the 2009 Project. As such, the impacts of the proposed project would continue to be less than significant with implementation of the mitigation measures identified in the 2009 EIR, as discussed further below.

1.5.1.1 Historic Resources

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources), it generally must be 50 years or older. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts.

In 2005, William Self Associates (WSA) completed a cultural resources study for the project site.[11] That study characterizes the current baseline conditions for cultural resources at the project site and included:

- A literature review to characterize the natural, prehistoric, ethnographic, and historical settings of the project.
- A records search at the Northwest Information Center, the State's regional cultural resources repository for Contra Costa County. This records search included the project site and a 0.25-mile radius.
- A review of the Native American Heritage Commission Sacred Lands File. The Sacred Lands File is the state's official database of reported Native American sites of cultural and/or spiritual importance.

[11] William Self Associates, Inc., 2005. *SCVHG—Hill Town Project, Hercules, CA.* William Self Associates, Inc., Orinda, California.

- A pedestrian survey to identify cultural resources. The survey was completed using 50-foot-wide transects of unpaved areas.

WSA's study did not identify any built-environment or archaeological historical resources. WSA also concluded that the project site has a low potential for buried archaeological deposits based on the age of the mapped geologic formations at this location.

Although there is a low potential for archaeological historical resources at the project site, the possibility of encountering such remains during ground disturbance cannot be discounted. Mitigation Measure CUL-1, identified in the 2009 EIR, pertains to the accidental discovery of archaeological deposits during construction and shall be applied to the current project. Implementation of this mitigation measure would reduce the project's potential impacts to archaeological historical resources to a less-than-significant level.

1.5.1.2 Prehistoric and Historical Archaeological Resources

Pursuant to CEQA Guidelines Section 15064.5(c)(1), "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource." Those archaeological sites that do not qualify as historical resources shall be assessed to determine if they qualify as "unique archaeological resources" pursuant to California Public Resource Code Section 21083.2. Archaeological deposits identified during project construction would be treated by the City and applicant in accordance with Mitigation Measure CUL-1. With implementation of this mitigation measure, the project's potential impacts on archaeological resources would be less than significant.

1.5.1.3 Disturbance of Human Remains

No human remains, including those interred outside of formal cemeteries, have been identified at the project site. In the general vicinity, precontact Native American archaeological sites often contain human burials. Although the potential for the project site to contain precontact archaeological deposits with human remains is low, the possibility cannot be entirely discounted. In the event that human remains are encountered during construction Mitigation Measure CUL-1 and Mitigation Measure CUL-3,[12] as identified in the 2009 EIR would be implemented. These measures would reduce the project's potential impacts on human remains accidentally unearthed during project construction to a less-than-significant level.

1.5.2 Applicable Mitigation

As described in the 2009 EIR, impacts related to cultural resources were determined to be less than significant with implementation of Mitigation Measures CUL-1 and CUL-3. No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2009 EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required. Mitigation Measures CUL-1 and CUL-3, previously identified in the 2009 EIR, would remain applicable to the proposed project, as follows:

[12] MM CUL-2 in the 2009 EIR pertains to paleontological resources, which are addressed in Section 7.0, Geology and Soils, in this Environmental Checklist consistent with the 2019 CEQA Guidelines.

MM CUL-1: If prehistoric or unique archaeological resources are discovered during construction of any projects undertaken as a result of the proposed Updated 2009 Redevelopment Plan, all work within a 50-foot radius of the find shall halt until a qualified archaeologist evaluates and determines the significance of the find pursuant to Section 15064.5 of the *State CEQA Guidelines* and until the finding can be fully investigated and proper protection measures, as determined by qualified experts, can be implemented. Work shall not resume within a 50-foot radius of the find until the project archaeologist states in writing that such work would not substantially affect the significance of an historical or unique archaeological resource pursuant to Section 15064.5 of the *State CEQA Guidelines* and the City of Hercules concurs with such finding. Construction of the project can continue outside of the 50-foot radius of the find, so long as such activities would not physically damage any discovered cultural resources or reduce the data recovery potential of the find.

MM CUL-3: If human remains are discovered at the project site during construction, work at the specific construction site at which the remains have been uncovered shall be suspended, and the City of Hercules Public Works Department and County coroner shall be immediately notified. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.

1.5.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to cultural resources, the 2019 Project is identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with cultural resources would be the same as those identified in the 2009 EIR and implementation of Mitigation Measures CUL-1 and CUL-3 would continue to effectively reduce impacts to cultural resources. No additional mitigation is required.

1.6 ENERGY

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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?	☐	☐	☐	☒

1.6.1 Discussion

The 2009 EIR evaluated nonrenewable resources in Chapter 5.0, Other CEQA Considerations. As discussed in the 2009 EIR, development of the 2009 Project would result in the redevelopment of formerly developed and now vacant land, as well as some areas that have never been developed, with residential and commercial uses. The 2009 EIR considered this to be an irreversible commitment of resources, as building and pavement associated with development typically render soils unviable for native vegetation.

In addition, as discussed in the 2009 EIR, implementation of the 2009 Project would also require permanent and continual consumption of electricity, natural gas, and fossil fuels. Furthermore, construction activities would result in irreversible commitment of nonrenewable resources, including fossil fuels for construction equipment, and construction materials. The 2009 EIR identified that with respect to construction and operational activities, the City of Hercules requires new development to incorporate best management practices to conserve energy.

The proposed project would increase the demand for electricity, natural gas, and gasoline. The discussion and analysis provided below is based on data included in the CalEEMod output, which is included in Appendix A.

1.6.1.1 Construction-Period Energy Use

The anticipated construction schedule assumes that the proposed project would be built over 24 to 36 months. The proposed project would require grading, site preparation, and building activities during construction.

Construction of the proposed project would require energy for the manufacture and transportation of construction materials, preparation of the site for demolition and grading activities, and construction of the residences. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. In order to increase energy efficiency on the site during project construction, the project would restrict equipment idling times to 5 minutes or less and would require construction workers to shut off idle equipment, as required by Mitigation Measure AQ-2. In addition, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy usage on the project site during

construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, construction energy impacts would be less than significant.

1.6.1.2 Operational Energy Use

Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with the project. Energy and natural gas consumption was estimated for the project using default energy intensities by building type in CalEEMod. In addition, the proposed buildings would be constructed to CALGreen standards, which was included in CalEEMod inputs. Electricity and natural gas usage estimates associated with the proposed project are shown in Table E.

In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related trips. Based on the CalEEMod analysis, the proposed project would result in approximately 11,699,226 vehicle miles traveled (VMT) per year. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.0 mpg in 2015.[13] Therefore, using the USEPA fuel economy estimates for 2015, the proposed project would result in the consumption of approximately 531,783 gallons of gasoline per year. Table E shows the estimated potential increased electricity and natural gas demand associated with the proposed project.

Table E: Estimated Annual Energy Use of Proposed Project

Land Use	Electricity Use (kWh per year)	Natural Gas Use (therms per year)	Gasoline (gallons per year)
Condo/Townhouse	2,983,130	12,408	428,552
Strip Mall	41,024	168	103,231
City Park	26,880	0	0
Parking Lot	0	0	0
Total	**3,051,034**	**12,576**	**531,783**

Source: LSA (October 2019).

As shown in Table E, the estimated potential increased electricity demand associated with the proposed project is 3,051,034 kilowatt-hours (kWh) per year. In 2018, California consumed approximately 281,120 gigawatt-hours (GWh) (281,120,193,430 kWh).[14] Of this total, Contra Costa County consumed 9,308 GWh or 9,308,494,455 kWh.[15] Therefore, electricity demand associated

13 U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: www.bts.gov/archive/publications/national_transportation_statistics/table_04_23 (accessed October 2019).

14 California Energy Commission, 2018. Energy Consumption Data Management Service. Electricity Consumption by County. Website: www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed October 2019).

15 Ibid.

with the proposed project would only be approximately 0.03 percent of Contra Costa County's total electricity demand.

In addition, as shown in Table E, the estimated potential increased natural gas demand associated with the proposed project is 12,576 therms per year. In 2018, California consumed approximately 12,638 million therms or 12,638,157,740 therms, while Contra Costa County consumed approximately 1,124 million therms or approximately 1,124,144,135 therms.[16] Therefore, natural gas demand associated with the proposed project would be less than 0.01 percent of Contra Costa County's total natural gas demand.

In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related trips. As shown above in Table E, vehicle trips associated with the proposed project would consume approximately 531,783 gallons of gasoline per year. In 2015, vehicles in California consumed approximately 15.1 billion gallons of gasoline.[17] Therefore, gasoline demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California.

In addition, the proposed project would be constructed to CALGreen standards, which would help to reduce energy and natural gas consumption. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. Therefore, operation period impacts related to consumption of energy resources would be less than significant.

1.6.1.3 Conflict or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

In 2002, the Legislature passed Senate Bill 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC is in the process of adopting the 2019 Integrated Energy Policy Report.[18] The 2019 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and

[16] California Energy Commission, 2018. Energy Consumption Data Management Service. Gas Consumption by County. Website: www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed October 2019).

[17] California Energy Commission, 2017. California Gasoline Data, Facts, and Statistics. Website: www.energy.ca.gov/almanac/transportation_data/gasoline (accessed October 2019).

[18] California Energy Commission, 2019. *2019 Integrated Energy Policy Report.* California Energy Commission. Docket # 19-IEPR-01.

controlling costs. The 2019 Integrated Energy Policy Report covers a broad range of topics, including implementation of Senate Bill 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to Senate Bill 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the project site during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report. Thus, as shown above, the project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and this impact would be less than significant.

1.6.2 Applicable Mitigation

Impacts related to energy were determined to be less than significant and no mitigation measures were identified.

1.6.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. As described above, construction and operation of the 2019 Project would incorporate more energy efficient features and use less energy than the 2009 Project.

1.7 GEOLOGY AND SOILS

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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 direct or indirect substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

1.7.1 Discussion

The following includes a discussion of the potential impacts to geology and soils associated with the proposed project as compared to the 2009 Project. With respect to geotechnical conditions at the site, these conditions are generally the same in 2019 as in 2009.[19] The site topography has not been modified since adoption of the 2009 EIR. However, the proposed project would be subject to the most recent State and local building and safety codes applicable to the type of construction proposed for the project site.

1.7.1.1 Seismicity and Seismic Hazards

Fault Rupture. The Alquist-Priolo Earthquake Fault Zoning Act regulates development in California near active faults due to hazards associated with surface fault rupture. The project site is not located

[19] Quantum Geotechnical, Inc. 2019. *Proposed Residential Development, Hill Town San Pablo Avenue, Hercules, California, Geotechnical Update*. July 25.

within or adjacent to an Alquist-Priolo Earthquake Fault Zone.[20] The potential for impacts associated with fault rupture is therefore less than significant.

Strong Seismic Ground Shaking. Multiple active faults have the potential to generate strong to very strong ground shaking at the project site. These faults include the Hayward Fault, located about 2 miles west; the San Andreas Fault, located about 17 miles west; and the Great Valley-Concord-Calaveras Fault, located about 13 miles east.[21]

The Working Group on California Earthquake Probabilities and the USGS have predicted a 14.3 percent probability of a 6.7 magnitude (Mw, or Moment Magnitude) or greater earthquake on the Hayward Fault between 2014 and 2034 and a total probability of 72 percent that an earthquake of that magnitude will occur on one of the regional San Francisco Bay Area faults during that time.[22] These faults are likely to produce a substantial earthquake during the life of the proposed project.

The 2009 EIR analyzed the geological, seismic, and soil conditions of the project site and determined that the 2009 Project could expose people and structures to substantial adverse effects related to strong seismic ground shaking. The proposed project is substantially similar in the type of uses and design as the 2009 Project and would be susceptible to the same seismic hazards as identified for the 2009 Project.

The proposed project would be designed and constructed consistent with the most current version of the California Building Code (CBC), which includes specifications and design criteria to minimize damage from anticipated ground shaking. It is acknowledged that seismic hazards cannot be completely eliminated, even with implementation of advanced building practices. However, the seismic design standards of the CBC are intended to prevent catastrophic building failure in the most severe earthquakes currently anticipated. In addition, a site-specific geotechnical investigation would be performed for the proposed project as required by General Plan policies, State regulations, and Mitigation Measure GEO-1, identified in the 2009 EIR and presented below.

Implementation of a site-specific geotechnical investigation, and compliance with geotechnical recommendations and the CBC during design and construction would ensure that the potential impacts associated with ground shaking would be less than significant.

Seismic-Related Ground Failure and Liquefaction. The potential for different types of ground failure to occur during a seismic event is discussed below.

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20 California Geological Survey, 1982. Earthquake Zones of Required Investigation, Mare Island Quadrangle, January 1.

21 Impact Sciences, Inc. 2009. *Updated 2009 Redevelopment Plan Draft EIR*. January.

22 Field, E.H., and 2014 Working Group on California Earthquake Probabilities, 2015. *UCERF3: A New Earthquake Forecast for California's Complex Fault System, U.S. Geological Survey Fact Sheet 2015–3009*. Available online at: dx.doi.org/10.3133/fs20153009 (accessed October 29, 2019).

Liquefaction Potential. Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. These soils lose strength during ground shaking. Due to the loss of strength, the soil may move both horizontally and vertically. In areas where sloping ground or open slope faces are present, this mobility can result in lateral spreading. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that are relatively close to the ground surface. However, loose sands that contain a significant amount of fines (silt and clay) may also liquefy. The geotechnical investigation prepared for the 2009 Updated Redevelopment Plan project indicates that hazards associated with liquefaction, lurch cracking and differential compaction are not significant due to the nature of subsurface materials at the project site, which consist of silts and clays in the upper 0 to 6 feet underlain by sandstone/siltstone bedrock.[23] Further, any unconsolidated sediment under building construction areas would be removed or compacted during construction, so earthquake-induced settlement is not expected to be a hazard in this location.

Landslides. Slope failure can occur as either rapid movement of large masses of soil or imperceptibly slow movement of soils on slopes. The topography of the project site is characterized by a relatively level, low-lying area in the southern portion of the site and another relatively level elevated portion in the northern portion of the site, separated by a steep north-to-south trending slope.[24] Elevations range from approximately 30 to 240 feet above mean sea level (msl). The central portion of the project site may be susceptible to landslide during a strong ground shaking event in conjunction with a high precipitation event. Further, the geotechnical investigation prepared for the 2009 Updated Redevelopment Plan identified potential landslide hazards, including areas of soil creep and a landslide deposit.[25] The geotechnical investigation provides recommendations for addressing these hazards, including removal of material subject to soil creep and replacement with engineered fill prior to construction as well as installation of subdrains to intercept and collect seepage water.

The 2009 EIR identified Mitigation Measures GEO-2a and GEO-2b to reduce potential impacts related to landslide to a less than significant level. These measures require implementation of the recommendations included in the site-specific geotechnical report and establishment of a Geologic Hazard Abatement District (GAHD) to identify, monitor and mitigate geologic hazards. These measures would also apply to the proposed project. With implementation of Mitigation Measures GEO-1, GEO-2a, and GEO-2b, identified in the 2009 EIR and presented below, the proposed project would not result in any new or more significant impacts related to seismic hazards than previously analyzed in the 2009 EIR.

1.7.1.2 Erosion/Loss of Top Soil

Potential impacts associated with erosion and loss of topsoil were determined to be less than significant with implementation of a Stormwater Pollution Prevention Plan (SWPP) and the same would be true for the proposed project. Under the Construction General Permit, a SWPPP and

[23] Terrasearch, Inc., 2005. *Draft Geotechnical Investigation Report on Proposed Residential Development, Hilltown, San Pablo Road and John Muir Parkway, Hercules, California for Santa Clara Valley Housing Group, Inc*. December 6.

[24] Impact Sciences, Inc., 2009, op. cit.

[25] Terrasearch, Inc., 2005, op. cit.

construction BMPs detailed in the SWPPP would be required during construction activities. Construction BMPs would include Erosion and Sediment Control BMPs designed to minimize erosion and retain sediment onsite. Implementation of a SWPPP, reviewed and approved by the City, would reduce potential impacts to soil erosion or the loss of topsoil to a less than significant level. As such, the proposed project would not result in any new or more significant impacts related to potential soil erosion than previously analyzed in the 2009 EIR. Refer to Section 10.a of this Environmental Checklist for additional discussion.

1.7.1.3 Unstable and Expansive Soils

The 2019 Project would be subject to the same geological, seismic, and soil conditions as those identified for the 2009 Project. As required for the 2009 Project, the 2019 Project would be constructed in compliance with applicable construction codes and requirements intended to mitigate any adverse impacts resulting from ground shaking, ground failure, liquefaction, and expansive soils. As such, the proposed project would not result in any new or more significant impacts associated with ground shaking, liquefaction, landslides, and expansive soils than previously analyzed in the 2009 EIR.

Unstable Soil. As previously discussed above, the project site would be subject to landslides and other unstable soil conditions associated with soil creep, or localized slumps or landslides associated with site grading. The geotechnical investigation includes recommendations for site grading, preparation of fill subgrade, excavation, fill placement, surface and subsurface drainage, slopes and foundation design to minimize impacts associated with unstable soils. Implementation of Mitigation Measures GEO-2a and GEO-2b, identified in the 2009 EIR and presented below, would reduce potential impacts related to unstable soil to a less-than-significant level. The proposed project would not result in any new or more significant impacts associated with unstable soil than previously analyzed in the 2009 EIR.

Expansive Soils. Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. The changes in soils volume can result in substantial cosmetic and structural damage to buildings and hardscape developed over expansive soils. Expansive soils are typically fine grained with high clay content.

Soil at the project site is classified as Clear Lake clay (0 to 15 percent slopes), Los Osos clay loam (30 to 50 percent slopes), Millsholm loam (15 to 50 percent slopes), and Tierra loam (9 to 15 percent slopes and 15 to 30 percent slopes).[26] These soils are considered to have high shrink-swell potential, which indicates that damage to buildings, roads, and other structures from expansive soils is possible. As described above, the proposed project would be constructed in compliance with applicable construction codes and requirements intended to mitigate any adverse impacts resulting from expansive soils. Therefore, potential impacts related to expansive soils would be less than significant. The proposed project would not result in any new or more significant impacts associated with expansive soils than previously analyzed in the 2009 EIR.

[26] United States Department of Agriculture, 2019. Natural Resources Conservation Service. Web Soil Survey, Website: websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed October 29, 2019).

1.7.1.4 Septic Tanks/Wastewater Disposal

As with the 2009 Project, the 2019 Project would not install septic systems or other alternative waste disposal systems on the project site. The proposed project would connect to existing sewer infrastructure within the vicinity of the site and there would be no impact related to this topic.

1.7.1.5 Paleontological Resources

The 2009 EIR determined that because paleontological resources have been discovered in the vicinity of the site, construction activities on the project site would have the potential to accidentally destroy unique paleontological resources. Mitigation Measure CUL-2 was identified, which requires that a paleontological analysis be conducted, to protect any paleontological resources that may be encountered during development. With implementation of Mitigation Measure CUL-2, impacts to paleontological resources were determined to be less than significant.

LSA examined geologic maps of the project site and reviewed relevant geological and paleontological literature to determine which geologic units are present in the project site and whether fossils have been recovered in the project site or from similar geologic units elsewhere in the region. LSA also conducted a search for known fossil localities through the online collections database of the University of California Museum of Paleontology (UCMP) at the University of California, Berkeley to determine the status and extent of previously recorded paleontological resources within and surrounding the project site. On September 24, 2019, LSA paleontologist Jacob Biewer conducted a pedestrian field survey of the project site. The purpose of the field survey was to document and collect any paleontological resources that may have been present, as well as to note the sediments at the surface.

Geologic mapping indicates the project site contains the late Miocene Briones Formation and the late to middle Miocene Monterey Formation.[27] Artificial Fill was also noted at the surface in one boring conducted for the geotechnical report for this project,[28] as well as in some areas during the field survey. These geologic units and their relative paleontological sensitivities are described in more detail below:

- **Artificial Fill.** Artificial Fill consists of sediments that have been removed from one location and transported to another by human activity rather than by natural means. While Artificial Fill may contain fossils, these fossils have been removed from their original location and are thus out of stratigraphic context. Therefore, they are not considered important for scientific study, and Artificial Fill has no paleontological sensitivity.

- **Briones Formation.** The Briones Formation (i.e., Briones Sandstone) is late Miocene in age (5.33–11.63 Ma) and consists of light-colored whitish to light-gray, medium-grained, thick-bedded sandstone that often weathers to a yellowish brown. The Briones Formation is locally

[27] Dibblee, T.W., Jr., 2005. Geologic Map of the Mare Island Quadrangle, Contra Costa, Solano, Marin, and Sonoma Counties, California. John A. Minch, ed., Dibblee Geological Foundation Map DF-145, Map Scale 1:24,000.

[28] Terrasearch, Inc., 2005, op. cit.

fossiliferous. Given the limited aerial distribution of this formation and the abundant fossils it has produced, the Briones Formation is considered to have high paleontological sensitivity.

- **Monterey Formation.** In the vicinity of the project site, this marine late to middle Miocene (5.333–15.97 Ma) formation consists of gray, massive to slightly bedded clay shale and siltstone, with beds of fine-grained silty sandstone.[29] Based on the abundance, diversity, and scientific significance of the fossils previously recovered from the Monterey Formation, this unit is considered to have high paleontological sensitivity.

The fossil locality search through the online collections database at the UCMP indicated that no fossil localities are present within the boundaries of the project site. However, this search noted many invertebrate and vertebrate fossil localities from the Briones Formation and the Monterey Formation from Contra Costa County, as well as from neighboring Alameda County.

Based on the paleontological sensitivities of the geologic units within the project site and the excavation parameters for the project, there is a potential for the project to impact scientifically significant paleontological resources. Implementation of Mitigation Measure CUL-2, identified in the 2009 EIR and modified as shown below, would reduce potential impacts to paleontological resources to a less than significant level. As such, with implementation of Mitigation Measure CUL-2, development of the proposed project would not result in new or more severe impacts to paleontological resources than identified in the 2009 EIR.

1.7.2 Applicable Mitigation

Below are mitigation measures that were included in the 2009 EIR. In some cases, the language of the mitigation measures has been updated or modified as a result of the project, or because specific mitigation measures have already been implemented. Double-underlined text represents language that has been added to the mitigation measure, and text with strikethrough represents language that has been deleted from the mitigation measure. Mitigation Measures GEO-1, GEO-2, and CUL-2, previously identified in the 2009 EIR and modified below, would remain applicable to the proposed project, as follows:

MM GEO-1: A site-specific geotechnical investigation shall be required for any new development proposed within the 2009 Updated Redevelopment Plan Area. Development proposed within the Updated 2009 Redevelopment Plan Area shall conform to the provisions of current building codes and the recommendations of the geotechnical investigations performed for proposed development. Structures for human habitation shall be designed to meet or exceed *California Uniform Building Code* standards for Seismic Zone 4.

MM GEO-2a: Development of the proposed Hill Town project shall be subject to the recommendations of the site-specific geotechnical report for site preparation, grading, retaining wall construction, and foundation design.

[29] Dibblee, 2005, op. cit.

MM GEO-2b: Prior to the recordation of the first final map, the project proponent of the Hill Town project shall form a Geologic Hazard Abatement District (GHAD) or annex into an existing GHAD for the purpose of identifying potential geologic hazards and carrying out measures to monitor and mitigate such hazards. The GHAD shall be fully operational and the assessments shall be established and in place before the final map is recorded. The project proponent shall provide adequate funding through its own source and/or through the GHAD assessments to cover a major event before the GHAD will accept responsibility. The amount of this obligation will be determined at the time the Plan of Control and Engineer's Report is prepared for the GHAD. If a GHAD is determined by the City and project applicant to be infeasible, the project proponent shall assign these responsibilities to a similar entity.

MM CUL-2: ~~As part of the review of specific development proposals for either the Sycamore Crossing or Hill Town site and to the satisfaction of the City of Hercules, a paleontologist shall evaluate the geological conditions of the involved sites to determine the sensitivity of the sites for paleontological resources. If the sites are determined to be sensitive for vertebrate fossils or important marine invertebrate fossils,~~ A paleontologist who meets the qualifications of established by the Society of Vertebrate Paleontology shall be retained to develop a Paleontological Resources Impact Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the standards of the Society of Vertebrate Paleontology and include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading. ~~a~~A paleontological monitoring program shall be implemented during ~~the~~ excavation and grading activities in deposits with high paleontological sensitivity (i.e., Briones Formation and Monterey Formation). No monitoring is required for excavations in deposits with no paleontological sensitivity (i.e., Artificial Fill). Monitoring shall be conducted by a qualified paleontological monitor following the PRIMP. ~~phases of the respective project, and during other construction activities that affect previously undisturbed soils, such as trenching for pipes and foundations.~~ The paleontologist must be knowledgeable of the paleontological resources in Contra Costa County; must have the minimum of a bachelor's degree in paleontology or a related field; and must be prepared to perform data recovery tasks, analysis, and preparation of a technical report addressing any results of the program~~, if monitoring is deemed necessary~~. ~~If necessary, the~~ paleontological monitoring program must include the maintenance of daily field logs, the recovery of soil samples for micro-screening for small fossil remains, and the ability to remove vertebrate remains as they are identified (e.g., with proper location data and associations). In addition, a photographic record must be maintained over the course of the program and, if resources are found ~~in a context too extensive for the monitoring program~~during the course of ground disturbance, the monitor must have the authority to halt any activities and temporarily redirect construction away from the find ~~adversely impacting the resource, and arrange for the additional~~

~~personnel needed to adequately manage the resources~~. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected, and the paleontologist or paleontological monitor shall be contacted to assess the find for scientific significance. If determined to be scientifically significant, the fossil shall be collected from the field. Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared to document the results of the monitoring program.

1.7.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to geology and soils, the 2019 Project is identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with geology and soils would be the same as those identified in the 2009 EIR and implementation of Mitigation Measures GEO-1, GEO-2, and CUL-2, as modified above, would continue to effectively reduce impacts related to geology, soils, and paleontological resources. No additional mitigation is required.

1.8 GREENHOUSE GAS EMISSIONS

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

1.8.1 Discussion

GHGs are present in the atmosphere naturally, and are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. However, over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global climate change. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime").

The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat

trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

1.8.1.1 Construction Greenhouse Gas Emissions

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that construction of the proposed project would generate approximately 4,017 metric tons of CO_2e. When considered over the 24-month construction period, construction emissions would be approximately 2,008 metric tons of CO_2e per year. In addition, when considered over the 30-year life of the project, the amortized construction emissions would be approximately 134 metric tons of CO_2e per year. Implementation of Mitigation Measure AQ-2, identified in the 2009 EIR and modified as described in Section 3, Air Quality, would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment.

1.8.1.2 Operational Greenhouse Gas Emissions

Long-term operation of the proposed project would generate GHG emissions from mobile, area, waste, and water sources as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with trips to the proposed project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions are typically generated at off-site utility providers as a result of increased electricity demand generated by a project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

The 2009 EIR found that development facilitated by the 2009 Project would generate GHGs and would contribute to cumulative impacts of global climate change. The 2009 EIR determined that buildout of the Hill Town site would place residents and employees within short distances from amenities, which facilitates short vehicle trips and increased pedestrian and bicycle modes of travel. The 2009 EIR also found that the Hill Town Site is surrounded by land uses and transportation facilities that would further reduce vehicle trips and, therefore, GHG emissions from future development. Of specific note, the Hercules Transit Center would be connected to the Hill Town site via a Western Contra Costa County Transit Authority (WestCAT) bus line. As such, the 2009 EIR found that the Hill Town site is expected to generate less GHG than typical residential and commercial developments of similar scale.

The 2009 EIR found that the 2009 Project would generate approximately 17,545.77 metric tons of CO_2e per year and would not include provisions that meet the CEC's Tier II standard for energy efficiency. Therefore, the 2009 EIR found that the Updated 2009 Redevelopment Plan's cumulative climate change impact would be considered significant. The 2009 EIR identified Mitigation Measure AQ-6 to reduce the cumulative climate change impacts associated with the project to a less-than-significant level.

Following guidance from the BAAQMD, GHG emissions for the 2019 Project were estimated using CalEEMod. Table F shows the calculated GHG emissions for the 2019 Project. Motor vehicle emissions are the largest source of GHG emissions for the project at approximately 77 percent of the total. Energy use is the next largest category at 18 percent. Solid waste and water are each about 2 percent and area sources are about 1 percent of the total emissions respectively. Additional calculation details are included in Appendix A.

Table F: GHG Emissions (Metric Tons Per Year)

Emissions Source	Operational Emissions				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total
Area Source Emissions	31.2	<0.1	<0.1	31.5	1
Energy Source Emissions	1,118	0.1	<0.1	1,125.3	18
Mobile Source Emissions	4,685.8	0.2	0.0	4,690.3	77
Waste Source Emissions	42.8	2.5	0.0	105.9	2
Water Source Emissions	60.7	1.3	<0.1	102.1	2
Total Annual Emissions				**6,055.2**	**100**
BAAQMD Threshold				**1,100**	-
Exceed?				**Yes**	**-**

Source: LSA (October 2019).

As discussed above, according to the BAAQMD, a project would have less-than-significant GHG emissions if it would meet one or more of the following criteria: result in operational-related GHG emissions of less than 1,100 metric tons of CO_2e a year, or result in operational-related GHG emissions of less than 4.6 metric tons of CO_2e per service population (residents plus employees). Based on the analysis results, the 2019 Project would generate approximately 6,055.2 metric tons of CO_2e, which would exceed the BAAQMD's numeric threshold of 1,100 metric tons CO_2e. Although the 2019 Project emissions are lower than the 2009 Project, 2019 Project emissions would continue to exceed the BAAQMD numeric threshold of 1,100 metric tons CO_2e.

The 2019 Project would develop 598 residential units, which would provide residence for approximately 1,845 people.[30] This analysis also assumes that the 2019 Project would also result in an addition of approximately five new employees associated with the 4,200 square feet of commercial development; therefore, the total service population (residents plus employees) would be 1,850. Therefore, the 2019 Project's GHG emissions would result in a GHG efficiency of 3.3 metric tons CO_2e per service population, which is below the BAAQMD's threshold of 4.6. Therefore,

[30] Based on an average household size of 3.08 persons per household.

because the project results in emissions below the threshold of 4.6 metric tons of CO_2e per service population, the 2019 Project would not have a significant effect on the environment related to greenhouse gas emissions. Operation of the proposed project would result in less-than-significant GHG emissions and would not result in new or more severe GHG impacts than identified in the 2009 EIR. Nevertheless, the City would require the applicant to implement measure AIR-6, identified in the 2009 EIR, to further minimize greenhouse gas emissions.

1.8.1.3 Consistency with Greenhouse Gas Reduction Plans

California's major initiative for reducing GHG emissions is Assembly Bill (AB) 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. In response to AB 32, California began to address climate change by employing a comprehensive, long-term approach to cut the State's GHG emissions to 1990 levels by 2020 and to maintain and continue reductions post 2020. The proposed project was analyzed for consistency with the goals of AB 32 and the AB 32 Scoping Plan. The Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

In addition, Senate Bill (SB) 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change (IPCC) analysis of the global emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to the California Air Resource Board (CARB) in the following areas related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would be required to comply with the latest Title 24 standards of the California Code of Regulations, established by the CEC, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to

comply with the latest Title 24 standards of the California Code of Regulations, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

In addition, the proposed project is a residential project that would locate residences near employment, commercial, and public transportation facilities such as the relocated BART Park and Ride lot located southeast of the project site on Willow Avenue, approximately one mile from the project site. In addition, the proposed project would include pedestrian access to the site would be provided via new sidewalks along San Pablo Avenue and interior sidewalks throughout the site. Therefore, the proposed project would support the ability to use alternative modes of transportation, would promote initiatives to reduce vehicle trips and vehicle miles traveled, and would increase the use of alternate means of transportation. Therefore, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in AB 32 and would be consistent with applicable plans and programs designed to reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs and this impact would be less than significant.

1.8.2 Applicable Mitigation

As described in the 2009 EIR, impacts related to greenhouse gas emissions were determined to be less than significant with implementation of Mitigation Measure AQ-6. As described above, although no significant impacts associated with greenhouse gas emissions were identified for the 2019 Project, recommended measure AIR-6, as identified in the 2009 EIR, would be implemented to further minimize greenhouse gas emissions (see Section 1.3, Air Quality).

1.8.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. As described above, construction and operation of the 2019 Project would incorporate more energy efficient features and result in fewer greenhouse gas emissions than the 2009 Project. Implementation of measures AIR-2 and AIR-6, as identified in Section 1.3, Air Quality, would further minimize greenhouse gas emissions associated with the 2019 Project.

1.9 HAZARDS AND HAZARDOUS MATERIALS

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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 2 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?	☐	☐	☐	☒

1.9.1 Discussion

1.9.1.1 Transport, Use, Storage, and Disposal of Hazardous Materials

As described in the 2009 EIR, the project site has been used for industrial purposes since at least 1949. Since the mid-1970s, the site contained the Hercules Pumping Station, which was used by the Pacific Gas & Electric Company (PG&E) to temporarily store and to facilitate transport of low-sulfur fuel oil from the Richmond Chevron Oil Refinery via the Richmond-Antioch pipeline to PG&E's former Pittsburg and Contra Costa Power plants. The oil pumping station contained eight above-ground storage tanks (ASTs). Oil was transported through the pipeline until 1982.

Numerous hazardous materials assessments have been conducted on the project site that identified various types of hazardous materials associated with this historic use, including:

- Residual petroleum products in the bulk ASTs and the underground containment tank
- Contaminated soil and groundwater around the ASTs and within the retention basin
- Asbestos-containing materials (ACM), lead-based paint (LBP) and other hazardous materials in the building components and equipment associated with the former pump station facility.

The 2009 EIR determined that the decommissioning and dismantling of the industrial facilities on the Hill Town site could result in potentially significant impacts related to hazardous material use, handling, transport, or disposal, as well as reasonably foreseeable upset and accident conditions involving hazardous material release. Mitigation measures HAZ-1a through HAZ-1c were identified to reduce potential impacts to a less-than-significant level.

Since preparation of the 2009 EIR, remedial actions at the project site have been ongoing, including removal of the ASTs and associated equipment, bioremediation of the former AST tank pads and excavation and disposal of tar-impacted soil. Remediation work was performed under a voluntary cleanup agreement (VCA) as determined by the memorandum of agreement (MOA) through the California Environmental Protection Agency (Cal EPA) dated April 3, 2014. During the MOA process, Cal EPA designated the California Regional Water Quality Control Board (RWQCB) as the lead agency to oversee the remediation work.[31] In April 2015, the RWQCB issued a "No Further Action" letter indicating that no further remediation work was required for the project site and that the site is suitable for unrestricted residential use. Therefore, impacts identified in the 2009 EIR related to the decommissioning and dismantling of industrial facilities on the project site would not occur with implementation of the proposed project and Mitigation Measures HAZ-1a through HAZ-1c do not apply.

The 2019 Project proposes the construction of new structures for uses including multi-family housing, and neighborhood retail/commercial. The proposed land uses would not involve transport, use, or disposal of significant quantities of hazardous materials. Generally, small quantities of hazardous materials such as paints and cleaning products would be used for routine maintenance. These materials are commercially available for public use and are typically used and stored in small quantities. Therefore, a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials would not occur and potential impacts related to operational use of hazardous materials would be less than significant.

During project construction, hazardous materials such as fuel, lubricants, paint, sealants, and adhesives would be transported and used at the project site. The 2019 Project would be required to comply with federal, State, and local regulations regarding the transportation, use, and disposal of hazardous materials, including preparation and implementation of a SWPPP which requires implementation of control measures for hazardous material storage and soil stockpiles, inspections, maintenance, and training, and containment of releases to prevent runoff into existing storm collection systems or waterways.

In summary, compliance with existing safety regulations and widely-accepted industry standards would minimize the hazard to the public and the environment. Construction and operation of the project would be required to comply with the Uniform Fire Code and local building codes for the storage of hazardous materials and construction of structures containing hazardous materials. Therefore, similar to the 2009 Project and conclusions provided in the 2009 EIR, potential impacts

[31] GeoSolve, Inc., 2015. *Summary of Remedial Actions Closure Report on Former PG&E Hercules Pumping Station, 4200 San Pablo Avenue, Hercules, California 94547*. February 5.

associated with the transport, use, storage, handling and disposal of hazardous materials would be less than significant, and no mitigation is required.

1.9.1.2 Release of Hazardous Materials and Risk of Upset

As described above, the project site is the former location of the Hercules Pumping Station, which was used to temporarily store and transport low-sulfur fuel oil. Previous assessments prepared for the project site identified various hazardous materials, including soil and groundwater contamination associated with this historic land use. Since 2009, remedial actions have been conducted at the project site, including removal of the ASTs and associated equipment, bioremediation of the former AST tank pads and excavation and disposal of tar-impacted soil. In April 2015, the RWQCB issued a "No Further Action" letter indicating that no further remediation work was required for the project site and that the site is suitable for unrestricted residential use. Therefore, impacts related to the release of hazardous materials associated with the former Hercules Pumping Station would be less than significant and no mitigation is required.

The 2009 EIR determined that the 2009 Project could create a significant hazard to the public or the environment through the accidental release of hazardous material from an existing 6-inch petroleum pipeline located within the project site. The pipeline, which is owned and operated by Unocal, is located immediately adjacent to the 20-foot wide easement owned by the East Bay Municipal Utilities District (EBMUD).

As with the Updated 2009 Redevelopment Plan, the alignment of the existing petroleum pipeline and water line would be relocated to the eastern portion of the project site and outside of any proposed development footprint, as part of the 2019 Project. No structures would be built within the pipeline right-of-way. Relocation of the existing petroleum pipeline would need to be conducted in coordination with the Union Oil Company, which is responsible for the safety of their pipelines and for operating in compliance with safety regulations determined by the U.S. Department of Transportation's Pipelines and Hazardous Materials Safety Administration (PHMSA). Federal and state pipeline inspectors evaluate whether operators are being diligent in meeting regulatory requirements, conducting proper inspections, and making necessary repairs. As identified in the 2009 EIR, the 2019 Project is subject to the policies, programs, and mitigation measures incorporated into the City's General Plan Update EIR, including those that pertain to development pipelines, as outlined below. Implementation of these existing policies, regulatory requirements, and the mitigation measures listed below would reduce potential impacts associated with accidental release of hazardous materials associated with the existing petroleum pipeline to a less-than-significant level. No new mitigation measures are required.

1.9.1.3 Emission of Hazardous Materials within 0.25 miles of a School

As identified in the 2009 EIR, the project site is not located within 0.25 miles of an existing school. The 2009 EIR determined that site remediation activities on the Hill Town site could result in hazardous material transport along a city street where a school is located and identified Mitigation Measure HAZ-5 to mitigate potential hazardous materials impacts to schools along the transport routes to a less-than-significant level. As described above, remediation activities at the project site have been completed. Therefore, the 2019 Project would have no impact associated with the

emission of hazardous materials within 0.25 miles of an existing school and Mitigation Measure HAZ-5, identified in the 2009 EIR, is not required.

1.9.1.4 Hazardous Materials Site Pursuant to Government Code Section 65962.5

As identified in the 2009 EIR, the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Development of the 2019 Project would therefore not create a significant hazard to the public or the environment as a result of being located on a hazardous site. As such, development of the 2019 Project would not result in any new or more significant impacts than identified in the 2009 EIR related to development on a hazardous materials site.

1.9.1.5 Aviation Hazards

As identified in the 2009 EIR, the project site is not located within the vicinity of any public or private use airports. The nearest airports to the project site include the Oakland International Airport, approximately 21 miles to the south, the Buchanan Field in Concord, approximately 13 miles to the east, the Napa County Airport, approximately 14 miles to the north, and the Marin County Airport-Gnoss Field in Novato, approximately 18 miles to the northwest. Therefore, neither the 2009 Project nor the 2019 Project would cause a hazard to air navigation or result in a safety hazard for people residing or working in the project area.

1.9.1.6 Emergency Response or Evacuation Plan

Similar to the 2009 Project, the 2019 Project would not impair implementation of, or interfere with, emergency response or evacuation plans because the 2019 Project would not alter the existing streets surrounding the project site which could be used for emergency access or evacuation. The 2019 Project would involve limited short-term uses of City streets for delivery of construction equipment and supplies, and commuting workers. During construction activities, all construction equipment would be stored on the project site. Potential impacts to emergency evacuation routes or emergency response plans from the 2019 Project are therefore considered less than significant.

1.9.1.7 Wild Fire

The project site is located within a developed urban area and according to the California Department of Fire and Forestry Protection (CalFire), the project site is not located in a Very High Fire Hazard Severity Zone.[32] The project site is not located adjacent to wildland areas, and therefore the project is not expected to directly or indirectly expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

1.9.2 Applicable Mitigation

As described above, Mitigation Measures MM HAZ-1a through HAZ-1c and MM HAZ-5, identified in the 2009 EIR, no longer apply to the 2019 Project as remediation activities at the project site are

[32] CalFire, 2009. Contra Costa County Very High Fire Hazard Severity Zones in LRA. Available online at: osfm.fire.ca.gov/media/6660/fhszl_map7.pdf (accessed October 29, 2019).

complete. The following mitigation measures, identified in the City of Hercules General Plan Update EIR and referenced in the 2009 EIR, do apply to the 2019 Project, as follows:

MM HAZ-2a: Consistent with pipeline operators' standards, no buildings or other structures that could impede access shall be installed in any pipeline right-of-way.

MM HAZ-2b: The City shall permit pipeline operators with pipelines and pipeline rights-of-way adjacent to parcels subject to Tentative Map approval to review these maps.

MM HAZ-2c: Prior to the start of construction on any parcel that includes or is bordered by a pipeline or pipeline right-or-way or easement, the City shall consult with the Rodeo-Hercules Fire Protection District and the operator(s) of affected pipeline(s) regarding the adequacy of safety procedures for pipeline accidents.

MM HAZ-2d: The City shall consider a requirement that sponsors of residential development notify homeowners of the presence of adjacent or nearby pipelines.

1.9.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to hazards and hazardous materials, the 2019 Project is identical to the 2009 Project. Remediation activities on the project site are complete; therefore, risks associated with hazardous materials would be less severe than those identified in the 2009 EIR. Implementation of Mitigation Measure HAZ-2, identified in the City of Hercules General Plan Update EIR and referenced in the 2009 EIR, would continue to effectively reduce impacts related to pipeline hazards. No additional mitigation is required.

1.10 HYDROLOGY AND WATER QUALITY

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater?	☐	☐	☐	☒
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 result in substantial erosion or siltation on- or off-site? 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 offsite; 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?	☐	☐	☐	☒

1.10.1 Discussion

The 2009 EIR determined that impacts associated with hydrology and water quality would be less than significant with implementation of appropriate mitigation measures. Conditions within and in the vicinity of the site related to hydrology and water quality have remained essentially unchanged since certification of the 2009 EIR. Impacts to hydrology and water quality associated with the 2019 Project as compared to the 2009 Project are discussed below.

1.10.1.1 Water Quality Standards

Construction. Construction activities associated with the 2019 Project would involve disturbance, grading, and excavation of soil, which could result in temporary erosion and movement of sediments into the storm drain system, particularly during precipitation events. The potential for chemical releases is present at most construction sites due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. Once released, these hazardous materials could be transported to nearby surface waterways in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the

receiving waters. The release of sediments and other pollutants during construction and demolition could adversely affect water quality in receiving waters.

The 2009 EIR identified potential impacts associated with stormwater runoff quality during the construction and operation period of the Updated 2009 Redevelopment Plan. However, in compliance with the State Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit), the Construction Contractor would be required to prepare a SWPPP and implement construction BMPs detailed in the SWPPP during construction activities. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits and perimeter controls to avoid tracking sediment off-site onto adjacent roadways. A SWPPP also defines proper building material staging and storage areas, paint and concrete washout areas, describes proper equipment/vehicle fueling and maintenance practices, measures to control equipment/vehicle washing and allowable non-stormwater discharges, and includes a spill prevention and response plan. In addition, per the City Municipal Code, a stormwater control plan would be required that meets the criteria in the most recent version of the Contra Costa County Clean Water Program Stormwater C.3 Guidebook.[33]

Required compliance with State and local regulations regarding stormwater during construction would ensure that the 2019 Project would result in less-than-significant impacts to water quality during construction.

Operation. Because the project would replace over 10,000 square feet of existing impervious surface area, the project would be required to comply with Provision C.3 requirements of the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP). The project would result in alteration of over 50 percent of the existing impervious surface of the project site, and therefore all new and replaced impervious surfaces would require treatment under the MRP. Provision C.3 of the MRP requires implementation of low impact development (LID) source control, site design, and stormwater treatment for regulated projects. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. Additionally, the 2019 Project would be required to comply with the Stormwater Management Plan (SWMP) for the Contra Costa Clean Water Program, which implements the MS4 permit in Contra Costa County. The SWMP requires developers and owner/builders to control stormwater impacts by using appropriate BMPs.

Provision C.3.g of the MRP pertains to hydromodification management. The MRP requires that regulated projects which create and/or replace over 1 acre of impervious surface and increase the amount of impervious surface compared to the existing condition include measures to address

[33] Hercules, City of, 2019. City of Hercules Municipal Code, Title 5, Chapter 8. Stormwater Management and Discharge Control. April 23.

hydromodification to ensure that stormwater discharges do not cause an increase in the erosion potential of the receiving stream. Increases in runoff flow and volume must be managed so that the post-project runoff does not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force. Hydromodification management controls may include the installation of retention/ detention systems (e.g., swales, basins, ponds, or cisterns) which would reduce runoff rates and volumes.

As described in Attachment A, Project Description, the 2019 Project would install four bioretention filters throughout the project site, as well as, four flow-through planters on the roofs of all three of the proposed podium buildings and six more flow-through planters at ground level in the plaza to capture and filter stormwater runoff. The bioretention filters and flow-through planters would be designed and constructed in accordance with the criteria included in Contra Costa Clean Water Program Stormwater C.3 Guidebook, Seventh Edition.

Required compliance with applicable regulations and implementation of City policies, as described above, would reduce potential impacts to water quality from operation of the project to a less-than significant level.

1.10.1.2 Deplete Groundwater Supplies

As discussed in the 2009 EIR, the City of Hercules lies within the San Francisco Bay Hydrologic Region; however, it is not located within a groundwater basin identified by the California Department of Water Resources.[34] The 2019 Project would result in the construction of buildings on the currently developed project site and would result in an increase of impervious surface area. Similar to the 2009 Project evaluated in the 2009 EIR, the 2019 Project would not include the use of groundwater during operation. Because the project site is not located within an identified groundwater basin, nor in an area that is a significant source of groundwater recharge, operation of the project would result in a less than significant impact associated with depleting groundwater supplies or substantially interfering with groundwater recharge, and no mitigation is required.

Groundwater dewatering may be required if groundwater is encountered during construction activities. Dewatering, if necessary, would be conducted in compliance with the permit conditions of the San Francisco Bay Regional Water Quality Control Board (RWQCB) Groundwater General Permit (Order No. R2-2012-0060, NPDES No. CAG912004). It is anticipated that if groundwater dewatering is required, the volume of groundwater that would be removed would be minor and would not substantially deplete existing groundwater supplies. Therefore, construction of the project would result in a less than significant impact associated with depleting groundwater supplies or substantially interfering with groundwater recharge, and no mitigation is required.

As such, the 2019 Project would not result in any significant impacts related to groundwater supplies.

[34] California Department of Water Resources, 2019. Groundwater Information Center Interactive Map Application. Website: gis.water.ca.gov/app/gicima (accessed October 29, 2019).

1.10.1.3 Drainage Pattern and Surface Run-off

As discussed in the 2009 EIR, development at the Hill Town site would alter drainage patterns and increase stormwater runoff by grading the sites and installing street, parking lots, rooftops and other impermeable surfaces. Development would convert the site from largely undeveloped land with natural drainage patterns to the built environment with engineered drainage systems. Modification of the existing swale and detention ponds on the project site, without replacing their drainage capacity could cause or contribute to local flooding or adversely affect the existing storm drain system in the surrounding streets. Mitigation Measure HYD-2, as identified in the 2009 EIR, would require development at the Hill Town site to include properly engineered drainage systems that comply with the policies of the City of Hercules General Plan and would reduce potential impacts to a less than significant level.

The 2019 Project would not alter the course of a stream or river. Like the 2009 Project, the 2019 Project would alter drainage patterns on the project site by creating new impermeable pavement surfaces. As discussed above, the 2019 Project would be required to comply with the Construction General Permit and the City's Municipal Code, which require preparation of a SWPPP and ESCP to control erosion and sedimentation during construction and to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

As described in Attachment A, Project Description, the 2019 Project would install four bioretention filters throughout the project site, as well as, four flow-through planters on the roofs of all three of the proposed podium buildings and six more flow-through planters at ground level in the plaza to capture and filter stormwater runoff. The bioretention filters and flow-through planters would be designed and constructed in accordance with the criteria included in Contra Costa Clean Water Program Stormwater C.3 Guidebook, Seventh Edition.

Required compliance with applicable regulations, as described above, and implementation of Mitigation Measure HYD-2, as identified in the 2009 EIR, would reduce potential impacts of the project related to changes in drainage patterns to a less-than-significant level.

1.10.1.4 Flood Hazard, Tsunami, Seiche Zones

The project site is not located within a 100-year flood hazard zone or an area protected from flooding by levees, as mapped by the Federal Emergency Management Agency (FEMA). The project site is also not located within a dam failure inundation area. Therefore, the project would result in less-than-significant impacts related to flooding.

The project site is not located near enclosed or partially enclosed bodies of water; therefore impacts associated with seiches would not occur. Based on the distance of the project site to the San Francisco Bay, coastal hazards such as tsunamis would not affect the project.

As described in Section 7, Geology and Soils of the 2009 EIR, the project site contains steep slopes and identified areas of landslide and soil creep, which could create mudflows (a type of landslide that occurs on slopes). Implementation of Mitigation Measures GEO-2a, and GEO-2b, identified in the 2009 EIR, would reduce potential impacts associated with landslides and mudflows. Therefore,

the 2019 Project would not expose people or structures to inundation by seiche, tsunami, or mudflow.

1.10.1.5 Conflict with Water Quality Control Plan or Sustainable Groundwater Management Plan

As discussed above, due to the size of the 2019 Project, construction and operation of the 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 2019 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.

1.10.2 Applicable Mitigation

Mitigation Measure HYD-3 identified in the 2009 EIR, does not apply to the 2019 Project as it relates to floodplain areas at the Sycamore Crossing site. The Hill Town project site is not located with the 100-year floodplain. Mitigation Measure HYD-2, previously identified in the 2009 EIR, would remain applicable to the proposed project, as follows:

MM HYD-2: Prior to issuance of a grading or building permit for the Sycamore Crossing or Hill Town sites and to the satisfaction of the City Engineer, the project proponents shall prepare hydrology studies and drainage plans that calculate the existing and proposed stormwater runoff flows (i.e., cubic feet per second) of the sites and identify the stormwater drainage features (e.g., storm drains, catch basins, detainment basins, etc.) required to accommodate future flows.

1.10.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to hydrology and water quality, the 2019 Project is identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with hydrology and water quality would be the same as those identified in the 2009 EIR and compliance with applicable State and local regulations during construction and operation would continue to effectively reduce impacts related to hydrology and water quality. No additional mitigation is required.

1.11 LAND USE AND PLANNING

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

1.11.1 Discussion

1.11.1.1 Divide an Established Community

Projects that have the potential to physically divide an established community include projects such as new freeways and highways, major arterials, streets, and railroad lines. The 2019 Project would result in the development of a vacant parcel with residential and commercial uses. The 2019 Project would not remove any public access, including pedestrian and bicycle access. The 2019 Project would not result in a barrier within the project site that would impede access, nor would it result in a removal of a major means of access. Therefore, the 2019 Project would not inhibit public connectivity, and would not physically divide an established community. Therefore, this impact would not result in new or more significant impacts beyond those analyzed in the 2009 EIR.

1.11.1.2 Conformance with Land Use Plans

The 2009 Project included an amendment to the City of Hercules General Plan land use designation for the project site from Industrial (I) to PC-R and a corresponding change to the zoning from Industrial (I) to PC-R Planned Commercial Residential Mixed-Use District. The 2019 Project is consistent with the type and intensity of development allowed within the PC-R land use designation. Additionally, the 2019 Project would comply with the concepts identified in the Central Hercules Plan.[35] The 2019 Project would not require changes to General Plan land use designations or zoning districts.

The City's Housing Element identifies the Hill Town site as a potential available site for meeting the City's Regional Housing Need Allocation (RHNA). According to the Housing Element, the project site could accommodate up to 1,328 housing units. Like the 2009 Project, the number of housing units proposed as part of the 2019 Project would be below the estimate identified in the City's Housing Element; however, no changes to the General Plan would be required. In general, the 2019 Project would be consistent with the policies in the City's General Plan. Therefore, the 2019 Project would not result in new or more severe impacts related to conformity with land use plans beyond those already analyzed in the 2009 EIR.

35 Hercules, City of, 2000. *The Plan for Central Hercules, California.* December.

1.11.2 Applicable Mitigation

Impacts related to land use were determined to be less than significant and no mitigation measures were identified.

1.11.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. As described above, as part of the 2009 Project approvals, the City of Hercules amended the General Plan land use designation for the project site and approved the DA and IPDP for the project. The 2019 Project is consistent with the type and intensity of development allowed in the City's General Plan, as well as, the DA and IPDP established for the site. Therefore, impacts associated with land use and planning would be the same as those identified in the 2009 EIR. No additional mitigation is required.

1.12 MINERAL RESOURCES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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?	☐	☐	☐	☒

1.12.1 Discussion

The 2009 EIR determined that the proposed project would not impact mineral resources. As described in the 2009 EIR, no significant mineral deposits have been identified in the Hercules area. However, Hercules does have areas that have been identified as containing mineral deposits with a significance that cannot be evaluated from available data (these types of deposits are labeled "MRZ-3 zones"). MRZ-3 zones have been mapped for the hills to the north and south of State Route 4, east of I-80 (approximately 2 to 3 miles east of the Hill Town site), and the hilly area north of John Muir Parkway to the west of I-80 (on the north side of the Hill Town site). However, according to the City's General Plan, "there is no information to suggest that these areas have extractable minerals of commercial value such that existing and planned land uses would be of less benefit to the community and region."[36]

The remainder of the project area is located in an area designated as MRZ-1. This designation refers to an area "where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence."

These conditions remain unchanged. As such, the 2019 Project would continue to have no impact on mineral resources.

1.12.2 Applicable Mitigation

Impacts related to mineral resources were determined to be less than significant and no mitigation measures were identified.

1.12.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. Like the 2009 Project, the 2019 Project would have no impact on mineral resources and additional mitigation would not be required.

[36] Hercules, City of, 1998. *City of Hercules General Plan*.

1.13 NOISE

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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 an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

1.13.1 Discussion

The ambient noise conditions have not changed substantially since the preparation of the 2009 EIR. As discussed in the 2009 EIR, the project site would be exposed to traffic noise generated by I-80, State Route 4, and San Pablo Avenue. The portion of the site that would experience the highest future noise exposure from the major roadways is located at the southern end of the site. This area would receive noise from both I-80 and State Route 4, where noise levels at upper floors could be up to 76 dBA CNEL in year 2035.[37] Regulatory requirements and standards that govern the generation of and exposure to noise within the community have not changed since certification of the 2009 EIR. Potential impacts of the 2019 Project as compared to the 2009 Project with respect to noise are discussed below.

1.13.1.1 Substantial Temporary or Permanent Increase in Ambient Noise Levels

Traffic Noise Impacts. As identified in the 2009 EIR, traffic is a major source of noise in the project vicinity. In general, a change in noise level of less than 3.0 dBA is not typically noticed by the human ear. Changes in noise levels ranging from 3.0 to 5.0 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A greater than 5.0 dBA increase is readily noticeable, while the human ear perceives a 10.0 dBA increase in sound level to be a doubling of sound.

[37] It should be noted that the California Supreme Court concluded in its California Building Industry Association (CBIA) v. BAAQMD decision that "CEQA generally does not require an analysis of how existing environmental conditions will affect a project's future users or residents." With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of the existing highways/roads on future residents of the Hill Town project) to be an environmental impact, unless the project could exacerbate an existing environmental hazard. The proposed project would not change existing hazards associated with I-80, State Route 4 or San Pablo Avenue and, therefore, would not exacerbate existing hazards related to traffic noise. As such, the discussion related to noise hazards is provided for informational purposes only and to fully evaluate all possible effects relating to the project.

The 2009 EIR found that the greatest noise increase caused by project-related traffic volumes associated with the 2009 Project would be approximately 2 dBA, which would occur along Sycamore Avenue between South Front Avenue and San Pablo Avenue. The project noise contribution would be about 1 dBA for San Pablo Avenue between State Route 4 and Linus Pauling Drive, and at Sycamore Avenue between North Front Avenue to South Front Avenue. The 2009 Project noise contribution would be no more than 0.5 dBA for all other roadway segments included in the study area. The increases in noise levels associated with project-related traffic would not be perceptible by the human ear in an outdoor environment. As the 2009 Project would not result in a significant increase in project-related traffic noise, no mitigation was required to address traffic noise impacts.

To assess traffic noise impacts associated with the 2019 Project, the traffic noise levels along major roadway segments within the project vicinity were projected using the Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) to predict traffic noise level conditions with and without the 2019 Project. FHWA modeling results are summarized in Table G. The table includes projected traffic noise levels measured at 50 feet from the centerline of the outermost traveled lane along the modeled roadway segments. The model does not account for existing sound walls or terrain features that could reduce traffic noise levels at adjacent land uses, but rather assumes a worst-case direct line-of-sight over hard surface to the modeled traffic noise sources. Appendix B provides the specific assumptions used in developing these noise levels and model printouts.

As shown in Table G below, the roadway segments that would experience the greatest increase caused by project-generated traffic volumes (Existing Plus Project conditions) would be John Muir Parkway between Alfred Nobel Drive and San Pablo Avenue (1.1 dBA increase), John Muir Parkway east of San Pablo Avenue (0.4 dBA increase) and San Pablo Avenue between Victoria Cres W and Linus Pauling Drive (0.3 dBA increase). All other increases under Existing Plus Project conditions would be under 0.2 dBA. These noise level increases would be lower than assumed in the 2009 EIR; however and would not be perceptible by the human ear in an outdoor. Therefore, the 2019 Project would not result in a significant increase in project-related traffic noise and would not result in new significant impacts beyond those identified in the 2009 EIR.

In addition, as discussed in the 2009 EIR, traffic generated by the 2009 Project in conjunction with other past, present and reasonably foreseeable future development would increase ambient noise levels. The 2009 EIR found that along five roadway segments, the projected increase in noise levels from cumulative traffic would exceed 3 dBA and therefore would be perceptible. These roadway segments include: San Pablo between State Route 4 and Linus Pauling (4 dBA increase); John Muir Parkway west of San Pablo (4 dBA increase); Sycamore Avenue between North Front and Tsushima (4 dBA increase); Sycamore Avenue between Tsushima and South Front (4 dBA increase); and Sycamore Avenue between South Front and San Pablo (5 dBA increase). In addition, noise levels along four of these segments would also exceed the 65 dBA noise standard. Cumulative noise impacts along these segments were determined to be significant and unavoidable.

In addition, as shown in Table G below, the roadway segments that would experience the greatest increase in traffic noise levels under the Cumulative Plus Project conditions would be John Muir Parkway between Alfred Nobel Drive and San Pablo Avenue (3.2 dBA increase), John Muir Parkway between Alfred Nobel Drive and San Pablo Avenue (1.8 dBA increase), I-80 Westbound Off-Ramp

east of Willow Avenue (1.6 dBA increase), and San Pablo Avenue between future Hill Town Driveway and John Muir Parkway (1.2 dBA increase). All other increases under Cumulative Plus Project conditions would be 1.0 dBA or under. These noise level increases would be similar to what was evaluated in the 2009 EIR. In addition, the increase in noise levels along John Muir Parkway between Alfred Nobel Drive and San Pablo Avenue would exceed 3 dBA and would also exceed the 65 dBA noise standard. Therefore, cumulative noise impacts along this segment would remain significant and unavoidable.

Land Use Compatibility. The State sets forth normally acceptable noise level standards for exterior noise and land use compatibility and interior noise exposure of new development. According to the State's Land Use Compatibility Standards (shown in Table 3.9-1 of the 2009 EIR), environments with ambient noise levels up to 60 dBA CNEL are normally acceptable for multi-family residential land uses and noise levels between 60 dBA and 70 dBA CNEL are conditionally acceptable for new multi-family residential land uses. Noise levels between 70 dBA and 75 dBA CNEL are normally unacceptable while noise levels above 75 dBA CNEL are clearly unacceptable. The normally acceptable interior noise level for residential units is 45 dBA CNEL. In addition, noise levels up to 70 dBA CNEL are normally acceptable for commercial land use development.

As discussed in the 2009 EIR, the project site would be exposed to traffic noise generated by I-80, State Route 4, and San Pablo Avenue. The 2009 EIR determined that the project would experience future noise exposure from traffic noise up to 76 dBA CNEL, which would be considered clearly unacceptable for multi-family uses (see Table 3.9-1 in the 2009 EIR). As such, the 2009 EIR identified Mitigation Measures NOI-1 and NOI-2, which require appropriate noise evaluation be conducted at the design level and that noise be attenuated to acceptable levels for the corresponding land uses. With the incorporation of these mitigation measures, the 2009 EIR found that implementation of the 2009 Project would not expose future land uses to noise levels that exceed the State noise compatibility guidelines. Thus, the 2009 EIR determined that impacts would be reduced to a less than significant level with mitigation incorporated.

Based on traffic volume data on I-80[38] obtained from Caltrans, the project site would be exposed to traffic noise on I-80 reaching 79.7 dBA CNEL at 50 feet from the centerline of the outermost travel lane. The results of the FHWA model are presented in Appendix B. The closest residences would be located approximately 300 feet from the centerline of the outermost travel lane of I-80. Therefore, due to distance attenuation, the residences would be exposed to a noise level of 64.2 dBA CNEL associated with traffic on I-80.

As identified in Table G, traffic noise levels along San Pablo Avenue would be approximately 68.7 dBA CNEL at 50 feet from the centerline of the outermost travel lane. The closest residences would be located approximately 100 feet from centerline of the outermost travel lane of San Pablo Avenue, therefore, the residences would be exposed to a noise level of 61.9 dBA CNEL associated with traffic on San Pablo Avenue.

[38] Caltrans, 2017. 2017 Traffic Volumes: Route 71-80. Website: https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-71-80 (accessed October 2019).

Table G: Existing and Cumulative Traffic Noise Levels Without and With 2019 Project

Roadway Segment	Existing Without Project		Existing With Project			Cumulative With Project		
	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Existing No Project Conditions	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Existing No Project Conditions
San Pablo Avenue – between Victoria Cres W and Linus Pauling Drive	9,790	64.0	10,480	64.3	0.3	11,810	64.8	0.8
San Pablo Avenue - between Linus Pauling Drive and future Hill Town Driveway	10,980	64.5	10,980	64.5	0.0	13,920	65.5	1.0
San Pablo Avenue - between future Hill Town Driveway and John Muir Parkway	21,870	67.5	22,800	67.7	0.2	28,690	68.7	1.2
San Pablo Avenue - between John Muir Parkway and Market Hall	6,610	62.3	6,940	62.5	0.2	13,880	65.5	3.2
John Muir Parkway - between Alfred Nobel Drive and San Pablo Avenue	11,030	63.1	14,290	64.2	1.1	16,720	64.9	1.8
John Muir Parkway - east of San Pablo Avenue	23,010	66.7	25,010	67.1	0.4	30,370	67.9	1.2
I-80 WB Off-Ramp - east of Willow Avenue	1,720	59.2	1,720	59.2	0.0	2,490	60.8	1.6
I-80 EB Off-Ramp - east of Willow Avenue	7,940	65.9	8,350	66.1	0.2	9,900	66.8	0.9

Source: LSA (October 2019).
Note: Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.
ADT = average daily traffic
CNEL = Community Noise Equivalent Level
dBA = A-weighted decibels

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In addition, as identified in Table G traffic noise levels along State Route 4 would be up to 67.9 dBA CNEL at 50 feet from the centerline of the outermost travel lane. The closest residences would be located approximately 190 feet from centerline of the outermost travel lane of State Route 4, therefore, the residences would be exposed to a noise level of 56.3 dBA CNEL associated with traffic on State Route 4. The residences located near the intersection of San Pablo Avenue and State Route 4 would be exposed to a combined noise level of approximately 63.0 dBA CNEL.

As discussed above, noise levels on the project site would be up to 64.2 dBA CNEL. According to the State's Land Use Compatibility Standards, for multi-family residential land uses, this noise level would be conditionally acceptable and development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Therefore, the land use may be permitted only after detailed analysis of the noise reduction features proposed to be incorporated in the project design. A preliminary interior and exterior noise analysis is provided below.

Based on the USEPA's Protective Noise Levels,[39] with a combination of walls, doors, and windows, standard construction for Northern California buildings (STC-24 to STC-28) would provide more than 25 dBA in exterior-to-interior noise reduction with windows closed and 15 dBA or more with windows open. With windows open, the buildings would not meet the City's normally acceptable interior noise standard of 45 dBA CNEL (i.e., 64.2 dBA – 15 dBA = 49.2 dBA). Therefore, an alternate form of ventilation, such as an air-conditioning system, would be required to ensure that windows can remain closed for a prolonged period of time. A ventilation system would reduce noise levels for residents with windows closed and would meet the City's normally acceptable interior noise level criterion of 45 dBA (i.e., 64.2 dBA – 25 dBA = 39.2 dBA). Therefore, the City should verify that buildings include fresh air ventilation. Implementation of the HVAC system would allow windows to remain closed in order to reduce interior noise levels by 25 dBA, resulting in interior noise levels of 39.2 dBA CNEL, which would meet the City's interior noise standard of 45 dBA CNEL.

Mitigation Measure NOI-1 identified in the 2009 EIR requires multi-family residential uses along I-80/State Route 4 to include: (1) STC 36 to 39 windows and exterior; doors (2) alternative source of ventilation for residential structures as approved by a mechanical engineer; and (3) outdoor use areas shielded by at least one or two rows of buildings or by a sound wall of at least 11 feet in height for residences and multi-family residential uses along San Pablo Avenue to include: (1) STC 33 to 36 windows and exterior doors; (2) alternative source of ventilation for residential structures as approved by a mechanical engineer; and (3) common outdoor use areas shielded by at least one rows of buildings or by a sound wall of at least 8 to 9 feet in height. Mitigation Measure NOI-2 requires that the City not issue a building permit for the 2019 Project if the interior CNEL attributable to exterior sources exceed an annual CNEL of 45 dB in any habitable room with windows closed and that acoustical evaluations of proposed architectural plans will be required to ensure compliance with this requirement. With implementation of Mitigation Measures NOI-1 and

[39] U.S. Environmental Protection Agency, 1978. *Protective Noise Levels, Condensed Version of EPA Levels Document*. November.

NOI-2, the 2019 Project would comply with the State's interior Noise and Land Use Compatibility Standards.

In addition, the existing on-site noise level would meet the City's exterior noise level standards if noise reduction requirements and noise insulation features are included in the design to meet the interior noise standard. As discussed above, interior noise levels would meet the State's Land Use and Compatibility Standards with implementation of Mitigation Measures NOI-1 and NOI-2. Therefore, consistent with the findings of the 2009 EIR, with Mitigation Measures NOI-1 and NOI-2, interior and exterior noise levels would meet the State's Land Use and Compatibility Standards resulting in a less-than-significant impact with mitigation.

Construction-Period Noise Impacts. Noise generated by the construction period for the 2019 Project would temporarily increase noise levels in the vicinity of the project site. Each stage of construction would involve a different mix of operating equipment, and noise levels would vary based on the amount and types of equipment in operation and the location of the activity. These activities would be similar to the Updated 2009 Redevelopment Plan.

As discussed in the 2009 EIR, earth-moving and demolition activities are often the noisiest with equipment noise ranging up to about 90 dB at 50 feet from the source. As identified in the 2009 EIR, the project site is adjacent to what are considered in the City's General Plan to be major and moderate noise sources (I-80, San Pablo Avenue, and State Route 4). Because the project site is located adjacent to these noise sources, it is not anticipated that temporary construction noise would exceed acceptable noise levels.

However, the 2009 EIR identified that all new development in the City of Hercules would be required to comply with the goals and policies contained in the General Plan, which work to ensure that all new development is compatible with the existing and future noise environment and prevent all new noise sources from increasing the existing noise level above acceptable standards. As such, to ensure temporary construction-related noise from future development of the Hill Town Site remains at a less-than-significant level, the 2009 EIR included the policies in the General Plan related to construction noise as mitigation. The 2009 EIR found that with the incorporation of Mitigation Measures NOI-3a through NOI-3e, impacts would be less than significant.

Construction noise associated with the 2019 Project would be similar to what was evaluated in the 2009 EIR. As such, implementation of Mitigation Measures NOI-3a through NOI-3e as identified in the 2009 EIR would sufficiently reduce project-related construction noise impacts to a less-than-significant level to comply with the City's General Plan policies. Additionally, as required by Mitigation Measure NOI-3d, since construction of the 2019 Project would exceed an ambient noise level of 70 dB CNEL, the applicant would be required to construct temporary solid noise barriers between source and sensitive receptors to reduce off site propagation of construction noise Therefore, with implementation of Mitigation Measures NOI-3a through NOI-3e, the 2019 Project would not result in new significant impacts beyond those identified in the 2009 EIR and no new mitigation measures are required.

1.13.1.2 Vibration Impacts

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment), and occasional traffic on rough roads. In general, groundborne vibration from standard construction practices is only a potential issue when within 25 feet of sensitive uses. Groundborne vibration levels from construction activities very rarely reach levels that can damage structures; however, these levels are perceptible near the active construction site. With the exception of old buildings built prior to the 1950s or buildings of historic significance, potential structural damage from heavy construction activities rarely occurs. When roadways are smooth, vibration from traffic (even heavy trucks) is rarely perceptible.

The streets surrounding the project area are paved, smooth, and unlikely to cause significant groundborne vibration. In addition, the rubber tires and suspension systems of buses and other on-road vehicles make it unusual for on-road vehicles to cause groundborne noise or vibration problems. It is, therefore, assumed that no such vehicular vibration impacts would occur and, therefore, no vibration impact analysis of on-road vehicles is necessary. Therefore, once constructed, the 2019 Project would not contain uses that would generate groundborne vibration. This impact would be less than significant and would not result in new significant impacts beyond those identified in the 2009 EIR.

Construction Vibration. Construction of the project could result in the generation of groundborne vibration. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and will assess the potential for building damages using vibration levels in PPV (in/sec) because vibration levels calculated in RMS are best for characterizing human response to building vibration, while vibration level in PPV is best used to characterize potential for damage. The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment guidelines indicate that a vibration level up to 102 VdB (an equivalent to 0.5 in/sec in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

Table H shows the PPV and VdB values at 25 feet from a construction vibration source. As shown in Table H, bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 87 VdB of groundborne vibration when measured at 25 feet, based on the Transit Noise and Vibration Impact Assessment. At this level, groundborne

vibration has the potential to result in annoyance to residents and workers, but would not cause any damage to the buildings.

Table H: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[a]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Sources: *Transit Noise and Vibration Impact Assessment* (FTA 2018).
[a] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
µin/sec = micro-inches per second
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside of residential buildings in the project vicinity). Outdoor site preparation for the 2019 Project is expected to include the use of bulldozers and loaded trucks. The greatest levels of vibration are anticipated to occur during the site preparation phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$L_vdB\ (D) = L_vdB\ (25\ feet) - 30\ Log\ (D/25)$$
$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

As identified in the Project Description, the project site is bordered by the Victoria by the Bay development to the north and northeast and the North Shore Business Park to the west. The Victoria by the Bay is a master-planned community that consists of residential areas, park facilities, and a vacant commercial lot. The North Shore Business Park consists of professional office and light industrial uses along the west side of San Pablo Avenue. The relocated BART Park and Ride lot is located southeast of the project site on Willow Avenue, approximately one mile from the project site. The I-80/State Route 4 interchange is located to the southeast, and residential developments are located across I-80 to the east.

The closest buildings to the project site include the single-family residences in the Victoria by the Bay development, which are located adjacent to the project site. Due to building setbacks, the

residences are located approximately 25 feet from the project site. At 25 feet, the residences would experience vibration levels of up to 87 VdB (0.089 PPV [in/sec]). This vibration level at the nearest buildings from construction equipment would not exceed the FTA threshold of 94 VdB (0.2 in/sec PPV) for building damage. Although construction vibration levels at the nearest buildings would have the potential to result in annoyance, these vibration levels would no longer occur once construction of the project is completed. In addition, implementation of Mitigation Measures NOI-3a through NOI-3e would help to reduce construction vibration levels. Therefore, groundborne vibration impacts from construction activities associated with the 2019 Project would be considered less than significant.

1.13.1.3 Aircraft Noise Source Impacts

As discussed in the 2009 EIR, no public or private airports or airstrips are located in the project vicinity and the project site is not located within an airport land use plan. Furthermore, no public or private airports or airfields are located within at least 10 miles of the project site. Therefore, consistent with the findings of the 2009 EIR, the 2019 Project would not expose people to excessive airport or aircraft related noise levels and there would be no impact.

1.13.2 Applicable Mitigation

As described in the 2009 EIR, impacts related to noise were determined to be less than significant with implementation of Mitigation Measures NOI-1, NOI-2, and NOI-3a through 3e. No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2009 EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required. Mitigation Measures NOI-1, NOI-2, and NOI-3a through 3e, previously identified in the 2009 EIR, would remain applicable to the 2019 Project, as follows:

MM NOI-1: The City of Hercules shall not issue a building permit for future projects in the proposed Updated 2009 Redevelopment Plan until a design-level noise study is completed that demonstrates that the proposed development would not cause noise exposures that exceed (1) 65 dB CNEL for common outdoor areas or (2) 45 dB CNEL for indoor residential uses.

Hill Town: To achieve the required noise levels on the Hill Town site, the design-level noise study required by this mitigation measure shall consider actual site plans and architectural plans and determine the exact noise attenuation features required to achieve the appropriate noise levels. At this time, the following noise attenuation design features are anticipated to be required for multi-family residential uses in the southern portion of the site along I-80/SR-4: (1) STC 36 to 39 windows and exterior doors (if sound walls are built, windows and exterior doors at the ground floors could require STC ratings that are about 5 fewer points); (2) alternative source of ventilation for residential structures as approved by a mechanical engineer; and (3) outdoor use areas shielded by at least one or two rows of buildings or by a sound wall of at least 11 feet in height. At this time, the following noise attenuation design features are anticipated to be required for multifamily residential uses along San Pablo Avenue, (1) STC 33 to 36 windows and exterior doors (if sound walls are built,

windows and exterior doors at the ground floors could require STC ratings that are about 5 fewer points); (2) alternative source of ventilation for residential structures as approved by a mechanical engineer; and (3) common outdoor use areas shielded by at least one rows of buildings or by a sound wall of at least 8 to 9 feet in height.

MM NOI-2: In accordance with Title 24 of the California Administrative Code, the City of Hercules shall not issue a building permit for the proposed project if the interior community noise levels (CNEL) attributable to exterior sources exceed an annual CNEL of 45 dB in any habitable room with windows closed. Pursuant to Title 24, acoustical evaluations of proposed architectural plans will be required to ensure compliance with this requirement.

MM NOI-3a: The City of Hercules shall ensure that where construction occurs near noise-sensitive areas (as determined by the Community Development Department), construction activities (including truck traffic) be scheduled for periods, according to construction permit to limit the impact on sensitive receptors. This may be done prior to start of construction and may be enforced throughout construction activities on both the Hill Town and Sycamore Crossing sites.

MM NOI-3b: Prior to construction, the City of Hercules shall ensure that the applicant develop a construction schedule that minimizes potential cumulative construction noise impacts and accommodates particularly noisy periods for near-by sensitive receptors.

MM NOI-3c: The City of Hercules shall ensure that during construction, where feasible, holes for driven piles be predrilled to reduce the level and duration of noise impacts. Where not feasible, pile drive shall be scheduled to avoid conflict with adjacent sensitive receptors.

MM NOI-3d: Construction within 500 feet of a sensitive receptor shall require a noise study to identify the estimated level of construction noise. Where construction activities are estimated to exceed an ambient noise level of 70 dB CNEL, the City of Hercules shall ensure that prior to construction, the applicant construct temporary solid noise barriers between source and sensitive receptors to reduce off site propagation of construction noise.

MM NOI-3e: Prior to construction, the applicant shall demonstrate, to the satisfaction of the City of Hercules, that internal combustion engines used for construction purposes are equipped with a properly operating muffler of a type recommended by the manufacturer and all power tools are acoustically shielded.

1.13.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to noise, the 2019 Project is

identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with noise would be the same as those identified in the 2009 EIR and implementation of Mitigation Measures NOI-1, NOI-2, and NOI-3a through 3e would continue to effectively reduce impacts related to noise. No additional mitigation is required.

1.14 POPULATION AND HOUSING

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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?	☐	☐	☐	☒

1.14.1 Discussion

1.14.1.1 Population Growth

The 2009 EIR evaluated potential environmental impacts associated with approximately 640 multi-family residential units and 4,000 square feet of commercial space on the project site. Based on an average of 2.11 persons per household, the 2009 Project was anticipated to add 1,350 new residents to the City of Hercules.

The 2019 Project would generate housing-related population growth by adding approximately 599 multi-family housing units to the City's housing stock. According to the U.S. Census, the City's average household size between 2013 and 2017 was 3.08.[40] Based upon an average of 3.08 persons per household, the 2019 Project would increase the City's population by approximately 1,845 residents.[41] This increase represents about 7.2 percent of the City's total estimated 2018 population (25,601). The estimated population generated by the project (1,845 residents) would represent approximately 4.7 percent of the City's projected 2040 population (39,500). The population growth anticipated between 2010 and 2040 is expected to be 15,440;[42] population associated with the project would represent 11.9 percent of the anticipated growth.

The City's Housing Element identifies the Hill Town site as a potential available site for meeting the City's Regional Housing Need Allocation (RHNA). According to the Housing Element, the project site could accommodate up to 1,328 housing units. Therefore, the housing units proposed as part of the project would be well within the estimate identified in the City's Housing Element.

The 2019 Project is located within the city limits of the City of Hercules. The site is identified in the General Plan for Planned Commercial-Residential and the density and intensity of development is consistent with the General Plan Land Use designation. The extension of infrastructure onto the

40 U.S. Census Bureau, 2018. American Community Survey (ACS) and Puerto Rico Community Survey (PRCS), 2013-2017. Website: www.census.gov/quickfacts/fact/table/herculescitycalifornia/SBO020212 #SBO020212 (accessed October 30, 2019).

41 599 x 3.08 persons per household = 1,845 residents.

42 Hercules, City of, 2015. *City of Hercules Housing Element, 2015-2023*. April 14.

project site, including roadways and utilities that would only serve the proposed development, would not contribute to or cause additional growth to occur outside of the City boundaries or elsewhere within the vicinity of the project site, as the project site is surrounded by existing development.

The 2019 Project would not induce substantial unanticipated population growth in the City, and the population increase would fall within the increase identified in the City's General Plan, including the Housing Element. Therefore, the 2019 Project would not result in new or more significant population growth than was analyzed and described in the 2009 EIR.

1.14.1.2 Displacement of Existing People or Housing

As outlined in the project description, the project site is currently vacant. Therefore, the 2019 Project would not displace substantial numbers of existing housing or people, such that replacement housing would need to be constructed elsewhere. This potential impact would be considered less than significant. Therefore, the 2019 Project would not result in new or more significant housing impacts than were analyzed and described in the 2009 EIR.

1.14.2 Applicable Mitigation

Impacts related to population and housing were determined to be less than significant and no mitigation measures were identified.

1.14.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. Like the 2009 Project, population growth associated with development of the 2019 Project would fall within the anticipated population growth for the City of Hercules, as identified in the City's Housing Element and no housing would be displaced as a result of the 2019 Project. Impacts associated with population and housing would be less than significant and no mitigation would be required.

1.15 PUBLIC SERVICES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. 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:				
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

1.15.1 Discussion

1.15.1.1 Fire and Police Protection

The 2019 Project would increase demand for fire protection, police and emergency medical services due to the increased population and development at the project site. However, the increase in demand is expected to be incremental, and is not expected to require construction of a new police or fire station to serve the 2019 Project.

Development associated with the 2019 Project would be constructed in conformance with current building codes, which require features to reduce potential fire hazards. The Rodeo-Hercules Fire District (RHFD) and the Hercules Police Department (HPD) would also review project design to ensure it incorporates appropriate safety features to minimize fire hazards and criminal activity.

Development associated with the 2019 Project would be constructed in conformance with current building codes, which require features to reduce potential fire hazards. The Hayward Police Department (HPD) would also review project design to ensure it incorporates appropriate safety features to minimize criminal activity.

General Plan policies ensure that the City reviews HPD and RHFD staffing levels to ensure the availability of adequate police and fire manpower and service facilities. General Plan policies would prevent future growth that exceeds the community capability to provide service, including fire and police services. Additionally, all future development are require to pay fire and police development impact fees pursuant to Sections 10-18.403 and 10-18.503 of the Hercules 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 and fire protection services. Therefore, because development associated with the 2019 Project is within the amount analyzed by the 2009 EIR, potential impacts associated with an increase in demand for

police and fire protection services are considered less-than-significant and need no further mitigation.

1.15.1.2 Schools

The 2009 EIR concluded that implementation of the 2009 Project would facilitate the addition of new students to local school, but would not result in a significant impact related to schools. Like the previously evaluated project, the 2019 Project would result in new residential development that could generate new students.

The 2019 Project would include approximately 599 new multi-family residential units. Using student generation rates provided by the West Contra Costa Unified School District (WCCUSD)[43] (see Table I), the project site could generate approximately 82 students associated with proposed multi-family units that would attend WCCUSD schools.

Table I: District-Wide Student Generation Rates

Grade Level	Proposed Dwelling Units	Student Generation Rate Used by School District for Multi-family Residential Developments	Additional Students Generated by 2019 Project
Elementary (K-6)	599	0.079	48
Middle (7-8)	599	0.000	0
High (9-12)	599	0.056	34
Total	**599**	**0.135**	**82**

Source: Government Financial Strategies, Inc. 2007

The additional 82 school students would not likely exceed the current capacities available within WCCUSD District. Due to WCCUSD's recent declining enrollment, planned new facilities would not likely be needed to accommodate additional students generated by the 2019 Project.

New residential projects in Hercules are subject to statutory fees established by the State, which in turn would be used to fund new school facilities. General Plan policies would require the City to ensure that schools are available to serve new development, to the extent allowed by State law. The implementation of these policies would ensure the planning of new school facilities to accommodate projected increases in student enrollment. The payment by developers of statutory fees would provide funding for planned school projects.

Therefore, because the level of development and project population growth associated with the 2019 Project is consistent with that analyzed in the 2009 EIR, implementation of the 2019 Project would not result in demand for school services beyond existing or planned capacity of the WCCUSD.

[43] Jack Schreder & Associates, 2016. *Demographic Analysis, Student Projections, & Facility Capacity Study for the 2015-16 School Year*, Western Contra Costa Unified School District. Available online at: www.wccusd.net/cms/lib/CA01001466/Centricity/Domain/20/Reports/WCCUSD%20Demographic%20Analysis%20Student%20Projections%20and%20Facility%20Capacity%20S.pdf (accessed October 30, 2019). July 18.

1.15.1.3 Parks

The 2019 Project would include approximately 23 acres of landscaping, walkways and common open space throughout the site. The City of Hercules General Plan requires at least 1.75 acres of neighborhood parks, 3.25 acre of community park space, and 34 acres of open space be provided for each 1,000 residents.[44] The 2019 Project would generate an estimated population of 1,845. The 2019 Project would add to the City's recreational areas and open space and would offset the requirement for new park space to the meet the needs of existing residents and the increase population associated with the 2019 Project. Additionally, all new developments would be required to comply with Section 10-18.203 of the Hercules Municipal Code, which requires the dedication of land or payment of fees to the City of offset the impacts on parks resulting from a new development. To meet the General Plan requirements for community and neighborhood parks, the City proposes the future development of approximately 26 acres of parkland. With the addition of these parks, the City would have adequate park space for the current population, as well as, the increase in population associated with the 2019 Project. Therefore, because development associated with the 2019 Project is within the amount analyzed by the 2009 EIR, potential impacts to parks are considered less-than-significant and need no mitigation.

1.15.2 Applicable Mitigation

Impacts related to public services were determined to be less than significant and no mitigation measures were identified.

1.15.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. As described above, development associated with the 2019 Project is within the amount analyzed by the 2009 EIR; therefore, potential impacts to public services are considered less-than-significant and no mitigation is required.

[44] Hercules, City of, 1998, op. cit.

1.16 RECREATION

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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?	☐	☐	☐	☒

1.16.1 Discussion

As discussed in Section 15 of this Environmental Checklist, Public Services, the 2019 Project would include approximately 23 acres of landscaping, walkways and common open space throughout the site, including 1.7 acres of active and passive open space. The 2019 Project would add to the City's recreational areas and open space and would partially offset the requirement for new park space to the meet the needs of existing residents and the increased population associated with the 2019 Project. Additionally, all new developments would be required to comply with Section 10-18.203 of the Hercules Municipal Code, which requires the dedication of land or payment of fees to the City of offset the impacts on parks resulting from a new development. As outlined in the DA, in lieu of dedicating land on the project site for public park and recreation facilities, the project applicant will pay a Sports Facility In-Lieu Fee to the City for the purpose of developing sports facilities elsewhere. Therefore, because development associated with the 2019 Project is within the amount analyzed by the 2009 EIR, potential impacts to parks are considered less-than-significant and need no mitigation.

1.16.2 Applicable Mitigation

Impacts related to recreation were determined to be less than significant and no mitigation measures were identified.

1.16.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. As described above, the 2019 Project, like the 2009 Project, would provide some open space uses as part of the project and would be required to pay in-lieu fees to the City to facilitate development of recreation facilities elsewhere in the City. Therefore, potential impacts to recreation are considered less-than-significant and no mitigation is required.

1.17 TRANSPORTATION

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines § 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?	☐	☐	☐	☒

1.17.1 Discussion

This section summarizes the findings of the Transportation Impact Analysis[45] (TIA) completed for the 2019 Project. The TIA report is available as part of the project file. As discussed in more detail below, no new or substantially more severe impacts related to traffic or circulation impacts were identified for the 2019 Project as compared to the 2009 Project.

1.17.1.1 Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System

Transit. The Hercules Transit Center is located on Willow Avenue southeast of the project site. The Hercules Transit Center connects to the El Cerritos Del Norte BART station via the JR/JL and JX and JPX bus lines. In addition, the Lynx bus line connects from the center to San Francisco's Transbay Terminal. In addition, a number of local transit lines that connect different areas of the City, as well as, other parts of Contra Costa County go through the City of Hercules Transit Center.

As noted in the 2009 EIR, the cumulative long-term development and growth of the area, including development of the project site, will likely affect transit operation in terms of increased travel because of congestion and intersection delay. The 2009 EIR concluded that implementation of roadway improvements planned by the City of Hercules and Mitigation Measures TRAF-1 and TRAF-5, identified in the 2009 EIR, would relieve congestion conditions contributing to effects on transit service and would reduce potential impacts to less than significant. As these same conditions and mitigation measures would apply to the 2019 Project, impacts to transit services resulting from the 2019 Project would be also be less than significant.

Bicyclists and Pedestrians. According to the City of Hercules General Plan Circulation Element,[46] the existing bicycle network consists of the following types of facilities:

[45] DKS, 2019. Hercules Hill Town, Traffic Impact Analysis Report. December 12.

[46] Hercules, City of, 2018. *City of Hercules General Plan Circulation Element Update*. January. Available online at: https://www.ci.hercules.ca.us/government/planning/general-plan/circulation-element-update (Accessed January 8, 2020).

- Multi-Use Paths (Class I) are completely separated facilities with paved right-of-way (shared with pedestrians), which excludes motor vehicle traffic.

- Bike Lanes (Class II) provide a striped and stenciled lane for one-way bike travel on a street or highway.

- Bike Routes (Class III) provide a shared use roadway with motor vehicle traffic and are identified by signage or permanent markings.

In the vicinity of the project site, Class II bicycle lanes are provided on both sides of San Pablo Avenue. A Class I bicycle path exists north of the study area parallel to Willow Avenue along Rodeo Creek. Willow Avenue has existing Class II bicycle lanes north of Mariner's Pointe and proposed Class II bicycle lanes extending to Sycamore Avenue. Bicycles would be allowed on the site's internal roadways. However, no changes to the external bicycle network are proposed by the 2019 Project. With the increase in residential development associated with the 2019 Project, bicycle use could increase in the area; however, the 2019 Project proposes no features that would be unsafe for bicycle travel, nor were any instances of over-capacity conditions identified on existing bicycle facilities in the project vicinity. Therefore, the project impacts on bicyclists would be less than significant.

In the project area, San Pablo Avenue is connected by sidewalks on at least one side of the street from Victoria Crescent to Hercules Avenue. Willow Avenue is similarly connects with gaps between Palm Avenue and the I-80/SR-4 ramps as well as between Hawthorne Drive and the I-80 southbound off-ramp. Each of the signalized study intersections has crosswalks with pedestrian signal heads. The one-way-stop-controlled intersection of John Muir Parkway and Alfred Nobel Drive lacks painted crosswalks for pedestrians. The 2019 Project would include the construction of sidewalks along the roadways within the project site, as well as, sidewalk connections along San Pablo Avenue, connecting the project site to the greater pedestrian network within the vicinity of the project site. By providing sidewalks that connect the project site to the greater pedestrian network, the project site will be accessible to residents and community members who would walk to the project site and circulate within the site. Therefore, the 2019 Project would not conflict with a program, plan, ordinance or policy addressing pedestrian circulation.

Roadways and Freeways. The City of Hercules has not yet adopted VMT impact criteria per S.B. 743 legislation, which has set a 2020 date for adoption. Therefore, this analysis uses level of service according to the City's criteria.

Policy 1.A in the City's General Plan Circulation Element requires all intersections along arterials, collectors and local roads to maintain a level of service (LOS) of D or better during the AM and PM peak periods shown in Table 4-2 of Section 4 of the City of Hercules General Plan Circulation Element. The table establishes significance criteria to determine project impacts as follows for arterials, collectors, and local roads:

- If intersection LOS worsens from LOS D or better to LOS E or LOS F.

- If an intersection is already at LOS E or worse and average delay increases by more than 4.0 seconds.

- At unsignalized crossings, average wait time for bicyclists and pedestrians to cross safely increases by more than 30 seconds.

In addition, San Pablo Avenue, south of the intersection with SR-4/John Muir Parkway, is categorized as a Route of Regional Significance (RRS) in the West County Action Plan.[47] Routes of Regional Significance are roadways that connect two or more subareas of Contra Costa County, cross County boundaries, carry significant through traffic, and/or provide access to a regional highway or transit facility. Due to their importance in the County, the Contra Costa County Transportation Authority has established performance measures (called Multi-modal Transportation Service Objectives) for these routes, which differ from local jurisdiction standards. According to the West County Action Plan, signalized intersections on San Pablo Avenue are to remain at LOS E or better. Unsignalized intersections along San Pablo Avenue are subject to the standards for the intersecting roadway, which would be LOS D or better, in this case.

For the purposes of the TIA, consistent with the Hill Town Development Agreement, the standards of significance that are used for local roadways and approaches are consistent with what was used in the 2009 EIR and consistent with the Growth Management Element adopted to comply with Contra Costa County Measure C. At the time the 2009 EIR was prepared, the 4.0 second threshold to determine impacts of already deficient intersections and average pedestrian and bicycle wait time standards had not been established, and therefore, have not been applied as part of the TIA analysis.

2009 EIR. The 2009 EIR analyzed transportation and circulation conditions with the potential buildout of the Updated 2009 Redevelopment Plan Area, which consisted of development concepts for both the Hill Town and Sycamore Crossing sites. The 2009 EIR assumed that development at the Hill Town site would include 640 attached residential units and 4,000 square feet of retail space. Access to and from the site would be provided via a new signalized intersection on San Pablo Avenue across from Linus Pauling Drive. The 2009 EIR assumed that development at the Sycamore Crossing site would include 170 residential units, 140,000 square feet of commercial/retail space, a 180-room hotel, 170,000 square feet of office space, and two parking garages (1,012 parking spaces). Access to and from the site would be provided via driveways on Sycamore Avenue and Tsushima Way.

Two sub-scenarios were evaluated as part of the 2009 EIR. Sub-scenario A assumed that the Sycamore Crossing and Hill Town sites would be developed after background projects were complete (existing traffic plus background project traffic plus 2009 Project traffic). Sub-scenario B assumed that the Sycamore Crossing and Hill Town sites would be developed before the background

[47] Fehr & Peers, 2014. West County Action Plan for Routes of Regional Significance. January. Available online at: https://www.wcctac.org/files/managed/Document/239/West%20County%20Action%20Plan%20Final%20Draft%2001-2014.pdf (access December 17, 2019).

projects were complete; therefore, traffic from the background projects was not included (existing traffic plus 2009 Project traffic).

The 2009 EIR identified two significant transportation and circulation impacts associated with implementation of the 2009 Project:

Impact TRAF-1: Future development of the Updated 2009 Redevelopment Plan is expected to generate 7,513 daily vehicle trips, including 907 trips during the AM peak hour and 1,278 trips during the PM peak hour. These trips would cause the following intersections to operate at an unacceptable LOS: San Pablo Avenue at Sycamore Avenue (Sub-scenario A), San Pablo Avenue at Linus Pauling Drive (both sub-scenarios), Willow Avenue at BART Replacement Parking E. Driveway (Sub-scenario A), and Sycamore at S. Front Street (both sub-scenarios).

Impact TRAF-5: Implementation of the proposed Updated 2009 Redevelopment Plan would add new vehicle trips to the roadway network, which would contribute to a substantial cumulative increase in traffic and impacts to intersection LOS in the project vicinity.

Both of these impacts were determined to be reduced to less than significant with implementation of the mitigation measures identified in the 2009 EIR. These mitigation measures are listed below in Section 1.17.2.

Trip Generation. As outlined in Attachment A, Project Description, the 2019 Project would include development of up to 598 residential units, consisting of different types of housing to include townhomes, courtyard townhomes, and podium units. The site would also feature 4,200 square feet of commercial and retail space.

Trip generation for the 2019 Project was based on the Institute of Transportation Engineer's (ITE) Trip Generation Manual 10th Edition (2017. For the purposes of the TIA, ITE Land Use Code number 220 (multi-family housing; low rise) was assumed for the mix of housing included in the 2019 Project. ITE Land Use Code 936 (coffee shop; no drive through) was assumed for the commercial component of the 2019 Project. In accordance with the ITE Handbook (part of the 10th Edition), a reduction in commercial trips due to internal and "pass-by" trips was assumed, as approximately 50 percent of the vehicle trips entering the commercial portion of the site would either be generated from within the project site or have already been on the study roadways and would divert to access the new commercial use. This assumption is consistent with the analysis in the 2009 EIR. As shown in Table J, the 2019 Project, accounting for the reduction of commercial pass-by trips, would generate a total of 487 vehicle trips during the AM peak hour (171 inbound and 316 outbound) and 411 vehicle trips during the PM peak hour (249 inbound and 162 outbound).

Table K shows the trip generation calculations that were used in the 2009 EIR, as prepared by PHA Transportation Consultants. The trip generation has changed for the following reasons: 1) the 2019 Project has 41 fewer multi-family units and 200 additional square feet of retail than the 2009 Project; 2) the land use references have been updated to reflect the latest ITE Trip Generation Manual; and 3) the 10 percent reduction in trips allocated to public transit use was removed as the assumption relied on implementation of additional transit facilities, which have not occurred.

Table J: 2019 Project Trip Generation

Land Use	Units /ksf[1]	Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
					Enter		Exit		Total		Enter		Exit		Total
		Rate	Trips	Rate	%	Trips	%	Trips	Trips	Rate	%	Trips	%	Trips	Trips
Multifamily Housing: Low-Rite (ITE 220)	599	7.32	4,385	0.46	23%	63	77%	212	275	0.56	63%	211	37%	124	335
Coffee Shop: No Drive Through (ITE 936)	4.2	754.5	3,169	101.1	51%	217	49%	208	425	36.31	50%	76	50%	76	152
Pass-By/Internal Reduction			-1,585			-108			-104	-212		-38		-38	-76
Subtotal			*1,585*			*108*			*104*	*212*		*38*		*38*	*76*
Net New Trips			**5,969**			**171**		**316**	**487**			**249**		**162**	**411**

Source: DKS Associates, 2019
Notes:
[1] ksf = thousand square feet

Table K: 2009 Project Trip Generation

Land Use	Units /ksf[1]	Daily Trips		AM Peak Hour Trips						PM Peak Hour Trips					
					Enter		Exit		Total		Enter		Exit		Total
		Rate	Trips	Rate	%	Trips	%	Trips	Trips	Rate	%	Trips	%	Trips	Trips
Condo/Townhouse (ITE 230)	640	5.86	3,750	0.44	17%	48	83%	234	282	0.52	67%	223	33%	110	333
(-) Public Transit Use 10%			-370			-5		-23	-28			-22		-11	-33
Subtotal			3,380			43		210	253			201		99	300
Coffee Shop: No Drive Through (ITE 936)	4	201.5	806	101.1	51%	206	49%	198	405	36.31	50%	67	50%	48	144
Pass-By/Internal Reduction			-402			-103			-99	-202		-33		-24	-57
Subtotal			*1,208*			*103*			*99*	*202*		*33*		*24*	*37*
Net New Trips			**3,784**			**117**		**282**	**399**			**234**		**123**	**357**

Source: PHA Transportation Consultants, 2009
Notes:
[1] ksf = thousand square feet

*Automobile Level of Service.*The results of the seventeen intersections analyzed for the AM and PM peak hour are presented in Tables L and M. As shown in Tables L and M, with the addition of project generated trips, Study Intersection #8 (San Pablo Avenue and Linus Pauling Drive) operates unacceptably at LOS F during the AM peak hour under Existing Plus Project conditions. All other study intersections continue to operate acceptably during both the AM and PM peak hours with the addition of project traffic.

Table L: LOS Analysis - Existing and Existing Plus Project (Signalized)

#	Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project	
				V/C[1]	LOS[2]	V/C[1]	LOS[2]
1	Willow Avenue/ Parker Avenue & San Pablo Avenue (unincorporated County)	Signal	AM	0.73	C	0.77	C
			PM	0.55	A	0.57	A
2	Willow Avenue & Hawthorne Drive (City of Hercules)	Signal	AM	0.58	A	0.59	A
			PM	0.55	A	0.57	A
3	Willow Avenue & I-80 SB Off-Ramp (Caltrans)	Signal	AM	0.68	B	0.68	B
			PM	0.40	A	0.41	A
4	Willow Avenue & I-80 NB On-/Off-Ramps (Caltrans)	Signal	AM	0.59	A	0.59	A
			PM	0.42	A	0.58	A
7	San Pablo Avenue & Victoria Crescent (City of Hercules)	Signal	AM	0.48	A	0.49	A
			PM	0.39	A	0.40	A
11	San Pablo Avenue & John Muir Parkway (City of Hercules, RRS)	Signal	AM	0.76	C	0.82	D
			PM	0.83	D	0.84	D
12	San Pablo Avenue & Market Hill (City of Hercules, RRS)	Signal	AM	0.43	A	0.47	A
			PM	0.41	A	0.44	A
13	San Pablo Avenue & Sycamore Avenue (City of Hercules, RRS)	Signal	AM	0.68	B	0.73	C
			PM	0.63	B	0.66	B
15	San Pablo Avenue & Hercules Avenue (City of Hercules, RRS)	Signal	AM	0.73	C	0.75	C
			PM	0.61	B	0.62	B
16	Willow Avenue & Sycamore Avenue (City of Hercules, RRS)	Signal	AM	0.58	A	0.55	A
			PM	0.54	A	0.62	B

Source: DKS Associates (2019).
Bold signifies unacceptable operations. Shading signifies a significant impact.
[1] V/C = Volume/Capacity
[2] LOS = Level of Service

Table M: LOS Analysis - Existing and Existing Plus Project (Unsignalized)

#	Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project	
				Delay[2]	LOS[3]	Delay[2]	LOS[3]
5	Willow Avenue & Canterbury/ Viewpointe Boulevard (City of Hercules)	AWSC	AM	21.9	C	21.9	C
			PM	13.3	B	13.3	B
6	Willow Avenue & SR-4 WB Off-Ramp (Caltrans)	AWSC	AM	14.6	B	14.6	B
			PM	11.9	B	11.9	B
8	San Pablo Avenue & Linus Pauling Drive (City of Hercules)	TWSC	AM	**49.0**	**E**	**>300**	**F**
			PM	21.0	C	**119.2**	**E**
9	San Pablo Avenue & Future Project Driveway (City of Hercules)	TWSC	AM	N/A	N/A	10.1	B
			PM	N/A	N/A	10.6	B
10	John Muir Parkway & Alfred Nobel Drive (City of Hercules, RRS)	TWSC	AM	13.7	B	13.7	B
			PM	16.9	C	16.9	C
14	San Pablo Avenue & Tsushima Street (City of Hercules, RRS)	TWSC	AM	20.5	C	21.8	C
			PM	10.4	B	10.5	B
17	Willow Avenue & I-80 NB Off-Ramp/SR-4 EB On-Ramp (Caltrans)	AWSC	AM	9.9	A	10.1	B
			PM	10.1	B	10.6	B

Source: DKS Associates (2019).
Bold signifies unacceptable operations. Shading signifies a significant impact.
[1] AWSC = All-way stop control; TWSC = Two-way stop control
[2] Delay is measured in as average delay (AWSC/Signalizes) and worst approach delay (TWSC) (seconds per vehicle).
[3] LOS = Level of Service

*Background Conditions***.**n this scenario, background traffic volumes for the study intersections were identified by adding the trips generated by nearby approved, but not yet completed /occupied projects to the existing volumes of the study intersections. This scenario includes seven approved development projects that have the potential to impact the traffic conditions within the study area and the study intersections. These projects are currently under construction or will be constructed in the next few years. A description of the seven projects included in the Background Conditions analysis is provided in the TIA. For this analysis, it is assumed that the transportation network under the Background Conditions and the Existing Conditions would remain mostly the same. The intersection of San Pablo Avenue and Tsushima Street (Study Intersection #14) would be signalized and have left-turn lane along the southbound and eastbound approaches as part of the Sycamore Crossing development. All other intersection operations would remain the same.

The results of the seventeen intersections analyzed for the AM and PM peak hour, under Background Conditions, are presented in Tables N and O. As shown in Tables N and O, with the addition of project generated trips, the following intersections are expected to operate unacceptably:

- Study Intersection 6 (Willow Avenue & SR-4 WB Off-Ramp) would operate unacceptably at LOS F during both the AM and PM peak hours under Background Plus Project conditions.

- Study Intersection 8 (San Pablo Avenue and Linus Pauling Drive) would operate unacceptably at LOS F during both the AM and PM peak hours under Background Plus Project conditions.

The intersection of Willow Avenue & SR-4 WB off-ramp was already operating at LOS F under Background Conditions and no increase in delay would occur with the addition of project traffic. Therefore, the impact at this intersection would be less than significant.

Study Intersection 8 would become deficient with the addition of project trips; therefore, the impact at this intersection would be potentially significant. As described above, the San Pablo Avenue and Linus Pauling Drive intersection would be signalized consistent with the mitigation identified in the 2009 EIR. With implementation of this mitigation, the impact at this intersection would be reduced to less than significant. All other study intersections continue to operate acceptably during both the AM and PM peak hours with the addition of project traffic.

Table N: LOS Analysis - Background and Background Plus Project (Signalized)

#	Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project	
				V/C[1]	LOS[2]	V/C[1]	LOS[2]
1	Willow Avenue/ Parker Avenue & San Pablo Avenue (unincorporated County)	Signal	AM	0.77	C	0.81	D
			PM	0.60	A	0.62	B
2	Willow Avenue & Hawthorne Drive (City of Hercules)	Signal	AM	0.58	A	0.59	A
			PM	0.40	A	0.41	A
3	Willow Avenue & I-80 SB Off-Ramp (Caltrans)	Signal	AM	0.68	B	0.68	B
			PM	0.42	A	0.47	A
4	Willow Avenue & I-80 NB On-/Off-Ramps (Caltrans)	Signal	AM	0.60	A	0.59	A
			PM	0.58	A	0.58	A
7	San Pablo Avenue & Victoria Crescent (City of Hercules)	Signal	AM	0.48	A	0.49	A
			PM	0.39	A	0.43	A
11	San Pablo Avenue & John Muir Parkway (City of Hercules, RRS)	Signal	AM	0.87	D	0.95	E
			PM	0.94	E	0.96	E
12	San Pablo Avenue & Market Hill (City of Hercules, RRS)	Signal	AM	0.46	A	0.50	A
			PM	0.47	A	0.50	A
13	San Pablo Avenue & Sycamore Avenue (City of Hercules, RRS)	Signal	AM	0.90	D	0.96	E
			PM	0.93	E	0.95	E
14	San Pablo Avenue & Tsushima Street (City of Hercules, RRS)	Signal	AM	0.66	B	0.68	B
			PM	0.63	B	0.70	B
15	San Pablo Avenue & Hercules Avenue (City of Hercules, RRS)	Signal	AM	0.77	C	0.79	C
			PM	0.65	B	0.66	B
16	Willow Avenue & Sycamore Avenue (City of Hercules, RRS)	Signal	AM	0.68	B	0.69	B
			PM	0.64	B	0.65	B

Source: DKS Associates (2019).
Bold signifies unacceptable operations. Shading signifies a significant impact.
[1] V/C = Volume/Capacity
[2] LOS = Level of Service

Table O: LOS Analysis - Background and Background Plus Project (Unsignalized)

#	Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project	
				Delay[2]	LOS[3]	Delay[2]	LOS[3]
5	Willow Avenue & Canterbury/ Viewpointe Boulevard (City of Hercules)	AWSC	AM	25.0	C	25.0	C
			PM	14.7	B	14.7	B
6	Willow Avenue & SR-4 WB Off-Ramp (Caltrans)	AWSC	AM	**140.2**	**F**	**140.2**	**F**
			PM	**72.0**	**F**	**72.0**	**F**
8	San Pablo Avenue & Linus Pauling Drive (City of Hercules)	TWSC	AM	**81.6**	**F**	**>300**	**F**
			PM	30.2	D	**169.5**	**F**
9	San Pablo Avenue & Future Project Driveway (City of Hercules)	TWSC	AM	N/A	N/A	11.3	B
			PM	N/A	N/A	12.6	B
10	John Muir Parkway & Alfred Nobel Drive (City of Hercules, RRS)	TWSC	AM	13.0	B	13.8	B
			PM	14.4	B	16.0	C
17	Willow Avenue & I-80 NB Off-Ramp/SR-4 EB On-Ramp (Caltrans)	AWSC	AM	28.6	D	33.2	D
			PM	24.2	C	31.9	D

Source: DKS Associates (2019).
Bold signifies unacceptable operations. Shading signifies a significant impact.
[1] AWSC = All-way stop control; TWSC = Two-way stop control
[2] Delay is measured in as average delay (AWSC/Signalizes) and worst approach delay (TWSC) (seconds per vehicle).
[3] LOS = Level of Service

*Cumulative (Year 2040) Conditions.*The potential impacts to the transportation system were evaluated for the Cumulative Year 2040 Condition using development assumptions presented in the City of Hercules Circulation Element, adopted in March 2018. Projected peak hour traffic volumes were derived from the Contra Costa County Transportation Authority (CCTA) Travel Demand Model and adjusted to meet local and use expectations. The model used in the Circulation Element assumed a level of development at the project site. As a result, project trips are already included under Cumulative Conditions. In order to analyze the level of impact due to the 2019 Project, project trips were subtracted from Cumulative Conditions to represent baseline conditions with the forecast model as prepared for the General Plan Circulation Element representing Cumulative Plus Project Conditions.

In addition to the changes at the intersection of San Pablo Avenue and Tsushima Street identified in the Background Condition, the following changes to the roadway network were identified in the City of Hercules Circulation Element:

- Sycamore Avenue between Willow Avenue and San Pablo Avenue (Study Intersections #13 and #15) will be widened from a six-lane to a seven-lane cross section. The widening would extent the existing lane configuration storage lengths with the westbound left-turn lane at the Willow Avenue/Sycamore Avenue intersection extended to 300 feet, and the traffic signals at the San

Pablo Avenue/Sycamore Avenue and Willow Avenue/Sycamore Avenue intersections would be optimized.

- The Willow Avenue/I-80/SR-4 ramps intersection (Study Intersection #17) would be signalized, a 300-foot westbound right-turn pocket from Willow Avenue onto SR-4 eastbound would be installed, and the Willow Avenue eastbound left-turn lane to the SR-4 eastbound on-ramp would be extended to 300 feet. These improvements would occur in coordination with the removal and relocation of the existing eastbound SR_4 ramps at Willow Avenue.

- A second right-turn lane would be provided from northbound San Pablo Avenue to eastbound John Muir Parkway (Study Intersection #11). The second right-turn lane would be extended along the PNR frontage (along Market Hall) to the San Pablo Avenue/PNR Driveway intersection. Eastbound John Muir Parkway would be widened to four lanes from San Pablo Avenue to the SR-4 and I-80 ramps. This widened segment of John Muir Parkway would allow the two northbound San Pablo Avenue right-turn lanes to have exclusive receiving lanes that serve the I-80 westbound on-ramp (this would also require widening the I-80 westbound on-ramp from one to two lanes).

- The San Pablo Avenue and Linus Pauling Drive intersection (Study Intersection #8) would be signalized.

According to the City of Hercules, the measures described above are planned and expected to be funded and constructed by 2040, regardless of whether the 2019 Project received approval from the City. Therefore, the improvements listed above are assumed in the Cumulative and Cumulative Plus Project Conditions.

Tables P and Q present the Cumulative 2040 and Cumulative 2040 Plus Project delays and LOS for the study intersections. With the improvements identified above, the following intersections are expected to operate unacceptably under Cumulative and Cumulative Plus Project Conditions:

- Study Intersection #1 (Willow Avenue and San Pablo Avenue) would operate unacceptably at LOS E in the AM peak hour under Cumulative 2040 Conditions and at LOS F in the AM peak hour under Cumulative Plus Project Conditions.

- Study Intersection #15 (San Pablo Avenue and Hercules Avenue) would operate unacceptably (LOS F) in the AM peak hour under Cumulative 2040 Conditions and Cumulative Plus Project Conditions.

- Study Intersection #17 (Willow Avenue and I-80 NB Off-Ramp/SR-4 EB On-Ramp) would operate unacceptably (LOS E) in the PM peak hour under Cumulative 2040 Conditions and Cumulative Plus Project Conditions.

All other study intersections continue to operate acceptably during both the AM and PM peak hours under Cumulative and Cumulative Plus Project conditions. The three intersections identified above would operate unacceptably with and without the 2019 Project; therefore, the 2019 Project would have a less than significant impact on transportation under Cumulative Conditions.

Table P: LOS Analysis - Cumulative and Cumulative Plus Project (Signalized)

#	Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project	
				V/C[1]	LOS[2]	V/C[1]	LOS[2]
1	Willow Avenue/ Parker Avenue & San Pablo Avenue (unincorporated County)	Signal	AM	0.97	E	1.01	F
			PM	0.60	A	0.61	B
2	Willow Avenue & Hawthorne Drive (City of Hercules)	Signal	AM	0.59	A	0.65	B
			PM	0.40	A	0.47	A
3	Willow Avenue & I-80 SB Off-Ramp (Caltrans)	Signal	AM	0.68	B	0.68	B
			PM	0.53	A	0.53	A
4	Willow Avenue & I-80 NB On-/Off-Ramps (Caltrans)	Signal	AM	0.60	A	0.59	A
			PM	0.69	B	0.68	B
5	Willow Avenue & Canterbury/ Viewpointe Boulevard (City of Hercules)	Signal	AM	0.51	A	0.50	A
			PM	0.46	A	0.46	A
6	Willow Avenue & SR-4 WB Off-Ramp (Caltrans)	Signal	AM	0.73	C	0.73	C
			PM	0.69	B	0.69	B
7	San Pablo Avenue & Victoria Crescent (City of Hercules)	Signal	AM	0.49	A	0.50	A
			PM	0.39	A	0.40	A
8	San Pablo Avenue & Linus Pauling Drive (City of Hercules)	Signal	AM	0.63	B	0.67	B
			PM	0.54	A	0.56	A
11	San Pablo Avenue & John Muir Parkway (City of Hercules, RRS)	Signal	AM	0.87	D	0.95	E
			PM	0.88	D	0.93	E
12	San Pablo Avenue & Market Hill (City of Hercules, RRS)	Signal	AM	0.46	A	0.50	A
			PM	0.50	A	0.53	A
13	San Pablo Avenue & Sycamore Avenue (City of Hercules, RRS)	Signal	AM	0.96	E	0.96	E
			PM	0.81	D	0.88	D
14	San Pablo Avenue & Tsushima Street (City of Hercules, RRS)	Signal	AM	093	E	0.95	E
			PM	0.92	E	0.93	E
15	San Pablo Avenue & Hercules Avenue (City of Hercules, RRS)	Signal	AM	**1.10**	**F**	**1.12**	**F**
			PM	0.64	B	0.64	B
16	Willow Avenue & Sycamore Avenue (City of Hercules, RRS)	Signal	AM	0.68	B	0.69	B
			PM	0.64	B	0.65	B

Source: DKS Associates (2019).
Bold signifies unacceptable operations. Shading signifies a significant impact.
[1] V/C = Volume/Capacity
[2] LOS = Level of Service

Table Q: LOS Analysis - Cumulative and Cumulative Plus Project (Unsignalized)

#	Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project	
				Delay[2]	LOS[3]	Delay[2]	LOS[3]
9	San Pablo Avenue & Future Project Driveway (City of Hercules)	TWSC	AM	N/A	N/A	11.4	B
			PM	N/A	N/A	12.6	B
10	John Muir Parkway & Alfred Nobel Drive (City of Hercules, RRS)	TWSC	AM	18.1	C	19.3	C
			PM	28.4	D	31.9	D
17	Willow Avenue & I-80 NB Off-Ramp/SR-4 EB On-Ramp (Caltrans)	AWSC	AM	28.6	D	33.2	D
			PM	**37.5**	**E**	**48.7**	**E**

Source: DKS Associates (2019).
Bold signifies unacceptable operations. Shading signifies a significant impact.
[1] AWSC = All-way stop control; TWSC = Two-way stop control
[2] Delay is measured in as average delay (AWSC/Signalizes) and worst approach delay (TWSC) (seconds per vehicle).
[3] LOS = Level of Service

The analysis provided in the TIA matches the methodology used in the 2009 EIR, consistent with the Hill Town Development Agreement. The updated analysis did not identify any new significant impacts or mitigation measures that were not previously identified in the 2009 EIR.

1.17.1.2 Conflict with CEQA Guidelines Section 15064.3, subdivision (b)

The City has not adopted a threshold of significance for vehicle miles traveled (VMT). However, consistent with CEQA Guidelines, Section 15064.3, subdivision (b), the 2019 Project is presumed to cause a less than significant transportation impact as the project site is located less than 0.5 mile from the Hercules Transit Center, which provides regional and local transit access.

1.17.1.3 Design Features

The 2009 EIR determined that impacts related to design features would be less than significant, given that the 2009 Project would be required to comply with the City's design standards and the design standards in the *Uniform Fire Code.* As described in Attachment A, the design of project roadways would not be consistent with the City's roadway design standards (e.g., minimum speed limit of 25 miles per hour) due to the slope of project roads and angles of project intersections. Consistent with the Speed Limit Design Consideration Memorandum,[48] the posted speed limit for the proposed internal roadways would be set at the lowest recommended speed limit of 15 miles per hour (mph) and appropriate signage and traffic calming measures would be implemented in coordination with the City of Hercules Fire Department. In order to ensure continued compliance and safe operation, the future Homeowner's Association established as part of the Hill Town development would provide continued education to residents and enforcement of this posted speed. If needed, additional traffic calming measures could be implemented, with approval of the

[48] DKS Associates, 2020. Review of Speed Limit Requirement of the Hill Town Mixed Use Development P# 19153-000. February 3.

City of Hercules Fire Department to ensure adequate emergency vehicle access. As part of project approvals, the City would need to approve an ordinance allowing for this reduction in posted speed for project roadways.

Implementation of these project features would prevent hazardous design features and ensure adequate and safe access to the 2019 Project. Therefore, this impact would remain less than significant and the 2019 Project would not result in new or more severe impacts related to emergency access beyond those already identified in the 2009 EIR.

1.17.1.4 Emergency Access

The 2009 EIR determined that impacts related to emergency access would be less than significant, given that the future development at the Hill Town site must comply with all building, fire, and safety codes and that specific development plans would be subject to review and approval by the City of Hercules Public Works and Transportation Departments, the Building Division and the Fire Department. Required review by these departments would ensure that the proposed circulation system for the site would provide adequate emergency access. Like the 2009 Project, the 2019 Project would not cause any temporary or permanent roadway closures. In addition, through design review, emergency services would review proposed plans to ensure that emergency vehicle access and circulation is adequate. Therefore, this impact would remain less than significant and the 2019 Project would not result in new or more severe impacts related to emergency access beyond those already identified in the 2009 EIR.

1.17.2 Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2009 EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required. Mitigation Measures TRAF-1 and TRAF-5, would remain applicable to the 2019 Project, as follows:

MM TRAF-1: Contributions to the following intersection improvements shall be required of the proposed Hill Town and Sycamore Crossing developments:

San Pablo Avenue/Sycamore Avenue: Develop programs to encourage public transit use that will reduce vehicle trips by 10 percent for the intersection (Mitigation required under Sub-scenario A conditions).

San Pablo Avenue/Linus Pauling: Install traffic signals. Add left-turn and right-turn lanes into the site. Access driveway should provide two outbound lanes and one inbound lane (Mitigation required under Sub-scenario A and B conditions).

Willow Avenue/BART Replacement Parking E. Driveway: Install traffic signals plus widen Willow Avenue and add turn lanes on Willow Avenue. Coordinate mitigation with BART Replacement Parking improvement plan (Mitigation required under Sub-scenario A and Cumulative conditions).

Sycamore Avenue/S. Front Street: Install traffic signals. Add we westbound left-turn lane if a driveway from Sycamore Crossing is added to the intersection (Mitigation required under Sub-scenario A, Sub-scenario B, and Cumulative conditions).

The project applicant shall be required to pay a fair-share contribution to the cost of these improvements. Prior to approval of a Final Planned Development Plan or Tentative Map, the project proponents for the Hill Town and Sycamore Crossing projects shall retain qualified and licensed traffic engineering professional(s) to determine specific mitigation requirements for each project, mitigation timing, and fair-share allocation of these improvements.

MM TRAF-5: Contributions to the following intersection improvements shall be required of the proposed Hill Town and Sycamore Crossing developments:

San Pablo Avenue/John Muir: Develop programs to encourage public transit use that will reduce vehicle trips by 15 percent for the intersection. Relocate I-80 off-ramp/SR-4 on-ramp further east to shift traffic away from San Pablo Avenue. A 30 percent shift is assumed in the mitigation analysis. (Mitigation required under Cumulative conditions).

San Pablo Avenue/Sycamore Avenue: Develop programs to encourage public transit use that will reduce vehicle trips by 15 percent for the intersection. Relocate I-80 off-ramp/SR-4 on-ramp further east to shift traffic away from San Pablo Avenue. A 30 percent shift is assumed in the mitigation analysis. (Mitigation required under Cumulative conditions).

San Pablo Avenue/Linus Pauling: Install traffic signals. Add left-turn and right-turn lanes into the site. Access driveway should provide two outbound lanes and one inbound lane (Mitigation required under Sub-scenario A, Sub-scenario B, and Cumulative conditions).

Willow Avenue/BART Replacement Parking E. Driveway: Install traffic signals plus widen Willow Avenue and add turn lanes on Willow Avenue. Coordinate mitigation with BART Replacement Parking improvement plan (Mitigation required under Sub-scenario A and Cumulative conditions).

Sycamore Avenue/S. Front Street: Install traffic signals. Add we westbound left-turn lane if a driveway from Sycamore Crossing is added to the intersection (Mitigation required under Sub-scenario A, Sub-scenario B, and Cumulative conditions).

Sycamore Avenue/Palm: Install traffic signals. Coordinate mitigation with SR-4 ramp relocation project. (Mitigation required under Cumulative conditions).

Westbound SR-4 Off-ramp/Willow Avenue: Install traffic signals. Coordinate mitigation with SR-4 ramp relocation project. (Mitigation required under Cumulative conditions).

Willow Avenue/Palm: Install traffic signals. Widen Willow and Palm approaches to two lanes in each direction. Coordinate mitigation with SR-4 ramp relocation project. (Mitigation required under Cumulative conditions).

The project applicant shall be required to pay a fair-share contribution to the cost of these improvements. Prior to approval of a Final Planned Development Plan or Tentative Map, the project proponents for the Hill Town and Sycamore Crossing projects shall retain qualified and licensed traffic engineering professional(s) to determine specific mitigation requirements for each project, mitigation timing, and fair-share allocation of these improvements.

1.17.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. The results of the TIA prepared for the 2019 Project show that although the 2019 Project would generate more vehicle trips than the 2009 Project, transportation impacts would be the same as those identified in the 2009 EIR and implementation of Mitigation Measures TRA-1 and TRA-5 would continue to effectively reduce impacts related to noise. No additional mitigation is required.

1.18 TRIBAL CULTURAL RESOURCES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. 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:				
i. 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	☐	☐	☐	☒
ii. 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.	☐	☐	☐	☒

1.18.1 Discussion

Impacts to tribal resources were not specifically evaluated in the 2009 EIR, as this topic was not a required component of CEQA to be analyzed at the time the 2009 EIR was prepared and certified. However, impacts of the 2019 Project on potential archeological and human remains, which are considered both tribal and cultural resources, were evaluated and were identified as less than significant with implementation of the mitigation measures identified in the 2009 EIR. This topic, as it relates to tribal cultural resources, is further discussed below.

Assembly Bill 52 (AB 52), which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA environmental review process, and equates significant impacts to "tribal cultural resources" with significant environmental impacts.

The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should a tribe have previously requested to be on the agency's notification list. California Native American tribes must be recognized by the NAHC as traditionally and culturally affiliated with the project site, and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. If a project is determined to result in a significant impact on an identified tribal cultural resource, the consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

The NAHC in West Sacramento was contacted to review its Sacred Lands File to identify Native American sacred sites at or near the project site. Ms. Nancy Gonzalez-Lopez, NAHC Staff Services Analyst, stated in a letter dated September 20, 2019, that the result of the Sacred Lands File search was "negative." Ms. Gonzalez-Lopez also provided a list of six local Ohlone tribes, each of which the City contacted via letter on September 24, 2019 to notify these tribes of their opportunity to consult regarding the project's potential impacts to tribal cultural resources.

None of the tribes contacted for this project responded to the City's invitation to consult within the 30-day notification period, consistent with the requirements of PRC 21080.3.1. As such, tribal consultation for the 2019 Project was not conducted.

As discussed in Section 1.5, Cultural Resources, the NWIC records search and the archaeological survey completed for the project did not identify evidence of Native American archaeological deposits or ancestral remains. The 2019 Project would have no impact on known tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources, nor has the City identified a tribal cultural resource at the project site.

1.18.2 Applicable Mitigation

As described above, impacts to tribal resources were not specifically evaluated in the 2009 EIR; however, impacts of the 2019 Project on potential archeological and human remains, which are considered both tribal and cultural resources, were evaluated and were identified as less than significant with implementation of Mitigation Measures CUL-1 and CULT-3 identified in the 2009 EIR and listed in Section 1.5.2, Cultural Resources. These measures would apply to the 2019 Project. No new mitigation measures are required.

1.18.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to tribal cultural resources, the 2019 Project is identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with tribal cultural resources would be the same as those identified in the 2009 EIR and implementation of Mitigation Measures CUL-1 and CUL-3 would continue to effectively reduce impacts to cultural resources. No additional mitigation is required.

1.19 UTILITIES AND SERVICE SYSTEMS

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water 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?	☐	☐	☐	☒

1.19.1 Discussion

1.19.1.1 Construction of New or Expanded Utility Facilities

Water. As described in Attachment A, the 2019 Project would require extension of the water line from San Pablo Avenue and relocation of existing utilities including two large-diameter water lines owned by the East Bay Municipal Water District (EBMUD), a 6-inch diameter oil pipeline owned by Union Oil Company of California, utility lines associated with the on-site cell tower, underground PG&E high pressure gas line along San Pablo Avenue and two sets of dual 6-inch PG&E conduits located along the northern project boundary. The City must approve all connections to the water system, and new water meters need to be installed before water service can be activated. Compliance with the approval and permitting requirements of the City, which would be incorporated into the conditions of approval for the 2019 Project, would ensure that impacts associated with construction of new or expanded water utilities would be less than significant.

Wastewater. As discussed in Section 3.13, Utilities and Infrastructure, of the 2009 EIR, wastewater at the project site is collected primarily by sewer lines owned and maintained by the City of Hercules. The collected wastewater is treated at the Pinole/Hercules Wastewater Treatment Plant (WWTP), which serves the City of Hercules and the City of Pinole. The WWTP has a dry weather capacity of 4.06 million gallons per day (mgd) and a wet weather capacity of 10.3 mgd flow.[49] The Plant serves a combined population of approximately 40,000, with an average daily flow of 3.5

[49] Hercules, City of. City of Hercules website: https://www.ci.hercules.ca.us/government/planning/hercules-projects/waste-treatment-plant (accessed October 30, 2019)

million gallons.[50] In compliance with a mandate issued by the RWQCB, the cities of Hercules and Pinole are pursuing improvements to the WWTP that would provide secondary treatment for up to 20 mgd, allow up to 14.6 mgd of treated effluent to be discharged to the Rodeo deep water outfall and limit flows to the shallow water outfall to those in excess of 14.6 mgd. With anticipated improvements, it is anticipated that the WWTP would have sufficient capacity to serve the City, including wastewater that would be generated by the 2019 Project. Mitigation Measure USS-1, identified in the 2009 EIR, requires the applicant to obtain confirmation from the wastewater treatment provider that adequate capacity is available prior to development. This mitigation measure would apply to the 2019 Project and would ensure that impacts associated with the construction of new or expanded wastewater facilities would be less than significant.

As described in Attachment A, the 2019 Project would require the extension of main line utilities from San Pablo Avenue into the project site. Sewer would begin at an existing sewer line near the corner of John Muir Parkways and Alfred Nobel Drive and would be constructed in the public street within the project site. The 2019 Project would also include relocations of existing utilities on the site. As part of the connection process, the applicant would be required to pay all applicable service connection fees and charges and the City must approve all connections to the sewer system as part of their review of the project plans.

Stormwater. The 2009 EIR determined that potential impacts associated with construction of new or expanded stormmwater infrastructure would be less than significant. As described in Attachment A, the 2019 Project would include installation of on-site storm drains that would discharge to the various bioretention filters throughout the site and the outfall lines from these bioretention filters would discharge either directly to the unnamed ditch/swale at the south side of the project site to a storm drain line to be constructed in San Pablo Avenue. As described in Section 1.10, Hydrology and Water Quality, compliance with State and local requirements would ensure that impacts to the storm drain system would be less than significant for the 2019 Project. As such, the 2019 Project would not result in any new or more significant impacts than identified in the 2009 EIR.

Electric Power and Natural Gas. Electricity is provided by and distributed within the City by PG&E and by the Hercules Municipal Utility (HMU). HMU would serve the project site. Natural gas is provided and distributed to the project site by PG&E. The 2009 EIR determined that potential development associated with the 2009 Project would have a relatively small electric power and natural gas demand compared to the capacity of these utilities and could be supplied from existing power generation and natural gas infrastructure. As described in Section 6, Energy, of this Environmental Checklist, electricity demand associated with the 2019 Project would only be approximately 0.03 percent of Contra Costa County's total electricity demand and natural gas demand associated with the 2019 Project would be less than 0.01 percent of Contra Costa County's total natural gas demand. Therefore, as described in the 2009 EIR, the 2019 Project is not anticipated too require new or expanded electrical or natural gas facilities. This impact would remain less than significant.

[50] Pinole, City of. 2018. City of Pinole website: https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant (accessed October 31, 2019).

As described above, the 2019 Project would not result in new or more severe impacts related to expanded water, wastewater, stormwater, electric power natural gas, or telecommunication facilities beyond those analyzed in the 2009 EIR.

1.19.1.2 Water Supply

As discussed in Section 3.13, Utilities and Infrastructure, of the 2009 EIR, the City of Hercules receives water service from the EBMUD. EBMUD draws its primary water supply from the Mokelumne River in the Sierra Nevada Mountain Range and delivers its water through a system of reservoirs, aqueducts, water treatment plants, pumping plants and distribution facilities. The City of Hercules is serve by the 22.3-million gallon Mahoney Reservoir, located in the City of Pinole.

As required by the California Water Code, EMBUD is required to update and adopt an Urban Water Management Plan (UWMP) and submit a complete plan to the Department of Water Resources every five years. The UWMP provides an assessment of EBMUD's water supply and demand, an overview of the recycled water and conservation programs, compliance with the Water Conservation Act of 2009, and EBMUD's Water Shortage Contingency Plan.[51] The 2015 UWMP demand analysis includes information on potential future development as identified in the adopted general plans of the cities and counties in EBMUD's service area and on meetings with local planning agencies.[52] According to the EBMUD 2015 UWMP, with a combination of reductions in water use and acquisition of supplementation supplies, EBMUD can provide adequate water service through 2040 to meet customer demands.

The 2009 EIR determined that implementation of the 2009 Project would facilitate future land development and capital improvements and generate additional water demand. The 2019 Project would generate additional water demand to serve the multi-family residential and commercial uses on the project site. With approval of the Updated 2009 Redevelopment Plan, the project site was designated for Planned Commercial-Residential use under the City's General Plan and this land use was factored into EBMUD"s water demand projections in the 2015 UWMP. Therefore, water supply impacts associated with the 2019 Project would be less than significant.

Mitigation Measure USS-3, which requires project applicants to obtain a water supply assessment confirming the proposed development's water demand and documenting adequate supply, was identified in the 2009 EIR to reduce potential impacts to a less-than-significant level. This mitigation measure would apply to the 2019 Project. As such, impacts would related to water supply would be less than significant and the 2019 Project would not result in any new or more significant impacts than identified in the 2009 EIR.

1.19.1.3 Solid Waste

The California Integrated Waste Management Board estimates waste generation of 3 to 9 pounds per unit per day for multi-family development and approximately 2.5 pounds per 1,000 square feet

51 East Bay Municipal Utilities District, 2019. East Bay Municipal Utilities District website: https://www.ebmud.com/water/about-your-water/water-supply/urban-water-management-plan/ (accessed October 31, 2019).

52 East Bay Municipal Utilities District, 2016. 2015 Urban Water Management Plan. July.

per day for commercial/retail uses.[53] Using the most conservative rates, the 2019 Project would generate approximately 5,396 pounds (approximately 2.7 tons) of waste per day. This waste generation represents approximately 0.06 percent of the permitted daily throughput (4,330 tons/day) at the Potrero Hills Landfill.[54] The Potrero Hills Landfill has a remaining capacity of 13,872,000 cubic yards and is permitted to operate until 2048.[55] Additionally, the 2019 Project's solid waste contribution would be minimized by the provision of recycling and green waste collection service and compliance with the City's waste diversion requirements. As such, impacts would remain less than significant and the 2019 Project would not result in any new or more significant impacts than identified in the 2009 EIR.

1.19.2 Applicable Mitigation

As described in the 2009 EIR, impacts related to utilities and service systems were determined to be less than significant with implementation of Mitigation Measures USS-1 and USS-3. No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2009 EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required. Mitigation Measures USS-1 and USS-3, previously identified in the 2009 EIR, would remain applicable to the 2019 Project, as follows:

MM USS-1: Prior to the approval of any subsequent development projects within the proposed Redevelopment Project Area, a project applicant shall obtain confirmation from the wastewater treatment provider that adequate wastewater treatment capacity is available to serve such development. Such confirmation will be placed in the project file of all appropriate City Departments.

MM USS-3: Prior to development, proponents of projects subject to the requirements for water supply assessments shall be required to obtain a water supply assessment confirming the proposed development's water demand and documenting adequate supply.

1.19.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to utilities and service systems, the 2019 Project is identical to the 2009 Project and conditions on the project site have not changed considerably since preparation of the 2009 EIR. Therefore, impacts associated with utilities and service systems would be the same as those identified in the 2009 EIR and implementation of

[53] CalRecycle. Estimated Solid Waste Generation Rates Website: www2.calrecycle.ca.gov/WasteCharacterization/General/Rates, accessed April 22, 2019.

[54] CalRecycle, 2019. Facility/Site Summary Details: Potrero Hills Landfill (48-AA-0075). Website: https://www2.calrecycle.ca.gov/swfacilities/Directory/48-AA-0075 (accessed October 30 2019).

[55] Ibid.

Mitigation Measures USS-1 and USS-3 would continue to effectively reduce impacts related to utilities and service systems. No additional mitigation is required.

1.20 WILDFIRE

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
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?	☐	☐	☐	☒

1.20.1 Discussion

As previously discussed in Section 9 of this Environmental Checklist, Hazards and Hazardous Materials, the 2019 Project would be located in a highly developed urban area and is not located adjacent to wildland areas, and therefore the project is not expected to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, the 2019 Project would not result in new or more severe impacts related to wildfire than were identified in the 2009 EIR.

1.20.2 Applicable Mitigation

Impacts related to wildfire were determined to be less than significant and no mitigation measures were identified.

1.20.3 Conclusion

Based on the above analysis and discussion, no substantive revisions to the 2009 EIR are required, because no new significant impacts or impacts of substantially greater severity than those identified in the 2009 EIR would result from the 2019 Project. With regard to wildfire, the 2019 Project is identical to the 2009 Project and the project site is still located within a developed area with minimal wildfire risk. Impacts associated with wildfire would be less than significant and no mitigation would be required.

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APPENDIX 1

AIR QUALITY AND GREENHOUSE GAS EMISSIONS DATA

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Hill Town Development Project

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	192.00	Space	1.73	76,800.00	0
City Park	12.39	Acre	12.39	539,708.40	0
Condo/Townhouse	599.00	Dwelling Unit	30.04	599,000.00	1713
Strip Mall	4.00	1000sqft	0.09	4,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Hill Town Development Project - Bay Area AQMD Air District, Annual

Project Characteristics - CO2 intensity factor based on 5 year average (PG&E 2015)

Land Use - 44.25 acre site

Construction Phase - Construction of the Proposed Project is estimate to take approximately 24 to 36 months, beginning in April 2020 through April 2023.

Grading - Approximately 387,000 cubic yards of existing surface soils would be exported.

Vehicle Trips - Based on trip generation prepared for the proposed project.

Construction Off-road Equipment Mitigation - BAAQMD Basic Construction Mitigation Measures

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth

Energy Mitigation - The project would be consistent with California's 2019 Building Energy Efficiency Standards, which will take effect on January 1, 2020.

Water Mitigation - The Water Efficient Landscape Ordinance will reduce outdoor water use by 20 percent.

Waste Mitigation - The CalRecycle Waste Diversion and Recycling Mandate will reduce solid waste production by 25 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	320.00
tblGrading	MaterialExported	0.00	387,000.00
tblLandUse	LotAcreage	37.44	30.04
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	7.32
tblVehicleTrips	ST_TR	42.04	396.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	7.32
tblVehicleTrips	SU_TR	20.43	396.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	7.32
tblVehicleTrips	WD_TR	44.32	396.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.6581	11.3717	4.6866	0.0277	1.3261	0.1929	1.5190	0.4803	0.1794	0.6597	0.0000	2,624.5337	2,624.5337	0.2182	0.0000	2,629.9879
2021	0.5461	4.3793	4.4292	0.0145	0.7582	0.1294	0.8875	0.2046	0.1214	0.3260	0.0000	1,329.4456	1,329.4456	0.1107	0.0000	1,332.2129
2022	4.2853	0.1854	0.3142	6.5000e-004	0.0315	9.5500e-003	0.0410	8.3700e-003	8.9600e-003	0.0173	0.0000	57.6833	57.6833	9.0900e-003	0.0000	57.9105
Maximum	**4.2853**	**11.3717**	**4.6866**	**0.0277**	**1.3261**	**0.1929**	**1.5190**	**0.4803**	**0.1794**	**0.6597**	**0.0000**	**2,624.5337**	**2,624.5337**	**0.2182**	**0.0000**	**2,629.9879**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.6581	11.3717	4.6866	0.0277	0.9862	0.1929	1.1790	0.3224	0.1794	0.5018	0.0000	2,624.5332	2,624.5332	0.2182	0.0000	2,629.9875
2021	0.5461	4.3793	4.4292	0.0145	0.7582	0.1294	0.8875	0.2046	0.1214	0.3260	0.0000	1,329.4452	1,329.4452	0.1107	0.0000	1,332.2126
2022	4.2853	0.1854	0.3142	6.5000e-004	0.0315	9.5500e-003	0.0410	8.3700e-003	8.9600e-003	0.0173	0.0000	57.6833	57.6833	9.0900e-003	0.0000	57.9105
Maximum	**4.2853**	**11.3717**	**4.6866**	**0.0277**	**0.9862**	**0.1929**	**1.1790**	**0.3224**	**0.1794**	**0.5018**	**0.0000**	**2,624.5332**	**2,624.5332**	**0.2182**	**0.0000**	**2,629.9875**

Hill Town Development Project - Bay Area AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**16.07**	**0.00**	**13.89**	**22.78**	**0.00**	**15.74**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-6-2020**	**7-5-2020**	5.1252	5.1252
2	**7-6-2020**	**10-5-2020**	5.3299	5.3299
3	**10-6-2020**	**1-5-2021**	1.4852	1.4852
4	**1-6-2021**	**4-5-2021**	1.3212	1.3212
5	**4-6-2021**	**7-5-2021**	1.3170	1.3170
6	**7-6-2021**	**10-5-2021**	1.3326	1.3326
7	**10-6-2021**	**1-5-2022**	0.8882	0.8882
8	**1-6-2022**	**4-5-2022**	3.3850	3.3850
9	**4-6-2022**	**7-5-2022**	0.9528	0.9528
		Highest	5.3299	5.3299

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.3071	0.0832	6.3575	4.0200e-003		0.2967	0.2967		0.2967	0.2967	27.3082	18.4857	45.7939	0.0509	1.7900e-003	47.6003
Energy	0.0735	0.6280	0.2676	4.0100e-003		0.0508	0.0508		0.0508	0.0508	0.0000	1,184.1943	1,184.1943	0.0542	0.0217	1,192.0085
Mobile	1.4348	6.9482	15.5530	0.0545	4.6769	0.0496	4.7265	1.2553	0.0465	1.3018	0.0000	5,002.9675	5,002.9675	0.1887	0.0000	5,007.6851
Waste						0.0000	0.0000		0.0000	0.0000	57.0019	0.0000	57.0019	3.3687	0.0000	141.2198
Water						0.0000	0.0000		0.0000	0.0000	12.4756	52.3781	64.8537	1.2860	0.0312	106.3042
Total	**5.8154**	**7.6593**	**22.1781**	**0.0625**	**4.6769**	**0.3971**	**5.0740**	**1.2553**	**0.3939**	**1.6492**	**96.7857**	**6,258.0256**	**6,354.8113**	**4.9486**	**0.0547**	**6,494.8179**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9275	0.0720	4.4631	3.7000e-004		0.0263	0.0263		0.0263	0.0263	0.0000	31.1981	31.1981	7.4800e-003	4.4000e-004	31.5157
Energy	0.0670	0.5724	0.2439	3.6500e-003		0.0463	0.0463		0.0463	0.0463	0.0000	1,117.8875	1,117.8875	0.0528	0.0205	1,125.3043
Mobile	1.4015	6.7061	14.7930	0.0510	4.3542	0.0467	4.4008	1.1687	0.0437	1.2124	0.0000	4,685.7966	4,685.7966	0.1799	0.0000	4,690.2933
Waste						0.0000	0.0000		0.0000	0.0000	42.7514	0.0000	42.7514	2.5265	0.0000	105.9148
Water						0.0000	0.0000		0.0000	0.0000	12.4756	48.2494	60.7249	1.2856	0.0311	102.1438
Total	**4.3960**	**7.3505**	**19.5001**	**0.0550**	**4.3542**	**0.1192**	**4.4734**	**1.1687**	**0.1162**	**1.2849**	**55.2270**	**5,883.1315**	**5,938.3585**	**4.0523**	**0.0520**	**6,055.1719**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**24.41**	**4.03**	**12.08**	**11.95**	**6.90**	**69.98**	**11.84**	**6.90**	**70.49**	**22.09**	**42.94**	**5.99**	**6.55**	**18.11**	**4.81**	**6.77**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/6/2020	5/15/2020	5	30	
2	Grading	Grading	5/16/2020	8/28/2020	5	75	
3	Building Construction	Building Construction	8/29/2020	11/19/2021	5	320	
4	Paving	Paving	11/22/2021	2/4/2022	5	55	
5	Architectural Coating	Architectural Coating	2/7/2022	4/22/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 1.73

Residential Indoor: 1,212,975; Residential Outdoor: 404,325; Non-Residential Indoor: 6,000; Non-Residential Outdoor: 2,000; Striped Parking Area: 4,608 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	48,375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	691.00	166.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	138.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6363	0.3227	5.7000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	50.1460	50.1460	0.0162	0.0000	50.5515
Total	**0.0612**	**0.6363**	**0.3227**	**5.7000e-004**	**0.2710**	**0.0330**	**0.3040**	**0.1490**	**0.0303**	**0.1793**	**0.0000**	**50.1460**	**50.1460**	**0.0162**	**0.0000**	**50.5515**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	6.6300e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8692	1.8692	5.0000e-005	0.0000	1.8703
Total	**8.9000e-004**	**6.4000e-004**	**6.6300e-003**	**2.0000e-005**	**2.1300e-003**	**1.0000e-005**	**2.1500e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.8692**	**1.8692**	**5.0000e-005**	**0.0000**	**1.8703**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6363	0.3227	5.7000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	50.1460	50.1460	0.0162	0.0000	50.5514
Total	**0.0612**	**0.6363**	**0.3227**	**5.7000e-004**	**0.1220**	**0.0330**	**0.1549**	**0.0670**	**0.0303**	**0.0974**	**0.0000**	**50.1460**	**50.1460**	**0.0162**	**0.0000**	**50.5514**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.4000e-004	6.6300e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8692	1.8692	5.0000e-005	0.0000	1.8703
Total	**8.9000e-004**	**6.4000e-004**	**6.6300e-003**	**2.0000e-005**	**2.1300e-003**	**1.0000e-005**	**2.1500e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.8692**	**1.8692**	**5.0000e-005**	**0.0000**	**1.8703**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3471	0.0000	0.3471	0.1382	0.0000	0.1382	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1669	1.8824	1.1984	2.3300e-003		0.0815	0.0815		0.0750	0.0750	0.0000	204.3161	204.3161	0.0661	0.0000	205.9681
Total	**0.1669**	**1.8824**	**1.1984**	**2.3300e-003**	**0.3471**	**0.0815**	**0.4287**	**0.1382**	**0.0750**	**0.2132**	**0.0000**	**204.3161**	**204.3161**	**0.0661**	**0.0000**	**205.9681**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2019	7.0716	1.4211	0.0191	0.4085	0.0228	0.4313	0.1124	0.0218	0.1342	0.0000	1,853.6650	1,853.6650	0.0954	0.0000	1,856.0507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4900e-003	1.7800e-003	0.0184	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6100e-003	0.0000	5.1921	5.1921	1.3000e-004	0.0000	5.1953
Total	**0.2044**	**7.0734**	**1.4396**	**0.0192**	**0.4145**	**0.0229**	**0.4373**	**0.1139**	**0.0219**	**0.1358**	**0.0000**	**1,858.8571**	**1,858.8571**	**0.0956**	**0.0000**	**1,861.2460**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1562	0.0000	0.1562	0.0622	0.0000	0.0622	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1669	1.8824	1.1984	2.3300e-003		0.0815	0.0815		0.0750	0.0750	0.0000	204.3159	204.3159	0.0661	0.0000	205.9679
Total	**0.1669**	**1.8824**	**1.1984**	**2.3300e-003**	**0.1562**	**0.0815**	**0.2377**	**0.0622**	**0.0750**	**0.1372**	**0.0000**	**204.3159**	**204.3159**	**0.0661**	**0.0000**	**205.9679**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2019	7.0716	1.4211	0.0191	0.4085	0.0228	0.4313	0.1124	0.0218	0.1342	0.0000	1,853.6650	1,853.6650	0.0954	0.0000	1,856.0507
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4900e-003	1.7800e-003	0.0184	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6100e-003	0.0000	5.1921	5.1921	1.3000e-004	0.0000	5.1953
Total	**0.2044**	**7.0734**	**1.4396**	**0.0192**	**0.4145**	**0.0229**	**0.4373**	**0.1139**	**0.0219**	**0.1358**	**0.0000**	**1,858.8571**	**1,858.8571**	**0.0956**	**0.0000**	**1,861.2460**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0943	0.8538	0.7498	1.2000e-003		0.0497	0.0497		0.0467	0.0467	0.0000	103.0664	103.0664	0.0251	0.0000	103.6951
Total	**0.0943**	**0.8538**	**0.7498**	**1.2000e-003**		**0.0497**	**0.0497**		**0.0467**	**0.0467**	**0.0000**	**103.0664**	**103.0664**	**0.0251**	**0.0000**	**103.6951**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0286	0.8523	0.2143	2.0100e-003	0.0484	4.1600e-003	0.0526	0.0140	3.9800e-003	0.0180	0.0000	193.4060	193.4060	9.9800e-003	0.0000	193.6554
Worker	0.1019	0.0729	0.7552	2.3500e-003	0.2430	1.6400e-003	0.2446	0.0646	1.5100e-003	0.0662	0.0000	212.8728	212.8728	5.1500e-003	0.0000	213.0017
Total	**0.1305**	**0.9252**	**0.9695**	**4.3600e-003**	**0.2914**	**5.8000e-003**	**0.2972**	**0.0787**	**5.4900e-003**	**0.0841**	**0.0000**	**406.2788**	**406.2788**	**0.0151**	**0.0000**	**406.6570**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0943	0.8538	0.7498	1.2000e-003		0.0497	0.0497		0.0467	0.0467	0.0000	103.0663	103.0663	0.0251	0.0000	103.6949
Total	**0.0943**	**0.8538**	**0.7498**	**1.2000e-003**		**0.0497**	**0.0497**		**0.0467**	**0.0467**	**0.0000**	**103.0663**	**103.0663**	**0.0251**	**0.0000**	**103.6949**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0286	0.8523	0.2143	2.0100e-003	0.0484	4.1600e-003	0.0526	0.0140	3.9800e-003	0.0180	0.0000	193.4060	193.4060	9.9800e-003	0.0000	193.6554
Worker	0.1019	0.0729	0.7552	2.3500e-003	0.2430	1.6400e-003	0.2446	0.0646	1.5100e-003	0.0662	0.0000	212.8728	212.8728	5.1500e-003	0.0000	213.0017
Total	**0.1305**	**0.9252**	**0.9695**	**4.3600e-003**	**0.2914**	**5.8000e-003**	**0.2972**	**0.0787**	**5.4900e-003**	**0.0841**	**0.0000**	**406.2788**	**406.2788**	**0.0151**	**0.0000**	**406.6570**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547
Total	**0.2196**	**2.0134**	**1.9144**	**3.1100e-003**		**0.1107**	**0.1107**		**0.1041**	**0.1041**	**0.0000**	**267.5411**	**267.5411**	**0.0646**	**0.0000**	**269.1547**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0609	2.0026	0.4999	5.1700e-003	0.1257	4.3600e-003	0.1301	0.0364	4.1700e-003	0.0405	0.0000	497.2402	497.2402	0.0244	0.0000	497.8513
Worker	0.2449	0.1690	1.7901	5.8900e-003	0.6307	4.1300e-003	0.6348	0.1678	3.8000e-003	0.1716	0.0000	533.1262	533.1262	0.0120	0.0000	533.4250
Total	**0.3058**	**2.1716**	**2.2899**	**0.0111**	**0.7564**	**8.4900e-003**	**0.7649**	**0.2041**	**7.9700e-003**	**0.2121**	**0.0000**	**1,030.3663**	**1,030.3663**	**0.0364**	**0.0000**	**1,031.2763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544
Total	**0.2196**	**2.0134**	**1.9144**	**3.1100e-003**		**0.1107**	**0.1107**		**0.1041**	**0.1041**	**0.0000**	**267.5407**	**267.5407**	**0.0646**	**0.0000**	**269.1544**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0609	2.0026	0.4999	5.1700e-003	0.1257	4.3600e-003	0.1301	0.0364	4.1700e-003	0.0405	0.0000	497.2402	497.2402	0.0244	0.0000	497.8513
Worker	0.2449	0.1690	1.7901	5.8900e-003	0.6307	4.1300e-003	0.6348	0.1678	3.8000e-003	0.1716	0.0000	533.1262	533.1262	0.0120	0.0000	533.4250
Total	**0.3058**	**2.1716**	**2.2899**	**0.0111**	**0.7564**	**8.4900e-003**	**0.7649**	**0.2041**	**7.9700e-003**	**0.2121**	**0.0000**	**1,030.3663**	**1,030.3663**	**0.0364**	**0.0000**	**1,031.2763**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0188	0.1938	0.2198	3.4000e-004		0.0102	0.0102		9.3500e-003	9.3500e-003	0.0000	30.0352	30.0352	9.7100e-003	0.0000	30.2781
Paving	1.2400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0201**	**0.1938**	**0.2198**	**3.4000e-004**		**0.0102**	**0.0102**		**9.3500e-003**	**9.3500e-003**	**0.0000**	**30.0352**	**30.0352**	**9.7100e-003**	**0.0000**	**30.2781**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.0500e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5030	1.5030	3.0000e-005	0.0000	1.5038
Total	**6.9000e-004**	**4.8000e-004**	**5.0500e-003**	**2.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5030**	**1.5030**	**3.0000e-005**	**0.0000**	**1.5038**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0188	0.1938	0.2198	3.4000e-004		0.0102	0.0102		9.3500e-003	9.3500e-003	0.0000	30.0352	30.0352	9.7100e-003	0.0000	30.2780
Paving	1.2400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0201**	**0.1938**	**0.2198**	**3.4000e-004**		**0.0102**	**0.0102**		**9.3500e-003**	**9.3500e-003**	**0.0000**	**30.0352**	**30.0352**	**9.7100e-003**	**0.0000**	**30.2780**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.0500e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5030	1.5030	3.0000e-005	0.0000	1.5038
Total	**6.9000e-004**	**4.8000e-004**	**5.0500e-003**	**2.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5030**	**1.5030**	**3.0000e-005**	**0.0000**	**1.5038**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0138	0.1391	0.1823	2.9000e-004		7.1000e-003	7.1000e-003		6.5300e-003	6.5300e-003	0.0000	25.0345	25.0345	8.1000e-003	0.0000	25.2369
Paving	1.0300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0148**	**0.1391**	**0.1823**	**2.9000e-004**		**7.1000e-003**	**7.1000e-003**		**6.5300e-003**	**6.5300e-003**	**0.0000**	**25.0345**	**25.0345**	**8.1000e-003**	**0.0000**	**25.2369**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.6000e-004	3.8600e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2066	1.2066	3.0000e-005	0.0000	1.2072
Total	**5.4000e-004**	**3.6000e-004**	**3.8600e-003**	**1.0000e-005**	**1.4800e-003**	**1.0000e-005**	**1.4900e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.2066**	**1.2066**	**3.0000e-005**	**0.0000**	**1.2072**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0138	0.1391	0.1823	2.9000e-004		7.1000e-003	7.1000e-003		6.5300e-003	6.5300e-003	0.0000	25.0344	25.0344	8.1000e-003	0.0000	25.2368
Paving	1.0300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0148**	**0.1391**	**0.1823**	**2.9000e-004**		**7.1000e-003**	**7.1000e-003**		**6.5300e-003**	**6.5300e-003**	**0.0000**	**25.0344**	**25.0344**	**8.1000e-003**	**0.0000**	**25.2368**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.6000e-004	3.8600e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2066	1.2066	3.0000e-005	0.0000	1.2072
Total	**5.4000e-004**	**3.6000e-004**	**3.8600e-003**	**1.0000e-005**	**1.4800e-003**	**1.0000e-005**	**1.4900e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.2066**	**1.2066**	**3.0000e-005**	**0.0000**	**1.2072**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.2535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.0387	0.0499	8.0000e-005		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	7.0215	7.0215	4.6000e-004	0.0000	7.0329
Total	**4.2591**	**0.0387**	**0.0499**	**8.0000e-005**		**2.2500e-003**	**2.2500e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.0215**	**7.0215**	**4.6000e-004**	**0.0000**	**7.0329**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	7.2000e-003	0.0782	2.7000e-004	0.0300	1.9000e-004	0.0302	7.9800e-003	1.8000e-004	8.1500e-003	0.0000	24.4209	24.4209	5.1000e-004	0.0000	24.4336
Total	**0.0109**	**7.2000e-003**	**0.0782**	**2.7000e-004**	**0.0300**	**1.9000e-004**	**0.0302**	**7.9800e-003**	**1.8000e-004**	**8.1500e-003**	**0.0000**	**24.4209**	**24.4209**	**5.1000e-004**	**0.0000**	**24.4336**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.2535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.0387	0.0499	8.0000e-005		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	7.0214	7.0214	4.6000e-004	0.0000	7.0329
Total	**4.2591**	**0.0387**	**0.0499**	**8.0000e-005**		**2.2500e-003**	**2.2500e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.0214**	**7.0214**	**4.6000e-004**	**0.0000**	**7.0329**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	7.2000e-003	0.0782	2.7000e-004	0.0300	1.9000e-004	0.0302	7.9800e-003	1.8000e-004	8.1500e-003	0.0000	24.4209	24.4209	5.1000e-004	0.0000	24.4336
Total	**0.0109**	**7.2000e-003**	**0.0782**	**2.7000e-004**	**0.0300**	**1.9000e-004**	**0.0302**	**7.9800e-003**	**1.8000e-004**	**8.1500e-003**	**0.0000**	**24.4209**	**24.4209**	**5.1000e-004**	**0.0000**	**24.4336**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4015	6.7061	14.7930	0.0510	4.3542	0.0467	4.4008	1.1687	0.0437	1.2124	0.0000	4,685.7966	4,685.7966	0.1799	0.0000	4,690.2933
Unmitigated	1.4348	6.9482	15.5530	0.0545	4.6769	0.0496	4.7265	1.2553	0.0465	1.3018	0.0000	5,002.9675	5,002.9675	0.1887	0.0000	5,007.6851

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	4,384.68	4,384.68	4384.68	10,126,889	9,428,134
Parking Lot	0.00	0.00	0.00		
Strip Mall	1,584.00	1,584.00	1584.00	2,439,412	2,271,093
Total	5,968.68	5,968.68	5,968.68	12,566,301	11,699,226

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Condo/Townhouse	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Strip Mall	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	455.0343	455.0343	0.0401	8.3000e-003	458.5121
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	456.9950	456.9950	0.0403	8.3400e-003	460.4878
NaturalGas Mitigated	0.0670	0.5724	0.2439	3.6500e-003		0.0463	0.0463		0.0463	0.0463	0.0000	662.8532	662.8532	0.0127	0.0122	666.7922
NaturalGas Unmitigated	0.0735	0.6280	0.2676	4.0100e-003		0.0508	0.0508		0.0508	0.0508	0.0000	727.1993	727.1993	0.0139	0.0133	731.5207

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.36088e+007	0.0734	0.6271	0.2668	4.0000e-003		0.0507	0.0507		0.0507	0.0507	0.0000	726.2174	726.2174	0.0139	0.0133	730.5330
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	18400	1.0000e-004	9.0000e-004	7.6000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9819	0.9819	2.0000e-005	2.0000e-005	0.9877
Total		**0.0735**	**0.6280**	**0.2676**	**4.0100e-003**		**0.0508**	**0.0508**		**0.0508**	**0.0508**	**0.0000**	**727.1993**	**727.1993**	**0.0139**	**0.0133**	**731.5207**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.24046e+007	0.0669	0.5716	0.2432	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	661.9545	661.9545	0.0127	0.0121	665.8882
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	16840	9.0000e-005	8.3000e-004	6.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8987	0.8987	2.0000e-005	2.0000e-005	0.9040
Total		**0.0670**	**0.5724**	**0.2439**	**3.6500e-003**		**0.0463**	**0.0463**		**0.0463**	**0.0463**	**0.0000**	**662.8532**	**662.8532**	**0.0127**	**0.0122**	**666.7922**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.99538e+006	446.7341	0.0394	8.1500e-003	450.1485
Parking Lot	26880	4.0089	3.5000e-004	7.0000e-005	4.0396
Strip Mall	41920	6.2520	5.5000e-004	1.1000e-004	6.2998
Total		**456.9950**	**0.0403**	**8.3300e-003**	**460.4878**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	2.98313e+006	444.9070	0.0392	8.1200e-003	448.3074
Parking Lot	26880	4.0089	3.5000e-004	7.0000e-005	4.0396
Strip Mall	41024	6.1184	5.4000e-004	1.1000e-004	6.1651
Total		**455.0343**	**0.0401**	**8.3000e-003**	**458.5121**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.9275	0.0720	4.4631	3.7000e-004		0.0263	0.0263		0.0263	0.0263	0.0000	31.1981	31.1981	7.4800e-003	4.4000e-004	31.5157
Unmitigated	4.3071	0.0832	6.3575	4.0200e-003		0.2967	0.2967		0.2967	0.2967	27.3082	18.4857	45.7939	0.0509	1.7900e-003	47.6003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3651					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.3821	0.0318	1.9031	3.7900e-003		0.2721	0.2721		0.2721	0.2721	27.3082	11.2168	38.5250	0.0439	1.7900e-003	40.1559
Landscaping	0.1347	0.0514	4.4544	2.4000e-004		0.0246	0.0246		0.0246	0.0246	0.0000	7.2689	7.2689	7.0200e-003	0.0000	7.4444
Total	**4.3072**	**0.0832**	**6.3575**	**4.0300e-003**		**0.2967**	**0.2967**		**0.2967**	**0.2967**	**27.3082**	**18.4857**	**45.7939**	**0.0509**	**1.7900e-003**	**47.6003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.3651					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.4200e-003	0.0207	8.7900e-003	1.3000e-004		1.6700e-003	1.6700e-003		1.6700e-003	1.6700e-003	0.0000	23.9292	23.9292	4.6000e-004	4.4000e-004	24.0714
Landscaping	0.1347	0.0514	4.4544	2.4000e-004		0.0246	0.0246		0.0246	0.0246	0.0000	7.2689	7.2689	7.0200e-003	0.0000	7.4444
Total	**2.9275**	**0.0720**	**4.4631**	**3.7000e-004**		**0.0263**	**0.0263**		**0.0263**	**0.0263**	**0.0000**	**31.1981**	**31.1981**	**7.4800e-003**	**4.4000e-004**	**31.5157**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	60.7249	1.2856	0.0311	102.1438
Unmitigated	64.8537	1.2860	0.0312	106.3042

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 14.7625	7.7059	6.8000e-004	1.4000e-004	7.7648
Condo/Townhouse	39.0273 / 24.6041	56.7199	1.2756	0.0308	97.7996
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.29629 / 0.181597	0.4279	9.6800e-003	2.3000e-004	0.7398
Total		**64.8537**	**1.2860**	**0.0312**	**106.3042**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 11.81	6.1647	5.4000e-004	1.1000e-004	6.2119
Condo/Townhouse	39.0273 / 19.6833	54.1512	1.2754	0.0308	95.2113
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.29629 / 0.145278	0.4089	9.6800e-003	2.3000e-004	0.7207
Total		**60.7249**	**1.2856**	**0.0311**	**102.1438**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.7514	2.5265	0.0000	105.9148
Unmitigated	57.0019	3.3687	0.0000	141.2198

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.07	0.2172	0.0128	0.0000	0.5381
Condo/Townhouse	275.54	55.9321	3.3055	0.0000	138.5695
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	4.2	0.8526	0.0504	0.0000	2.1122
Total		**57.0019**	**3.3687**	**0.0000**	**141.2198**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.8025	0.1629	9.6300e-003	0.0000	0.4036
Condo/Townhouse	206.655	41.9491	2.4791	0.0000	103.9271
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	3.15	0.6394	0.0378	0.0000	1.5841
Total		**42.7514**	**2.5265**	**0.0000**	**105.9148**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hill Town Development Project

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	192.00	Space	1.73	76,800.00	0
City Park	12.39	Acre	12.39	539,708.40	0
Condo/Townhouse	599.00	Dwelling Unit	30.04	599,000.00	1713
Strip Mall	4.00	1000sqft	0.09	4,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Hill Town Development Project - Bay Area AQMD Air District, Summer

Project Characteristics - CO2 intensity factor based on 5 year average (PG&E 2015)

Land Use - 44.25 acre site

Construction Phase - Construction of the Proposed Project is estimate to take approximately 24 to 36 months, beginning in April 2020 through April 2023.

Grading - Approximately 387,000 cubic yards of existing surface soils would be exported.

Vehicle Trips - Based on trip generation prepared for the proposed project.

Construction Off-road Equipment Mitigation - BAAQMD Basic Construction Mitigation Measures

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth

Energy Mitigation - The project would be consistent with California's 2019 Building Energy Efficiency Standards, which will take effect on January 1, 2020.

Water Mitigation - The Water Efficient Landscape Ordinance will reduce outdoor water use by 20 percent.

Waste Mitigation - The CalRecycle Waste Diversion and Recycling Mandate will reduce solid waste production by 25 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	320.00
tblGrading	MaterialExported	0.00	387,000.00
tblLandUse	LotAcreage	37.44	30.04
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	7.32
tblVehicleTrips	ST_TR	42.04	396.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	7.32
tblVehicleTrips	SU_TR	20.43	396.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	7.32
tblVehicleTrips	WD_TR	44.32	396.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	9.8419	234.9964	69.2142	0.5768	20.6891	2.7789	23.4680	9.9699	2.5788	11.9924	0.0000	61,045.5593	61,045.5593	4.6916	0.0000	61,162.8478
2021	4.6376	35.8852	37.5936	0.1271	6.8001	1.0315	7.8316	1.8291	0.9697	2.7988	0.0000	12,822.5160	12,822.5160	0.9635	0.0000	12,846.6029
2022	155.2896	11.1502	14.9200	0.0240	1.1336	0.5687	1.2223	0.3007	0.5232	0.5559	0.0000	2,322.0946	2,322.0946	0.7164	0.0000	2,340.0043
Maximum	**155.2896**	**234.9964**	**69.2142**	**0.5768**	**20.6891**	**2.7789**	**23.4680**	**9.9699**	**2.5788**	**11.9924**	**0.0000**	**61,045.5593**	**61,045.5593**	**4.6916**	**0.0000**	**61,162.8478**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	9.8419	234.9964	69.2142	0.5768	15.5979	2.7789	18.3768	4.7896	2.5788	7.3684	0.0000	61,045.5593	61,045.5593	4.6916	0.0000	61,162.8478
2021	4.6376	35.8852	37.5936	0.1271	6.8001	1.0315	7.8316	1.8291	0.9697	2.7988	0.0000	12,822.5160	12,822.5160	0.9635	0.0000	12,846.6029
2022	155.2896	11.1502	14.9200	0.0240	1.1336	0.5687	1.2223	0.3007	0.5232	0.5559	0.0000	2,322.0946	2,322.0946	0.7164	0.0000	2,340.0043
Maximum	**155.2896**	**234.9964**	**69.2142**	**0.5768**	**15.5979**	**2.7789**	**18.3768**	**4.7896**	**2.5788**	**7.3684**	**0.0000**	**61,045.5593**	**61,045.5593**	**4.6916**	**0.0000**	**61,162.8478**

Hill Town Development Project - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**17.79**	**0.00**	**15.65**	**42.81**	**0.00**	**30.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	263.1309	6.0168	374.9630	0.6297		46.4787	46.4787		46.4787	46.4787	5,014.1369	2,308.8520	7,322.9889	6.9475	0.3544	7,602.2927
Energy	0.4026	3.4410	1.4663	0.0220		0.2782	0.2782		0.2782	0.2782		4,392.3290	4,392.3290	0.0842	0.0805	4,418.4304
Mobile	9.0645	37.0965	88.2692	0.3169	26.6974	0.2721	26.9695	7.1428	0.2547	7.3975		32,056.6732	32,056.6732	1.1456		32,085.3143
Total	**272.5980**	**46.5542**	**464.6984**	**0.9685**	**26.6974**	**47.0289**	**73.7263**	**7.1428**	**47.0116**	**54.1544**	**5,014.1369**	**38,757.8543**	**43,771.9912**	**8.1774**	**0.4349**	**44,106.0374**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.2202	4.2803	51.0713	0.0263		0.5733	0.5733		0.5733	0.5733	0.0000	4,824.6520	4,824.6520	0.1767	0.0868	4,854.9426
Energy	0.3670	3.1365	1.3366	0.0200		0.2536	0.2536		0.2536	0.2536		4,003.6742	4,003.6742	0.0767	0.0734	4,027.4660
Mobile	8.8778	35.8440	83.5565	0.2967	24.8553	0.2557	25.1110	6.6499	0.2394	6.8893		30,021.2870	30,021.2870	1.0896		30,048.5263
Total	**26.4650**	**43.2608**	**135.9643**	**0.3430**	**24.8553**	**1.0826**	**25.9379**	**6.6499**	**1.0663**	**7.7162**	**0.0000**	**38,849.6132**	**38,849.6132**	**1.3430**	**0.1602**	**38,930.9350**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**90.29**	**7.07**	**70.74**	**64.58**	**6.90**	**97.70**	**64.82**	**6.90**	**97.73**	**85.75**	**100.00**	**-0.24**	**11.25**	**83.58**	**63.16**	**11.73**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/6/2020	5/15/2020	5	30	
2	Grading	Grading	5/16/2020	8/28/2020	5	75	
3	Building Construction	Building Construction	8/29/2020	11/19/2021	5	320	
4	Paving	Paving	11/22/2021	2/4/2022	5	55	
5	Architectural Coating	Architectural Coating	2/7/2022	4/22/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 1.73

Residential Indoor: 1,212,975; Residential Outdoor: 404,325; Non-Residential Indoor: 6,000; Non-Residential Outdoor: 2,000; Striped Parking Area: 4,608 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	48,375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	691.00	166.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	138.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0626	0.0379	0.4830	1.4800e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		147.7398	147.7398	3.5600e-003		147.8288
Total	**0.0626**	**0.0379**	**0.4830**	**1.4800e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**147.7398**	**147.7398**	**3.5600e-003**		**147.8288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**8.1298**	**2.1974**	**10.3272**	**4.4688**	**2.0216**	**6.4904**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0626	0.0379	0.4830	1.4800e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		147.7398	147.7398	3.5600e-003		147.8288
Total	**0.0626**	**0.0379**	**0.4830**	**1.4800e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**147.7398**	**147.7398**	**3.5600e-003**		**147.8288**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2569	0.0000	9.2569	3.6849	0.0000	3.6849			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**9.2569**	**2.1739**	**11.4308**	**3.6849**	**2.0000**	**5.6849**		**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3223	184.7568	36.7193	0.5132	11.2680	0.6040	11.8719	3.0878	0.5778	3.6656		54,875.5387	54,875.5387	2.7452		54,944.1679
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0695	0.0421	0.5366	1.6500e-003	0.1643	1.0600e-003	0.1654	0.0436	9.8000e-004	0.0446		164.1553	164.1553	3.9600e-003		164.2542
Total	**5.3918**	**184.7989**	**37.2559**	**0.5148**	**11.4323**	**0.6050**	**12.0373**	**3.1314**	**0.5788**	**3.7102**		**55,039.6940**	**55,039.6940**	**2.7491**		**55,108.4221**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1656	0.0000	4.1656	1.6582	0.0000	1.6582			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**4.1656**	**2.1739**	**6.3395**	**1.6582**	**2.0000**	**3.6582**	**0.0000**	**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3223	184.7568	36.7193	0.5132	11.2680	0.6040	11.8719	3.0878	0.5778	3.6656		54,875.5387	54,875.5387	2.7452		54,944.1679
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0695	0.0421	0.5366	1.6500e-003	0.1643	1.0600e-003	0.1654	0.0436	9.8000e-004	0.0446		164.1553	164.1553	3.9600e-003		164.2542
Total	**5.3918**	**184.7989**	**37.2559**	**0.5148**	**11.4323**	**0.6050**	**12.0373**	**3.1314**	**0.5788**	**3.7102**		**55,039.6940**	**55,039.6940**	**2.7491**		**55,108.4221**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6293	18.9178	4.5126	0.0457	1.1236	0.0927	1.2164	0.3235	0.0887	0.4122		4,842.3536	4,842.3536	0.2385		4,848.3152
Worker	2.4018	1.4541	18.5398	0.0569	5.6764	0.0368	5.7132	1.5057	0.0339	1.5395		5,671.5660	5,671.5660	0.1367		5,674.9827
Total	**3.0311**	**20.3718**	**23.0524**	**0.1026**	**6.8000**	**0.1295**	**6.9295**	**1.8291**	**0.1226**	**1.9517**		**10,513.9196**	**10,513.9196**	**0.3751**		**10,523.2978**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6293	18.9178	4.5126	0.0457	1.1236	0.0927	1.2164	0.3235	0.0887	0.4122		4,842.3536	4,842.3536	0.2385		4,848.3152
Worker	2.4018	1.4541	18.5398	0.0569	5.6764	0.0368	5.7132	1.5057	0.0339	1.5395		5,671.5660	5,671.5660	0.1367		5,674.9827
Total	**3.0311**	**20.3718**	**23.0524**	**0.1026**	**6.8000**	**0.1295**	**6.9295**	**1.8291**	**0.1226**	**1.9517**		**10,513.9196**	**10,513.9196**	**0.3751**		**10,523.2978**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5148	17.1546	4.0452	0.0453	1.1237	0.0372	1.1608	0.3235	0.0355	0.3590		4,796.7118	4,796.7118	0.2251		4,802.3400
Worker	2.2218	1.2985	16.9732	0.0549	5.6764	0.0357	5.7121	1.5057	0.0329	1.5385		5,472.4403	5,472.4403	0.1223		5,475.4986
Total	**2.7366**	**18.4531**	**21.0184**	**0.1002**	**6.8001**	**0.0729**	**6.8730**	**1.8291**	**0.0684**	**1.8976**		**10,269.1521**	**10,269.1521**	**0.3475**		**10,277.8386**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5148	17.1546	4.0452	0.0453	1.1237	0.0372	1.1608	0.3235	0.0355	0.3590		4,796.7118	4,796.7118	0.2251		4,802.3400
Worker	2.2218	1.2985	16.9732	0.0549	5.6764	0.0357	5.7121	1.5057	0.0329	1.5385		5,472.4403	5,472.4403	0.1223		5,475.4986
Total	**2.7366**	**18.4531**	**21.0184**	**0.1002**	**6.8001**	**0.0729**	**6.8730**	**1.8291**	**0.0684**	**1.8976**		**10,269.1521**	**10,269.1521**	**0.3475**		**10,277.8386**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3380**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3380**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1852**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1852**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	154.6720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**154.8766**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4130	0.2326	3.1234	0.0106	1.1336	6.9700e-003	1.1406	0.3007	6.4200e-003	0.3071		1,052.7956	1,052.7956	0.0219		1,053.3441
Total	**0.4130**	**0.2326**	**3.1234**	**0.0106**	**1.1336**	**6.9700e-003**	**1.1406**	**0.3007**	**6.4200e-003**	**0.3071**		**1,052.7956**	**1,052.7956**	**0.0219**		**1,053.3441**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	154.6720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**154.8766**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4130	0.2326	3.1234	0.0106	1.1336	6.9700e-003	1.1406	0.3007	6.4200e-003	0.3071		1,052.7956	1,052.7956	0.0219		1,053.3441
Total	**0.4130**	**0.2326**	**3.1234**	**0.0106**	**1.1336**	**6.9700e-003**	**1.1406**	**0.3007**	**6.4200e-003**	**0.3071**		**1,052.7956**	**1,052.7956**	**0.0219**		**1,053.3441**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.8778	35.8440	83.5565	0.2967	24.8553	0.2557	25.1110	6.6499	0.2394	6.8893		30,021.2870	30,021.2870	1.0896		30,048.5263
Unmitigated	9.0645	37.0965	88.2692	0.3169	26.6974	0.2721	26.9695	7.1428	0.2547	7.3975		32,056.6732	32,056.6732	1.1456		32,085.3143

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	4,384.68	4,384.68	4384.68	10,126,889	9,428,134
Parking Lot	0.00	0.00	0.00		
Strip Mall	1,584.00	1,584.00	1584.00	2,439,412	2,271,093
Total	5,968.68	5,968.68	5,968.68	12,566,301	11,699,226

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Condo/Townhouse	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Strip Mall	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3670	3.1365	1.3366	0.0200		0.2536	0.2536		0.2536	0.2536		4,003.6742	4,003.6742	0.0767	0.0734	4,027.4660
NaturalGas Unmitigated	0.4026	3.4410	1.4663	0.0220		0.2782	0.2782		0.2782	0.2782		4,392.3290	4,392.3290	0.0842	0.0805	4,418.4304

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	37284.4	0.4021	3.4360	1.4621	0.0219		0.2778	0.2778		0.2778	0.2778		4,386.3983	4,386.3983	0.0841	0.0804	4,412.4645
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	50.411	5.4000e-004	4.9400e-003	4.1500e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004		5.9307	5.9307	1.1000e-004	1.1000e-004	5.9659
Total		**0.4026**	**3.4410**	**1.4663**	**0.0220**		**0.2782**	**0.2782**		**0.2782**	**0.2782**		**4,392.3290**	**4,392.3290**	**0.0842**	**0.0805**	**4,418.4304**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	33.9851	0.3665	3.1320	1.3328	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.2463	3,998.2463	0.0766	0.0733	4,022.0059
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.046137	5.0000e-004	4.5200e-003	3.8000e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4279	5.4279	1.0000e-004	1.0000e-004	5.4601
Total		**0.3670**	**3.1365**	**1.3366**	**0.0200**		**0.2536**	**0.2536**		**0.2536**	**0.2536**		**4,003.6742**	**4,003.6742**	**0.0767**	**0.0734**	**4,027.4660**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.2202	4.2803	51.0713	0.0263		0.5733	0.5733		0.5733	0.5733	0.0000	4,824.6520	4,824.6520	0.1767	0.0868	4,854.9426
Unmitigated	263.1309	6.0168	374.9630	0.6297		46.4787	46.4787		46.4787	46.4787	5,014.1369	2,308.8520	7,322.9889	6.9475	0.3544	7,602.2927

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	12.9592					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	246.3448	5.4460	325.4702	0.6270		46.2053	46.2053		46.2053	46.2053	5,014.1369	2,219.8235	7,233.9604	6.8616	0.3544	7,511.1151
Landscaping	1.4962	0.5707	49.4928	2.6100e-003		0.2734	0.2734		0.2734	0.2734		89.0285	89.0285	0.0860		91.1776
Total	**263.1309**	**6.0168**	**374.9629**	**0.6297**		**46.4787**	**46.4787**		**46.4787**	**46.4787**	**5,014.1369**	**2,308.8520**	**7,322.9889**	**6.9476**	**0.3544**	**7,602.2927**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	12.9592					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4341	3.7096	1.5785	0.0237		0.2999	0.2999		0.2999	0.2999	0.0000	4,735.6235	4,735.6235	0.0908	0.0868	4,763.7650
Landscaping	1.4962	0.5707	49.4928	2.6100e-003		0.2734	0.2734		0.2734	0.2734		89.0285	89.0285	0.0860		91.1776
Total	**17.2202**	**4.2803**	**51.0713**	**0.0263**		**0.5733**	**0.5733**		**0.5733**	**0.5733**	**0.0000**	**4,824.6520**	**4,824.6520**	**0.1767**	**0.0868**	**4,854.9426**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hill Town Development Project

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	192.00	Space	1.73	76,800.00	0
City Park	12.39	Acre	12.39	539,708.40	0
Condo/Townhouse	599.00	Dwelling Unit	30.04	599,000.00	1713
Strip Mall	4.00	1000sqft	0.09	4,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Hill Town Development Project - Bay Area AQMD Air District, Winter

Project Characteristics - CO2 intensity factor based on 5 year average (PG&E 2015)

Land Use - 44.25 acre site

Construction Phase - Construction of the Proposed Project is estimate to take approximately 24 to 36 months, beginning in April 2020 through April 2023.

Grading - Approximately 387,000 cubic yards of existing surface soils would be exported.

Vehicle Trips - Based on trip generation prepared for the proposed project.

Construction Off-road Equipment Mitigation - BAAQMD Basic Construction Mitigation Measures

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth

Energy Mitigation - The project would be consistent with California's 2019 Building Energy Efficiency Standards, which will take effect on January 1, 2020.

Water Mitigation - The Water Efficient Landscape Ordinance will reduce outdoor water use by 20 percent.

Waste Mitigation - The CalRecycle Waste Diversion and Recycling Mandate will reduce solid waste production by 25 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	320.00
tblGrading	MaterialExported	0.00	387,000.00
tblLandUse	LotAcreage	37.44	30.04
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	7.32
tblVehicleTrips	ST_TR	42.04	396.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	7.32
tblVehicleTrips	SU_TR	20.43	396.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	7.32
tblVehicleTrips	WD_TR	44.32	396.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	9.9916	239.5402	71.9923	0.5681	20.6891	2.7894	23.4786	9.9699	2.5889	11.9924	0.0000	60,110.9139	60,110.9139	4.8293	0.0000	60,231.6456
2021	4.8000	36.3381	37.1047	0.1216	6.8001	1.0328	7.8329	1.8291	0.9710	2.8001	0.0000	12,269.4727	12,269.4727	0.9736	0.0000	12,293.8138
2022	155.3153	11.1561	14.8968	0.0239	1.1336	0.5687	1.2223	0.3007	0.5232	0.5559	0.0000	2,313.0791	2,313.0791	0.7162	0.0000	2,330.9846
Maximum	**155.3153**	**239.5402**	**71.9923**	**0.5681**	**20.6891**	**2.7894**	**23.4786**	**9.9699**	**2.5889**	**11.9924**	**0.0000**	**60,110.9139**	**60,110.9139**	**4.8293**	**0.0000**	**60,231.6456**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	9.9916	239.5402	71.9923	0.5681	15.5979	2.7894	18.3873	4.7896	2.5889	7.3784	0.0000	60,110.9139	60,110.9139	4.8293	0.0000	60,231.6456
2021	4.8000	36.3381	37.1047	0.1216	6.8001	1.0328	7.8329	1.8291	0.9710	2.8001	0.0000	12,269.4727	12,269.4727	0.9736	0.0000	12,293.8138
2022	155.3153	11.1561	14.8968	0.0239	1.1336	0.5687	1.2223	0.3007	0.5232	0.5559	0.0000	2,313.0791	2,313.0791	0.7162	0.0000	2,330.9846
Maximum	**155.3153**	**239.5402**	**71.9923**	**0.5681**	**15.5979**	**2.7894**	**18.3873**	**4.7896**	**2.5889**	**7.3784**	**0.0000**	**60,110.9139**	**60,110.9139**	**4.8293**	**0.0000**	**60,231.6456**

Hill Town Development Project - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**17.79**	**0.00**	**15.65**	**42.81**	**0.00**	**30.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	263.1309	6.0168	374.9630	0.6297		46.4787	46.4787		46.4787	46.4787	5,014.1369	2,308.8520	7,322.9889	6.9475	0.3544	7,602.2927
Energy	0.4026	3.4410	1.4663	0.0220		0.2782	0.2782		0.2782	0.2782		4,392.3290	4,392.3290	0.0842	0.0805	4,418.4304
Mobile	7.8160	38.8034	89.8226	0.2966	26.6974	0.2743	26.9717	7.1428	0.2568	7.3996		30,006.7972	30,006.7972	1.1758		30,036.1917
Total	**271.3496**	**48.2611**	**466.2518**	**0.9482**	**26.6974**	**47.0311**	**73.7285**	**7.1428**	**47.0137**	**54.1565**	**5,014.1369**	**36,707.9782**	**41,722.1151**	**8.2075**	**0.4349**	**42,056.9149**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	17.2202	4.2803	51.0713	0.0263		0.5733	0.5733		0.5733	0.5733	0.0000	4,824.6520	4,824.6520	0.1767	0.0868	4,854.9426
Energy	0.3670	3.1365	1.3366	0.0200		0.2536	0.2536		0.2536	0.2536		4,003.6742	4,003.6742	0.0767	0.0734	4,027.4660
Mobile	7.6322	37.4206	85.6300	0.2777	24.8553	0.2579	25.1132	6.6499	0.2415	6.8914		28,097.3099	28,097.3099	1.1223		28,125.3670
Total	**25.2194**	**44.8374**	**138.0379**	**0.3240**	**24.8553**	**1.0848**	**25.9401**	**6.6499**	**1.0684**	**7.7183**	**0.0000**	**36,925.6361**	**36,925.6361**	**1.3758**	**0.1602**	**37,007.7756**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**90.71**	**7.09**	**70.39**	**65.83**	**6.90**	**97.69**	**64.82**	**6.90**	**97.73**	**85.75**	**100.00**	**-0.59**	**11.50**	**83.24**	**63.16**	**12.01**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/6/2020	5/15/2020	5	30	
2	Grading	Grading	5/16/2020	8/28/2020	5	75	
3	Building Construction	Building Construction	8/29/2020	11/19/2021	5	320	
4	Paving	Paving	11/22/2021	2/4/2022	5	55	
5	Architectural Coating	Architectural Coating	2/7/2022	4/22/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 1.73

Residential Indoor: 1,212,975; Residential Outdoor: 404,325; Non-Residential Indoor: 6,000; Non-Residential Outdoor: 2,000; Striped Parking Area: 4,608 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	48,375.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	691.00	166.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	138.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0662	0.0468	0.4536	1.3700e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		136.0918	136.0918	3.3300e-003		136.1750
Total	**0.0662**	**0.0468**	**0.4536**	**1.3700e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**136.0918**	**136.0918**	**3.3300e-003**		**136.1750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**8.1298**	**2.1974**	**10.3272**	**4.4688**	**2.0216**	**6.4904**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0662	0.0468	0.4536	1.3700e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		136.0918	136.0918	3.3300e-003		136.1750
Total	**0.0662**	**0.0468**	**0.4536**	**1.3700e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**136.0918**	**136.0918**	**3.3300e-003**		**136.1750**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2569	0.0000	9.2569	3.6849	0.0000	3.6849			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**9.2569**	**2.1739**	**11.4308**	**3.6849**	**2.0000**	**5.6849**		**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4679	189.2907	39.5300	0.5045	11.2680	0.6145	11.8824	3.0878	0.5879	3.6757		53,953.8356	53,953.8356	2.8832		54,025.9143
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0735	0.0520	0.5040	1.5200e-003	0.1643	1.0600e-003	0.1654	0.0436	9.8000e-004	0.0446		151.2131	151.2131	3.7000e-003		151.3055
Total	**5.5415**	**189.3427**	**40.0340**	**0.5061**	**11.4323**	**0.6155**	**12.0478**	**3.1314**	**0.5889**	**3.7203**		**54,105.0487**	**54,105.0487**	**2.8869**		**54,177.2199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1656	0.0000	4.1656	1.6582	0.0000	1.6582			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257
Total	**4.4501**	**50.1975**	**31.9583**	**0.0620**	**4.1656**	**2.1739**	**6.3395**	**1.6582**	**2.0000**	**3.6582**	**0.0000**	**6,005.8653**	**6,005.8653**	**1.9424**		**6,054.4257**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4679	189.2907	39.5300	0.5045	11.2680	0.6145	11.8824	3.0878	0.5879	3.6757		53,953.8356	53,953.8356	2.8832		54,025.9143
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0735	0.0520	0.5040	1.5200e-003	0.1643	1.0600e-003	0.1654	0.0436	9.8000e-004	0.0446		151.2131	151.2131	3.7000e-003		151.3055
Total	**5.5415**	**189.3427**	**40.0340**	**0.5061**	**11.4323**	**0.6155**	**12.0478**	**3.1314**	**0.5889**	**3.7203**		**54,105.0487**	**54,105.0487**	**2.8869**		**54,177.2199**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6622	19.1294	5.1624	0.0446	1.1236	0.0943	1.2179	0.3235	0.0902	0.4137		4,719.8322	4,719.8322	0.2579		4,726.2805
Worker	2.5404	1.7966	17.4124	0.0524	5.6764	0.0368	5.7132	1.5057	0.0339	1.5395		5,224.4120	5,224.4120	0.1278		5,227.6066
Total	**3.2027**	**20.9259**	**22.5748**	**0.0970**	**6.8000**	**0.1311**	**6.9311**	**1.8291**	**0.1241**	**1.9532**		**9,944.2442**	**9,944.2442**	**0.3857**		**9,953.8870**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6622	19.1294	5.1624	0.0446	1.1236	0.0943	1.2179	0.3235	0.0902	0.4137		4,719.8322	4,719.8322	0.2579		4,726.2805
Worker	2.5404	1.7966	17.4124	0.0524	5.6764	0.0368	5.7132	1.5057	0.0339	1.5395		5,224.4120	5,224.4120	0.1278		5,227.6066
Total	**3.2027**	**20.9259**	**22.5748**	**0.0970**	**6.8000**	**0.1311**	**6.9311**	**1.8291**	**0.1241**	**1.9532**		**9,944.2442**	**9,944.2442**	**0.3857**		**9,953.8870**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5453	17.3022	4.6496	0.0441	1.1237	0.0385	1.1621	0.3235	0.0368	0.3602		4,675.0106	4,675.0106	0.2436		4,681.0997
Worker	2.3537	1.6039	15.8800	0.0506	5.6764	0.0357	5.7121	1.5057	0.0329	1.5385		5,041.0982	5,041.0982	0.1141		5,043.9499
Total	**2.8990**	**18.9060**	**20.5295**	**0.0947**	**6.8001**	**0.0742**	**6.8743**	**1.8291**	**0.0697**	**1.8988**		**9,716.1088**	**9,716.1088**	**0.3576**		**9,725.0496**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5453	17.3022	4.6496	0.0441	1.1237	0.0385	1.1621	0.3235	0.0368	0.3602		4,675.0106	4,675.0106	0.2436		4,681.0997
Worker	2.3537	1.6039	15.8800	0.0506	5.6764	0.0357	5.7121	1.5057	0.0329	1.5385		5,041.0982	5,041.0982	0.1141		5,043.9499
Total	**2.8990**	**18.9060**	**20.5295**	**0.0947**	**6.8001**	**0.0742**	**6.8743**	**1.8291**	**0.0697**	**1.8988**		**9,716.1088**	**9,716.1088**	**0.3576**		**9,725.0496**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3380**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3380**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1852**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1852**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	154.6720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**154.8766**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4387	0.2872	2.9102	9.7300e-003	1.1336	6.9700e-003	1.1406	0.3007	6.4200e-003	0.3071		969.8530	969.8530	0.0204		970.3629
Total	**0.4387**	**0.2872**	**2.9102**	**9.7300e-003**	**1.1336**	**6.9700e-003**	**1.1406**	**0.3007**	**6.4200e-003**	**0.3071**		**969.8530**	**969.8530**	**0.0204**		**970.3629**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	154.6720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**154.8766**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4387	0.2872	2.9102	9.7300e-003	1.1336	6.9700e-003	1.1406	0.3007	6.4200e-003	0.3071		969.8530	969.8530	0.0204		970.3629
Total	**0.4387**	**0.2872**	**2.9102**	**9.7300e-003**	**1.1336**	**6.9700e-003**	**1.1406**	**0.3007**	**6.4200e-003**	**0.3071**		**969.8530**	**969.8530**	**0.0204**		**970.3629**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.6322	37.4206	85.6300	0.2777	24.8553	0.2579	25.1132	6.6499	0.2415	6.8914		28,097.3099	28,097.3099	1.1223		28,125.3670
Unmitigated	7.8160	38.8034	89.8226	0.2966	26.6974	0.2743	26.9717	7.1428	0.2568	7.3996		30,006.7972	30,006.7972	1.1758		30,036.1917

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Condo/Townhouse	4,384.68	4,384.68	4384.68	10,126,889	9,428,134
Parking Lot	0.00	0.00	0.00		
Strip Mall	1,584.00	1,584.00	1584.00	2,439,412	2,271,093
Total	5,968.68	5,968.68	5,968.68	12,566,301	11,699,226

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Condo/Townhouse	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Strip Mall	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3670	3.1365	1.3366	0.0200		0.2536	0.2536		0.2536	0.2536		4,003.6742	4,003.6742	0.0767	0.0734	4,027.4660
NaturalGas Unmitigated	0.4026	3.4410	1.4663	0.0220		0.2782	0.2782		0.2782	0.2782		4,392.3290	4,392.3290	0.0842	0.0805	4,418.4304

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	37284.4	0.4021	3.4360	1.4621	0.0219		0.2778	0.2778		0.2778	0.2778		4,386.3983	4,386.3983	0.0841	0.0804	4,412.4645
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	50.411	5.4000e-004	4.9400e-003	4.1500e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004		5.9307	5.9307	1.1000e-004	1.1000e-004	5.9659
Total		**0.4026**	**3.4410**	**1.4663**	**0.0220**		**0.2782**	**0.2782**		**0.2782**	**0.2782**		**4,392.3290**	**4,392.3290**	**0.0842**	**0.0805**	**4,418.4304**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	33.9851	0.3665	3.1320	1.3328	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.2463	3,998.2463	0.0766	0.0733	4,022.0059
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.046137	5.0000e-004	4.5200e-003	3.8000e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004		5.4279	5.4279	1.0000e-004	1.0000e-004	5.4601
Total		**0.3670**	**3.1365**	**1.3366**	**0.0200**		**0.2536**	**0.2536**		**0.2536**	**0.2536**		**4,003.6742**	**4,003.6742**	**0.0767**	**0.0734**	**4,027.4660**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.2202	4.2803	51.0713	0.0263		0.5733	0.5733		0.5733	0.5733	0.0000	4,824.6520	4,824.6520	0.1767	0.0868	4,854.9426
Unmitigated	263.1309	6.0168	374.9630	0.6297		46.4787	46.4787		46.4787	46.4787	5,014.1369	2,308.8520	7,322.9889	6.9475	0.3544	7,602.2927

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	12.9592					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	246.3448	5.4460	325.4702	0.6270		46.2053	46.2053		46.2053	46.2053	5,014.1369	2,219.8235	7,233.9604	6.8616	0.3544	7,511.1151
Landscaping	1.4962	0.5707	49.4928	2.6100e-003		0.2734	0.2734		0.2734	0.2734		89.0285	89.0285	0.0860		91.1776
Total	**263.1309**	**6.0168**	**374.9629**	**0.6297**		**46.4787**	**46.4787**		**46.4787**	**46.4787**	**5,014.1369**	**2,308.8520**	**7,322.9889**	**6.9476**	**0.3544**	**7,602.2927**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.3307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	12.9592					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.4341	3.7096	1.5785	0.0237		0.2999	0.2999		0.2999	0.2999	0.0000	4,735.6235	4,735.6235	0.0908	0.0868	4,763.7650
Landscaping	1.4962	0.5707	49.4928	2.6100e-003		0.2734	0.2734		0.2734	0.2734		89.0285	89.0285	0.0860		91.1776
Total	**17.2202**	**4.2803**	**51.0713**	**0.0263**		**0.5733**	**0.5733**		**0.5733**	**0.5733**	**0.0000**	**4,824.6520**	**4,824.6520**	**0.1767**	**0.0868**	**4,854.9426**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX 2

NOISE MODELING DATA

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TABLE Existing Traffic Volumes-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - betweenVictoria Cres W and Linus Pauling Drive
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9790 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.8	131.8	280.3

TABLE Existing Traffic Volumes-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between Linus Pauling Drive and future Hill Town Driveway
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10980 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.3	142.0	302.4

TABLE Existing Traffic Volumes-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between future Hill Town Driveway and John Muir Parkway
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21870 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	105.6	222.8	477.8

TABLE Existing Traffic Volumes-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between John Muir Parkway and Market Hall
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6610 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	102.6	216.3

TABLE Existing Traffic Volumes-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - between Alfred Nobel Drive and San Pablo Avenue
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11030 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.6	115.4	244.3

TABLE Existing Traffic Volumes-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - east of San Pablo Avenue
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23010 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.5	185.3	397.6

TABLE Existing Traffic Volumes-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 WB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1720 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	106.9

TABLE Existing Traffic Volumes-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 EB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Existing Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7940 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.0	137.4	295.8

TABLE Existing + Project Traffic Volumes-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - betweenVictoria Cres W and Linus Pauling Drive
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10480 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.4	137.8	293.2

TABLE Existing + Project Traffic Volumes-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between Linus Pauling Drive and future Hill Town Driveway
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10980 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.3	142.0	302.4

TABLE Existing + Project Traffic Volumes-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between future Hill Town Driveway and John Muir Parkway
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22800 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	108.4	229.0	491.2

TABLE Existing + Project Traffic Volumes-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between John Muir Parkway and Market Hall
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6940 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	105.8	223.3

TABLE Existing + Project Traffic Volumes-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - between Alfred Nobel Drive and San Pablo Avenue
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14290 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.7	136.3	289.9

TABLE Existing + Project Traffic Volumes-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - east of San Pablo Avenue
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25010 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	92.3	195.8	420.2

TABLE Existing + Project Traffic Volumes-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 WB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1720 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	106.9

TABLE Existing + Project Traffic Volumes-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 EB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Existing + Project Traffic Volumes

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8350 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.2	142.1	305.9

TABLE Existing (2) Traffic Volumes-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - betweenVictoria Cres W and Linus Pauling Drive
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9790 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.8	131.8	280.3

TABLE Existing (2) Traffic Volumes-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between Linus Pauling Drive and future Hill Town Driveway
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10980 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.3	142.0	302.4

TABLE Existing (2) Traffic Volumes-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between future Hill Town Driveway and John Muir Parkway
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21870 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL 70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	105.6	222.8	477.8

TABLE Existing (2) Traffic Volumes-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between John Muir Parkway and Market Hall
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6610 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	102.6	216.3

TABLE Existing (2) Traffic Volumes-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - between Alfred Nobel Drive and San Pablo Avenue
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11030 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.6	115.4	244.3

TABLE Existing (2) Traffic Volumes-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - east of San Pablo Avenue
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23010 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.5	185.3	397.6

TABLE Existing (2) Traffic Volumes-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 WB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1720 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	106.9

TABLE Existing (2) Traffic Volumes-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 EB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Existing (2) Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7940 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.0	137.4	295.8

TABLE Cumulative + Project Traffic Volumes-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - betweenVictoria Cres W and Linus Pauling Drive
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11810 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.3	148.9	317.3

TABLE Cumulative + Project Traffic Volumes-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between Linus Pauling Drive and future Hill Town Driveway
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13920 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL 70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.8	165.7	353.9

TABLE Cumulative + Project Traffic Volumes-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between future Hill Town Driveway and John Muir Parkway
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28690 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
62.0	125.5	266.5	572.2

TABLE Cumulative + Project Traffic Volumes-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: San Pablo Avenue - between John Muir Parkway and Market Hall
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13880 SPEED (MPH): 40 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.7	165.4	353.2

TABLE Cumulative + Project Traffic Volumes-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - between Alfred Nobel Drive and San Pablo Avenue
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16720 SPEED (MPH): 35 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL 70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	73.2	150.9	321.7

TABLE Cumulative + Project Traffic Volumes-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: John Muir Parkway - east of San Pablo Avenue
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30370 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	104.6	222.6	478.2

TABLE Cumulative + Project Traffic Volumes-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 WB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2490 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	63.7	136.7

TABLE Cumulative + Project Traffic Volumes-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/11/2019
ROADWAY SEGMENT: I-80 EB Off-Ramp - east of Willow Avenue
NOTES: Hill Town Residential Development Project - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	74.1	159.2	342.6

TABLE Existing Traffic Volumes-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/23/2019
ROADWAY SEGMENT: I-80
NOTES: Hill Town Residential Development Project - Freeway Model Run - Existing Traffic Volumes

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 137600 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 79.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
371.4	794.7	1709.3	3680.7

TABLE Existing + Project Traffic Volumes-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 10/23/2019
ROADWAY SEGMENT: I-80
NOTES: Hill Town Residential Development Project - Freeway Model Run - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 143569 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 79.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
381.9	817.4	1758.3	3786.3

MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures adopted as part of the environmental review process to avoid or reduce the severity and magnitude of potentially significant environmental impacts associated with project implementation. CEQA (Public Resources Code Section 21081.6 (a)(1)) requires that a Mitigation Monitoring and Reporting Program (MMRP) be adopted at the time that the agency determines to carry out a project for which an Environmental Impact Report (EIR) has been prepared, to ensure that mitigation measures identified in the EIR are fully implemented.

The MMRP for the Hill Town Residential Development Project (2019 Project) is provided as Table A, Mitigation Monitoring and Reporting Program and includes the full text of the mitigation measures from the Hercules Updated 2009 Redevelopment Plan Final EIR (2009 EIR) that apply to the 2019 Project, as referenced/modified in the Initial Study Checklist prepared for the 2019 Project. The MMRP describes implementation and monitoring procedures, responsibilities, and timing for each mitigation measure identified in the Final EIR, including:

- **Significant Impact**: Identifies the impact number and statement from the Final EIR/Initial Study Checklist.
- **Mitigation Measure**: Provides full text of the mitigation measure as provided in the Final EIR/Initial Study Checklist.
- **Monitoring/Reporting Action(s):** Designates responsibility for implementation of the mitigation measure, and when appropriate, summarizes the steps to be taken to implement the measure.
- **Mitigation Timing**: Identifies the stage of the project during which the mitigation action will be taken.
- **Monitoring Schedule**: Specifies procedures for documenting the reporting mitigation implementation.

The City of Hercules (City) may modify the means by which a mitigation measure will be implemented, as long as the alternative means ensure compliance during project implementation. The responsibilities of mitigation implementation, monitoring and reporting extend to several City departments. The manager or department lead of the identified unit or department will be directly responsible for ensuring the responsible party complies with the mitigation. The Planning Department is responsible for the overall administration of the program and for assisting relevant departments and project managers in their oversight and presorting responsibilities. The Planning Department is also responsible for ensuring the relevant parties understand their charge and complete the required procedures accurately and on schedule.

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Table A: MITIGATION MONITORING AND REPORTING PROGRAM

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
AESTHETICS				
Impact AES-2 The 2019 Project could adversely affect scenic resources within a state scenic highway corridor.	**Mitigation Measure AES-2** **MM AES-2a:** Development on the Sycamore Crossing and Hill Town sites shall retain or replace the existing trees on the site to the extent feasible**.** **MM AES-2b:** Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, shall be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors. If specific trees are to be removed, such as eucalyptus trees, replace with tress, preferably native species, that will provide suitable screening while retaining the view corridor along San Pablo Avenue. **MM AES-2c:** Buildings on the Sycamore Crossing and Hill Town sites shall be sited so as to minimize view obstruction from sensitive viewpoints. **MM AES-2d:** New development shall avoid the use of designs and materials that are inconsistent with the existing development along San Pablo Avenue and Sycamore Avenue in the vicinity of the project sites. **MM AES-2e:** New development on the Hill Town site shall be consistent in form and exterior finishes with the natural surroundings and topography. Building height and placement on the site shall be deigned to avoid obstruction of views of the ridgelines to the east and north sides of the site. The materials and color of exposed retaining walls shall be chosen to blend visually with the natural terrain. **MM AES-2f:** Landscaping consistent with the existing terrain and landscaping of San Pablo Avenue and Sycamore Avenue shall be incorporated to soften the visual mass of the building frontages and parking areas. The developer of each specific development proposed within the Updated 2009 Redevelopment Area shall provide usable open space areas within the project.	**Planning Department** Require as a condition of project approval. Ensure measures are incorporated in landscape design proposals.	Draft and incorporate condition as part of project approval. Prior to approval of demolition of grading permits, whichever comes first.	Conduct periodic site visits during demolition, grading and construction.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
Impact AES-3 The 2019 Project would alter the existing visual character of the sites and could substantially degrade the existing visual character and quality of the site and its surroundings.	**Mitigation Measure AES-3** Implement **Mitigation Measure AES-2.** No additional mitigation is feasible.	See actions for **Mitigation Measure AES-2.**	See **Mitigation Measure AES-2**.	See **Mitigation Measure AES-2**.
Impact AES-4 The 2019 Project would create a new source of light or glare that could adversely affect day or nighttime views in the area.	**Mitigation Measure AES-4** **MM AES-4a:** The parking areas on the Sycamore Crossing and Hill Town sites shall be screened with vegetation and/or trees. **MM AES-4b:** The developer for the Sycamore Crossing and Hill Town sites shall use hooded and down-directed lights for nighttime illumination in parking areas, shipping and receiving docks and other areas of the site, as applicable.	**Planning Department** Require as a condition of project approval. **Engineering Department** Ensure measures are incorporated in landscape design proposals.	Draft and incorporate condition as part of project approval. Prior to approval of demolition of grading permits, whichever comes first.	Conduct periodic site visits during demolition, grading and construction.
AIR QUALITY				
Impact AQ-2 Demolition or construction activities associated with the 2019 Project could generate construction period exhaust emissions and fugitive dust that could temporarily affect local air quality.	**Mitigation Measure AQ-2** **MM AQ-2:** For all discretionary grading, demolition, or construction activity in the Updated 2009 Redevelopment Plan Area, require implementation of the following dust control measures by construction contractors, where applicable: During demolition of existing structures: 1. Water active demolition areas to control dust generation during demolition of structures and break-up of pavement. 2. Cover all trucks hauling demolition debris from the site. 3. Use dust-proof chutes to load debris into trucks whenever debris being loaded is sufficiently elevated above the truck. During all construction phases:	**Planning Department** Require as a condition of project approval. **Engineering Department** Incorporate measures into final grading plans. Final grading plans reviewed by City staff. **Building Division** Implement control measures.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits.	Conduct periodic site visits during demolition, grading and construction.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	1. Water exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) at least twice daily. 2. Water or cover stockpiles of debris, soil, sand, or other materials that can be blown by the wind. 3. Cover all trucks transporting soil, sand, and other loose materials. 4. Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. 5. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. 6. Sweep streets at least once per day using wet power vacuum street sweepers if visible soil material is carried onto adjacent public streets. The use of dry power sweeping is prohibited. 7. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). 8. Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). 9. Limit traffic speeds on unpaved roads to 15 miles per hour. 10. Install sandbags or other erosion control measures to prevent silt runoff to public roadways. 11. Replant vegetation in disturbed areas as quickly as possible. The following additional mitigation measures, which are recommended by the BAAQMD, shall be implemented during construction activities in the proposed Updated 2009 Redevelopment Plan area but are not required to reduce construction impacts to a less than significant level: 1. Use alternative fueled construction equipment. 2. Minimize idling time 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 Title			

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 3. Maintain and properly tune all construction equipment 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. 4. Limit the hours of operation of heavy equipment and/or the amount of equipment in use. 5. Post a publicly-visible sign with the telephone number and person to contact at the City of Hercules regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. 6. Pave all roadways, driveways, and sidewalks as soon as possible. 7. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.			
Impact AQ-3 During construction and operation of the 2019 Project, sensitive receptors could be exposed to toxic air contaminants.	**Mitigation Measure AQ-3** **MM AQ-3:** The siting of residential uses on the Hill Town site in proximity to I-80 shall follow one or more of the following approaches to the satisfaction of the City of Hercules Planning Director: 1. Site residential structures on the Hill Town site further than 500 feet from the nearest lane of I-80. This could be accomplished by placing open space, roads and/or parking along the eastern portion of the Hill Town site. 2. Alternatively, air quality sampling studies or air quality modeling could be undertaken to establish an appropriate alternate residential setback from the freeway. The alternate residential setback must provide a reduction in exposure to toxic air contaminants equivalent to the 70 percent reduction upon which the CARB distance recommendation is based. 3. A third alternative measure would be to provide mechanical ventilation to residences with filtration units to remove fine	**Planning Department** Require as a condition of project approval. Final development plans reviewed by the City to ensure that one or more of the approaches is implemented.	Draft and incorporate condition as part of project approval. Prior to approval of demolition or grading permits, whichever comes first.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	particulate at all residences within 500 feet of I-80. Since the CARB recommendation for a setback is based on a 70 percent reduction in particulate concentration, the air handling system shall have an efficiency of no less than 70 percent in removing particles less than 0.3 microns in diameter. Commercially available systems with this efficiency utilize either special pleated filter mediums or electrostatic filters to clean the air. These systems will increase project costs, increase energy consumption slightly, and will require regular maintenance.			
Impact AQ-5 Development of the 2019 Project would result in new air pollutant emissions within the air basin. However, the emissions from the new vehicle trips and areas sources would not exceed the BAAQMD thresholds of significance for regional pollutants, and would not represent a significant impact. However, Recommended Measure AQ-5, as identified in the 2009 EIR, would be implemented to further minimize air emissions associated with project development.	**Recommended Measure AQ-5** **AQ-5a:** All development shall be required to implement feasible BAAQMD mitigation measures for reducing vehicle and area source emissions from suburban residential projects. Feasible mitigation measures to reduce vehicle and area source emissions for a suburban residential development include: 1. Provide bicycle lanes, sidewalks, and/or paths connecting project residences to adjacent schools, parks, nearest transit stop and nearby commercial areas. 2. Construct transit amenities such as bus turnouts/bus bulbs, benches, shelters, etc. 3. Provides direct, safe, attractive pedestrian access from project land uses to transit stops and adjacent development. 4. Utilize reflective (or high albedo) and emissive roofs and light colored construction materials to increase the reflectivity of roads, driveways, and other paves surfaces, and includes shade trees near buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand. 5. Eliminate wood burning fireplaces or devices. Install a gas outlet in proposed outdoor recreational fireplaces or pits. Offer as an option on homes to install a gas outlet for use with outdoor cooking appliances, such as a gas barbeque. 6. Use efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces, and boiler units that meet or exceed Title 24 requirements (Energy Efficiency Standards for Residential and Nonresidential Buildings and Green Building	**Planning Department** Require as a condition of project approval. **Building Division** Incorporate into final construction plans. Construction drawings reviewed by City staff.	Draft and incorporate condition as part of project approval. Prior to filing building permit applications. Prior to issuance of building permits.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	Standards). Use window glazing and insulation, wall insulation, and efficient ventilation methods. 7. Encourage the use of battery-powered or electrical landscaping equipment and discourage the use of leaf blowers and other dust-producing equipment by installing electrical outlets on the exterior walls of both the front and back of all residences and requiring home owners association prohibit the use of leaf blowers. 8. Landscape with drought resistant and low maintenance species of plants, trees, and shrubs to reduce the demand for gas-powered landscape maintenance equipment. 9. Provide a 220-volt utility drop or other dedicated outlet that is adaptable for use by electric or rechargeable hybrid vehicles that are generally available to consumers.			
Impact AQ-5 (cont.)	**Recommended Measure AQ-5** **AQ-5b:** All commercial uses shall apply Transportation System Management measures to reduce trips and incorporate design features to reduce area source emissions. Appropriate strategies include: 1. Provide physical improvements, such as sidewalk improvements, landscaping, and bicycle parking that would act as incentives for pedestrian and bicycle modes of travel. 2. Connect site with regional bikeway/pedestrian trail system. 3. Provide transit information kiosks. 4. Provide secure and conveniently located bicycle parking and storage for workers and patrons. 5. Provide electric vehicle charging facilities. 6. Provide preferential parking for Low Emission Vehicles (LEVs). 7. Utilize reflective (or high albedo) and emissive roofs and light colored construction materials to increase the reflectivity of roads, driveways, and other paved surfaces, and include shade trees near	**Planning Department** Require as a condition of project approval. **Building Division** Incorporate into final construction plans. Construction drawings reviewed by City staff.	Draft and incorporate condition as part of project approval. Prior to filing building permit applications. Prior to issuance of building permits.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand. 8. Use efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces, and boiler units that meet or exceed Title 24 requirements (Energy Efficiency Standards for Residential and Nonresidential Buildings and Green Building Standards). Use window glazing and insulation, wall insulation and efficient ventilation methods. 9. Landscape with drought resistant and low maintenance species of plants, trees, and shrubs to reduce the demand for gas-powered landscape maintenance equipment..			
Impact AQ-6 Development of the 2019 Project would generate greenhouse gases (GHGs), but would not contribute to cumulative impacts of global climate change. Nevertheless, Recommended Measure AQ-6, as identified in the 2009 EIR, would be implemented to further minimize greenhouse gas emissions associated with project development.	**Mitigation Measure AQ-6** **MM AQ-6:** The project's residential and commercial land uses as a whole shall achieve an energy efficiency standard equivalent to the California Energy Commissions' Tier II Standard.	**Planning Department** Require as a condition of project approval. **Building Divisions** Incorporate into final construction plans. Construction drawings reviewed by City staff.	Draft and incorporate condition as part of project approval. Prior to filing building permit applications. Prior to issuance of building permits.	
BIOLOGICAL RESOURCES				
Impact BIO-1 The 2019 Project could result in significant impacts to sensitive habitats and natural communities, including riparian habitats, intermittent drainage, and freshwater emergent wetlands.	**Mitigation Measure BIO-1** **MM BIO-1a:** Prior to any specific project development approval, the project proponent shall contact the U.S. Army Corps of Engineers (USACE) to identify the jurisdictional status and extent of (1) the freshwater wetland and detainment pond features on the Hill Town site and (2) the intermittent drainage on the Sycamore Crossing site. Project plans shall identify all jurisdictional boundaries with a unique graphic symbol. No construction, landscape irrigation, paving, or other impermeable surface treatment shall be placed within any jurisdictional area or within a minimum of 25 feet (or other USACE-identified appropriate buffer perimeter) beyond any jurisdictional	**Planning and Engineering Departments** Require as a condition of project approval. **Project Sponsor** Project sponsor conducts formal consultation with CDFW and RWQCB.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits.	Inspect site during grading, demolition, and construction activities.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	boundary. Encroaching into the USACE's jurisdictional area and corresponding buffer shall be allowed only if it is not possible to create a development plan for the subject site that avoids the USACE's jurisdictional area and corresponding buffer without conflicting with the proposed 2009 Project or the City's General Plan (as determined by the City's Planning Director). In such a case, encroachment into the USACE's jurisdictional area shall not occur unless a Section 404 permit is acquired from the USACE, and the project proponent(s) replaces the lost value of the jurisdictional area to the satisfaction of the USACE.	**Engineering Department** Incorporate into final construction plans.		
Impact BIO-1 (cont.)	**Mitigation Measure BIO-1 (cont.)** **MM BIO-1b:** Prior to any specific project development approval, the project proponent shall contact the California Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Board (RWQCB) to identify the state jurisdictional status and extent of (1) the freshwater wetland and detainment pond features of the Hill Town site and (2) the intermittent drainage on the Sycamore Crossing site. Project plans shall identify all jurisdictional boundaries with a unique graphic symbol. No construction, landscape irrigation, paving or other impermeable surface treatment shall be placed within any jurisdictional area or within a minimum of 25 feet (or other CDFW- or RWQCB-identified appropriate buffer perimeter) beyond any jurisdictional boundary. In the event of a conflict between responsible agency requirements for Mitigation Measure BIO-1a and Mitigation Measure BIO-1b, the larger buffer perimeter shall be established. Encroaching into the CDFW's or RWQCB's jurisdictional area and corresponding buffer shall be allowed only if it is not possible to create a development plan for the project sites that avoids the CDFW's jurisdictional area and corresponding buffer without conflicting with the Updated 2009 Redevelopment Plan or the City's General Plan (as determined by the City's Planning Director). In such a case, encroachment into the CDFW's jurisdictional area shall not occur unless a Streambed/Lake Alteration Agreement is acquired from the CDFW, and the project proponent(s) replaces the lost habitat to the satisfaction of the CDFGW. Encroachment into the RWQCB's jurisdictional area shall not occur unless a Section 401 permit is acquired from the RWQCB, and the project proponent(s) replaces the lost value of the jurisdictional area	**Planning and Engineering Departments** Require as a condition of project approval. **Project Sponsor** Project sponsor conducts formal consultation with CDFW and RWQCB. **Engineering Department** Incorporate into final construction plans.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits.	Inspect site during grading, demolition, and construction activities.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	to the satisfaction of the RWQCB through on- or off-site mitigation or purchase of mitigation credits at an approved mitigation bank.			
Impact BIO-1 (cont.)	**Mitigation Measure BIO-1 (cont.)** **MM BIO-1c:** Certain project components, such as nature trails, wildlife observation areas, etc., may not be compatible with sensitive habitats. Prior to incorporating such features into project plans for Hill Town, the project proponent shall obtain permission from the USACE, the CDFW, and the RWQCB, and agree to comply with permit-related conditions. Permission constitutes CWA Section 401 and 404 permits, and California Fish and Game Code Section 1600 Streambed Alteration Agreement, or other permit issued by the responsible agency. If any or all of these responsible agencies do not require permits for these features, then the project proponent shall obtain relevant approvals from the City of Hercules Planning and/or Parks and Recreation Department.	**City Council and Planning Department** Require as a condition of project approval. **Project Sponsor** Project sponsor conducts formal consultation with USACE, CDFW and RWQCB. Planning Department and Engineering Department to consult and approve. **Engineering Department** Incorporate into final construction plans.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits. Prior to issuance of grading permits	Obtain approval prior to issuance of grading permits. Inspect site during grading, demolition, and construction activities.
Impact BIO-1 (cont.)	**Mitigation Measure BIO-1 (cont.)** **MM BIO-1d:** Prior to issuance of grading permits for the Sycamore Crossing or Hill Town projects, the project proponent shall submit a fencing plan to the City of Hercules Planning Department for approval that corresponds to the USACE, CDFW-, and/or RWQCB-approved perimeter beyond the sensitive habitat areas described in Mitigation Measures BIO-1a and BIO-1b above, and install temporary construction fencing according to the approved plan. The temporary fencing shall be silt fencing, and the bottom edge of the fencing shall be buried 2-4 inches to protect the freshwater marsh/drainage from construction activities and prevent special-status wildlife species from entering the project site. Orange fencing designating an "Environmentally Sensitive Area" will be installed on the inside (project side) of the silt fencing. The fencing plan may be superimposed on the grading plan or may be a separate plan; if on a	**Planning Department** Require as a condition of project approval. **Project Sponsor** Project sponsor to consult with USACE, and CDFW and submit plan to Planning Department. **Engineering Department** Incorporate into final construction plans.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits. Prior to issuance of grading permits	Obtain approval prior to issuance of grading permits. Inspect site during grading, demolition, and

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	separate plan, the fencing plan shall show existing and proposed contour lines in the vicinity of the fence.			construction activities.
Impact BIO-2 The 2019 Project could substantially affect candidate, sensitive, or other special-status species, as identified in local or regional pans, policies or regulations or by the CDFW or USFWS.	**Mitigation Measure BIO-2** **MM BIO-2a** (Special-Status Plants): (a) Prior issuance of a grading permit, prior to any vegetation removal, and as feasible, during the late spring season from April through May, the project proponent shall engage a qualified botanist to conduct focused surveys for the bent-flowered fiddleneck (*Amsinckia lunaris*), fragrant fritillary (*Fritillaria liliacea*), and Diablo helianthella (*Helianthella castanea*) in the grassland habitat at the project site. Surveys shall comply with the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). (b) If the project botanist discovers any of these species, the individual plant locations shall be located on the site map and flagged in the field. No grading No grading permit shall be issued until the project proponent informs CDFW and commits to appropriate mitigation measures that meet the satisfaction of CDFW, such as avoidance, creation of buffers, transplantation, or off-site mitigation.	**Planning Department** Require as a condition of project approval. **Project Sponsor** Obtain a qualified botanist to conduct survey prior to submittal of grading plans. Consult with CDFW for approval of mitigation measures, if needed. **Engineering Department** Incorporate into final construction plans.	Draft and incorporate condition as part of project approval. Prior to submission of grading plans. Conduct surveys during late spring season from April through May. Prior to issuance of grading permits	CDFW to approve mitigation measures (if necessary) prior to grading plan review.
Impact BIO-2 (cont.)	**Mitigation Measure BIO-2 (cont.)** **MM BIO-2b**: (Special-Status Animals): (a) Prior to issuance of a grading permit, the project proponent shall engage a qualified biologist to conduct focused surveys for the monarch butterfly (*Danaus plexippus*) and to identify any raptor species hunting or nesting in the project area. Surveys shall take place during the winter roosting period (October–February). Surveys shall comply with applicable CDFW protocols. (b) If the project biologist discovers a roost site, it shall be located on the site map. No grading plan review shall proceed until the project proponent informs CDFW and commits to appropriate mitigation measures that meet the satisfaction of the CDFW, such as avoidance, creation of buffers, transplantation, timing of construction activities to avoid active nests/roosts, or off-site mitigation. (c) Vegetation removal shall be conducted during the non-nesting season for birds (i.e., between September 1 and January 31) if possible. If vegetation removal occurs during the nesting season (February 1 to August 31), suitable nesting	**Planning Department** Require as a condition of project approval. **Project Sponsor** Obtain a qualified biologist to conduct survey prior to submittal of grading plans. Consult with CDFW for approval of mitigation measures, if needed.	Draft and incorporate condition as part of project approval. Prior to submission of grading plans. Conduct surveys during winter roosting period (October-February) for monarch butterfly and during the nesting season	CDFW to approve mitigation measures (if necessary) prior to grading plan review.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	habitat within the project site shall be surveyed by a qualified biologist no more than 5 days prior to ground disturbing/vegetation removal activities. Areas outside of the project site shall not be surveyed for active nests unless nests are visible from the project site. If an active nest is found, the qualified biologist shall delineate an appropriate buffer around the nest site based on the nesting species and specifics of the nest location. Construction within the buffer zone shall be prohibited until the qualified biologist determines that the nest is no longer active. If an active nest is found during construction, all activity in the vicinity shall stop until the qualified biologist has evaluated the nest and set up an appropriate buffer. If a buffer is not feasible, CDFW shall be contacted for further avoidance and minimization guidelines.		(February 1 to August 31).	
Impact BIO-2 (cont.)	**Mitigation Measure BIO-2 (cont.)** **MM BIO-2c:** The project proponent for the Sycamore Crossing or Hill Town project shall engage a California-registered landscape architect and qualified botanist to prepare landscape plans for any project-area open space or manufactured slopes. The open-space and slope landscape plans shall use only region-specific native plants, and shall be designed to promote habitat value.	**Planning Department** Require as a condition of project approval. **Project Sponsor** Prepare landscape plans prior to submittal of grading plans.	Draft and incorporate condition as part of project approval. Obtain approval prior to issuance of grading permits.	
Impact BIO-3 The 2019 Project could potentially conflict with the City's General Plan Open Space and Conservation Element, Policy 2a and tree preservation ordinance, Ordinance No. 33.	**Mitigation Measure BIO-3** **MM BIO-3:** Project proponents shall adhere to the requirements of the City's tree ordinance, Title 4, Chapter 15 of the City's Municipal Code, which includes the submittal of a tree replacement plan to the City for approval. Prior to issuance of a grading permit, a certified arborist shall conduct a tree survey to determine the number and type of trees to be removed. The tree replacement plan should include a minimum 1:1 replacement for native trees impacted by the proposed project and should include a monitoring period of at least five years post-mitigation.	**Planning Department** Require as a condition of project approval. Planning Department to approve tree replacement plan prior to issuance of grading permit.	Draft and incorporate condition as part of project approval. Prior to issuance of grading plan.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
CULTURAL RESOURCES				
Impact CUL-1 The 2019 Project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.	**Mitigation Measure CUL-1** **MM CUL-1:** If prehistoric or unique archaeological resources are discovered during construction of any projects undertaken as a result of the proposed Updated 2009 Redevelopment Plan, all work within a 50-foot radius of the find shall halt until a qualified archaeologist evaluates and determines the significance of the find pursuant to Section 15064.5 of the State CEQA Guidelines and until the finding can be fully investigated and proper protection measures, as determined by qualified experts, can be implemented. Work shall not resume within a 50-foot radius of the find until the project archaeologist states in writing that such work would not substantially affect the significance of an historical or unique archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines and the City of Hercules concurs with such finding. Construction of the project can continue outside of the 50-foot radius of the find, so long as such activities would not physically damage any discovered cultural resources or reduce the data recovery potential of the find.	**Planning Department** Require as a condition of project approval. **Project Sponsor** Engage qualified archaeologist to perform evaluation of archaeological resources. **Engineering Department** Archaeological monitoring program to be prepared prior to issuance of grading permits.	Draft and incorporate condition as part of project approval. Upon discovery of prehistoric or unique archaeological resources. Prior to issuance of grading permits.	Periodically inspect site during grading, demolition, and construction activities.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
Impact CUL-3 The proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.	**Mitigation Measure CUL-3** **MM CUL-3:** If human remains are discovered at the project site during construction, work at the specific construction site at which the remains have been uncovered shall be suspended, and the City of Hercules Public Works Department and County coroner shall be immediately notified. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.	**Planning Department** Require as a condition of project approval. **Project Sponsor** Notify Engineering Department **Planning and Engineering Departments** County Coroner notified if human remains are encountered. If remains are Native American origin, Native American Heritage Commission contacted. Reporting as needed, if resources found.	Draft and incorporate condition as part of project approval. Upon discovery of suspected human remains. .	Field monitoring during grading.
GEOLOGY AND SOILS				
Impact GEO-1 The 2019 Project could expose people and structures to substantial adverse effects related to seismic ground shaking.	**Mitigation Measure GEO-1** **MM GEO-1:** A site-specific geotechnical investigation shall be required for any new development proposed within the 2009 Updated Redevelopment Plan Area. Development proposed within the Updated 2009 Redevelopment Plan Area shall conform to the provisions of current building codes and the recommendations of the geotechnical investigations performed for proposed development. Structures for human habitation shall be designed to meet or exceed California Uniform Building Code standards for Seismic Zone 4.	**Planning Department** Require as a condition of project approval. **Project Sponsor** Project proponent to conduct site-specific geotechnical investigations prior to issuance of grading permits.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits. .	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
Impact GEO-2 The 2019 Project could expose people and structures to substantial adverse effects associated with seismic-related liquefaction or landslides.	**Mitigation Measure GEO-2** **MM GEO-2a:** Development of the proposed Hill Town project shall be subject to the recommendations of the site-specific geotechnical report for site preparation, grading, retaining wall construction, and foundation design.	**Planning Department** Require as a condition of project approval. **Engineering Department** Incorporate measures into final grading plans. Final grading plans reviewed by City staff. **Building Division** Review control measures.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits. .	Periodic site inspection.
Impact GEO-2 (cont.)	**Mitigation Measure GEO-2 (cont.)** **MM GEO-2b:** Prior to the recordation of the first final map, the project proponent of the Hill Town project shall form a Geologic Hazard Abatement District (GHAD) or annex into an existing GHAD for the purpose of identifying potential geologic hazards and carrying out measures to monitor and mitigate such hazards. The GHAD shall be fully operational and the assessments shall be established and in place before the final map is recorded. The project proponent shall provide adequate funding through its own source and/or through the GHAD assessments to cover a major event before the GHAD will accept responsibility. The amount of this obligation will be determined at the time the Plan of Control and Engineer's Report is prepared for the GHAD. If a GHAD is determined by the City and project applicant to be infeasible, the project proponent shall assign these responsibilities to a similar entity.	**Planning and Engineering Departments** Require as a condition of project approval. **Project Sponsor** Project sponsor to form GHAD as described.	Draft and incorporate condition as part of project approval. Prior to recordation of first final map. .	

Impact CUL-2 The 2019 Project could potentially destroy unknown unique paleontological resources on the site.	**Mitigation Measure CUL-2** **MM CUL-2:** A paleontologist who meets the qualifications of established by the Society of Vertebrate Paleontology shall be retained to develop a Paleontological Resources Impact Mitigation Program (PRIMP) for this project. The PRIMP shall be consistent with the standards of the Society of Vertebrate Paleontology and include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading. A paleontological monitoring program shall be implemented during excavation and grading activities in deposits with high paleontological sensitivity (i.e., Briones Formation and Monterey Formation). No monitoring is required for excavations in deposits with no paleontological sensitivity (i.e., Artificial Fill). Monitoring shall be conducted by a qualified paleontological monitor following the PRIMP. The paleontologist must be knowledgeable of the paleontological resources in Contra Costa County; must have the minimum of a bachelor's degree in paleontology or a related field; and must be prepared to perform data recovery tasks, analysis, and preparation of a technical report addressing any results of the paleontological monitoring program must include the maintenance of daily field logs, the recovery of soil samples for micro-screening for small fossil remains, and the ability to remove vertebrate remains as they are identified (e.g., with proper location data and associations). In addition, a photographic record must be maintained over the course of the program and, if resources are found during the course of ground disturbance, the monitor must have the authority to halt any activities and temporarily redirect construction away from the find. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected, and the paleontologist or paleontological monitor shall be contacted to assess the find for scientific significance. If determined to be scientifically significant, the fossil shall be collected from the field. Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of the monitoring program, a report of findings shall be prepared to document the results of the monitoring program.	**Planning Departments** Require as a condition of project approval. **Project Sponsor** Engage qualified paleontologist to perform evaluation of geologic conditions. **Engineering Department** Paleontological monitoring program to be prepared prior to issuance of grading permits.	Draft and incorporate condition as part of project approval. Upon discovery of paleontological resources. Prior to issuance of grading permits. .	Periodically inspect site during grading, demolition, and construction activities

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
HAZARDS AND HAZARDOUS MATERIALS				
Impact HAZ-2 The 2019 Project could create a significant hazard to the public or the environment through the accidental upset or release of hazardous material from an existing petroleum pipeline located within the Hill Town property.	**Mitigation Measure HAZ-2** **MM HAZ-2a:** Consistent with pipeline operators' standards, no buildings or other structures that could impede access shall be installed in any pipeline right-of-way. **MM HAZ-2b:** The City shall permit pipeline operators with pipelines and pipeline rights-of-way adjacent to parcels subject to Tentative Map approval to review these maps. **MM HAZ-2c:** Prior to the start of construction on any parcel that includes or is bordered by a pipeline or pipeline right-or-way or easement, the City shall consult with the Rodeo-Hercules Fire Protection District and the operator(s) of affected pipeline(s) regarding the adequacy of safety procedures for pipeline accidents. **MM HAZ-2d:** The City shall consider a requirement that sponsors of residential development notify homeowners of the presence of adjacent or nearby pipelines.	**Engineering Department** Require as a condition of project approval. Engineering Department to confirm pipeline right-of-way not impeded.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits.	
HYDROLOGY AND WATER QUALITY				
Impact HYD-2 The 2019 Project would alter the drainage pattern of the detention basins and drainage swale on the Hill Town site and could potentially cause or contribute to flooding.	**Mitigation Measure HYD-2** **MM HYD-2:** Prior to issuance of a grading or building permit for the Sycamore Crossing or Hill Town sites and to the satisfaction of the City Engineer, the project proponents shall prepare hydrology studies and drainage plans that calculate the existing and proposed stormwater runoff flows (i.e., cubic feet per second) of the sites and identify the stormwater drainage features (e.g., storm drains, catch basins, detainment basins, etc.) required to accommodate future flows.	**Planning and Engineering Departments** Require as a condition of project approval. **Project Sponsor** Project proponent to submit hydrology studies and drainage plans. **City Engineer** Review studies.	Draft and incorporate condition as part of project approval. Prior to issuance of grading permits.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
NOISE				
Impact NOISE-1 Implementation of the 2019 Project would add new vehicle trips to the roadway network, but would not increase ambient noise levels in the project vicinity above acceptable levels.	**Mitigation Measure NOISE-1** **MM NOI-1:** The City of Hercules shall not issue a building permit for future projects in the proposed Updated 2009 Redevelopment Plan until a design-level noise study is completed that demonstrates that the proposed development would not cause noise exposures that exceed (1) 65 dB CNEL for common outdoor areas or (2) 45 dB CNEL for indoor residential uses. Hill Town: To achieve the required noise levels on the Hill Town site, the design-level noise study required by this mitigation measure shall consider actual site plans and architectural plans and determine the exact noise attenuation features required to achieve the appropriate noise levels. At this time, the following noise attenuation design features are anticipated to be required for multi-family residential uses in the southern portion of the site along I-80/SR-4: (1) STC 36 to 39 windows and exterior doors (if sound walls are built, windows and exterior doors at the ground floors could require STC ratings that are about 5 fewer points); (2) alternative source of ventilation for residential structures as approved by a mechanical engineer; and (3) outdoor use areas shielded by at least one or two rows of buildings or by a sound wall of at least 11 feet in height. At this time, the following noise attenuation design features are anticipated to be required for multifamily residential uses along San Pablo Avenue, (1) STC 33 to 36 windows and exterior doors (if sound walls are built, windows and exterior doors at the ground floors could require STC ratings that are about 5 fewer points); (2) alternative source of ventilation for residential structures as approved by a mechanical engineer; and (3) common outdoor use areas shielded by at least one rows of buildings or by a sound wall of at least 8 to 9 feet in height..	**Planning Department** Require as a condition of project approval. Planning Department to ensure that noise attenuation design features as required for residential uses are incorporated in building plans. **Project Sponsor** Retain qualified noise consultant to prepare design-level noise study. Incorporate noise attenuation design features, as needed.	Draft and incorporate condition as part of project approval. Prior to issuance of building permit. Prior to completion of design review process.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
Impact NOISE-2 Development of the 2019 Project may expose residents on site to noise generated by adjacent roadways and other noise sources, which could exceed the standards established in the State noise compatibility guidelines.	**Mitigation Measure NOISE-2** **MM NOI-2:** In accordance with Title 24 of the California Administrative Code, the City of Hercules shall not issue a building permit for the proposed project if the interior community noise levels (CNEL) attributable to exterior sources exceed an annual CNEL of 45 dB in any habitable room with windows closed. Pursuant to Title 24, acoustical evaluations of proposed architectural plans will be required to ensure compliance with this requirement.	**Planning Department** Require as a condition of project approval. Building Division to ensure compliance with Title 24 of California Administrative Code.	Draft and incorporate condition as part of project approval. Prior to issuance of building permit.	
Impact NOISE-3 Development of the 2019 Project has the potential to temporarily increase ambient noise levels during construction. Additionally, future construction activities could generate ground borne noise or vibrations	**Mitigation Measure NOISE-3** **MM NOI-3a:** The City of Hercules shall ensure that where construction occurs near noise-sensitive areas (as determined by the Community Development Department), construction activities (including truck traffic) be scheduled for periods, according to construction permit to limit the impact on sensitive receptors. This may be done prior to start of construction and may be enforced throughout construction activities on both the Hill Town and Sycamore Crossing sites. **MM NOI-3b:** Prior to construction, the City of Hercules shall ensure that the applicant develop a construction schedule that minimizes potential cumulative construction noise impacts and accommodates particularly noisy periods for near-by sensitive receptors. **MM NOI-3c:** The City of Hercules shall ensure that during construction, where feasible, holes for driven piles be predrilled to reduce the level and duration of noise impacts. Where not feasible, pile drive shall be scheduled to avoid conflict with adjacent sensitive receptors. **MM NOI-3d:** Construction within 500 feet of a sensitive receptor shall require a noise study to identify the estimated level of construction noise. Where construction activities are estimated to exceed an ambient noise level of 70 dB CNEL, the City of Hercules shall ensure that prior to construction, the applicant construct temporary solid noise barriers between source and sensitive receptors to reduce off site propagation of construction noise.	**Planning Department** Require as a condition of project approval. **Engineering Department** Ensure construction practices are implemented during grading and construction.	Draft and incorporate condition as part of project approval. Upon start of demolition or construction.	Monitoring during grading and construction activities.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
Impact NOISE-3 (cont.)	**Mitigation Measure NOISE-3** **MM NOI-3e:** Prior to construction, the applicant shall demonstrate, to the satisfaction of the City of Hercules, that internal combustion engines used for construction purposes are equipped with a properly operating muffler of a type recommended by the manufacturer and all power tools are acoustically shielded.	**Planning Department** Require as a condition of project approval. **Engineering Department** Ensure construction practices are implemented during grading and construction.	Draft and incorporate condition as part of project approval. Upon start of demolition or construction.	Monitoring during grading and construction activities.
TRANSPORTATION AND TRAFFIC				
Impact TRAF-1 Implementation of the 2019 Project is expected to generate a total of 487 vehicle trips during the AM peak hour (171 inbound and 316 outbound) and 411 vehicle trips during the PM peak hour (249 inbound and 162 outbound). These trips would cause the following intersection to operate at an unacceptable LOS: San Pablo Avenue and Linus Pauling Drive.	**Mitigation Measure TRAF-1** **MM TRAF-1:** Contributions to the following intersection improvements shall be required of the proposed Hill Town and Sycamore Crossing developments: **San Pablo Avenue/Sycamore Avenue:** Develop programs to encourage public transit use that will reduce vehicle trips by 10 percent for the intersection (Mitigation required under Sub-scenario A conditions). **San Pablo Avenue/Linus Pauling:** Install traffic signals. Add left-turn and right-turn lanes into the site. Access driveway should provide two outbound lanes and one inbound lane (Mitigation required under Sub-scenario A and B conditions). **Willow Avenue/BART Replacement Parking E. Driveway:** Install traffic signals plus widen Willow Avenue and add turn lanes on Willow Avenue. Coordinate mitigation with BART Replacement Parking improvement plan (Mitigation required under Sub-scenario A and Cumulative conditions). **Sycamore Avenue/S. Front Street:** Install traffic signals. Add we westbound left-turn lane if a driveway from Sycamore Crossing is added to the intersection (Mitigation required under Sub-scenario A, Sub-scenario B, and Cumulative conditions).	**Planning and Engineering Departments** Require as a condition of project approval. **Engineering Department** Implement measures	Draft and incorporate condition as part of project approval. Prior to occupancy of Hill Town project, or before 2035, as indicated in the measure.	Monitoring during grading and construction activities.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
TRANSPORTATION AND TRAFFIC				
Impact TRAF-1 (cont.)	**Mitigation Measure TRAF-1 (cont.)** The project applicant shall be required to pay a fair-share contribution to the cost of these improvements. Prior to approval of a Final Planned Development Plan or Tentative Map, the project proponents for the Hill Town and Sycamore Crossing projects shall retain qualified and licensed traffic engineering professional(s) to determine specific mitigation requirements for each project, mitigation timing, and fair-share allocation of these improvements.	**Planning and Engineering Departments** Require as a condition of project approval. **Engineering Department** Implement measures.	Draft and incorporate condition as part of project approval. Prior to occupancy of Hill Town project, or before 2035, as indicated in the measure.	

Impact TRAF-5 Implementation of the 2019 Project would add new vehicle trips to the roadway network, which would contribute to a substantial cumulative increase in traffic LOS in the project vicinity.	**Mitigation Measure TRAF-5** **MM TRAF-5:** Contributions to the following intersection improvements shall be required of the proposed Hill Town and Sycamore Crossing developments: **San Pablo Avenue/John Muir:** Develop programs to encourage public transit use that will reduce vehicle trips by 15 percent for the intersection. Relocate I-80 off-ramp/SR-4 on-ramp further east to shift traffic away from San Pablo Avenue. A 30 percent shift is assumed in the mitigation analysis. (Mitigation required under Cumulative conditions). **San Pablo Avenue/Sycamore Avenue:** Develop programs to encourage public transit use that will reduce vehicle trips by 15 percent for the intersection. Relocate I-80 off-ramp/SR-4 on-ramp further east to shift traffic away from San Pablo Avenue. A 30 percent shift is assumed in the mitigation analysis. (Mitigation required under Cumulative conditions). **San Pablo Avenue/Linus Pauling:** Install traffic signals. Add left-turn and right-turn lanes into the site. Access driveway should provide two outbound lanes and one inbound lane (Mitigation required under Sub-scenario A, Sub-scenario B, and Cumulative conditions). **Willow Avenue/BART Replacement Parking E. Driveway:** Install traffic signals plus widen Willow Avenue and add turn lanes on Willow Avenue. Coordinate mitigation with BART Replacement Parking improvement plan (Mitigation required under Sub-scenario A and Cumulative conditions). **Sycamore Avenue/S. Front Street:** Install traffic signals. Add we westbound left-turn lane if a driveway from Sycamore Crossing is added to the intersection (Mitigation required under Sub-scenario A, Sub-scenario B, and Cumulative conditions). **Sycamore Avenue/Palm:** Install traffic signals. Coordinate mitigation with SR-4 ramp relocation project. (Mitigation required under Cumulative conditions). **Westbound SR-4 Off-ramp/Willow Avenue:** Install traffic signals. Coordinate mitigation with SR-4 ramp relocation project. (Mitigation required under Cumulative conditions). **Willow Avenue/Palm:** Install traffic signals. Widen Willow and Palm approaches to two lanes in each direction. Coordinate mitigation	**Planning Department** Require as a condition of project approval. **Planning and Engineering Departments** Implement measures. **Project Sponsor** Retain qualified and licensed traffic engineering professional(s) to perform traffic analysis as described for the purpose of determining mitigation timing and fair-share allocation.	Draft and incorporate condition as part of project approval. Prior to occupancy of Hill Town project, or before 2035, as indicated in the measure. At the time of project-specific application.	

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
	with SR-4 ramp relocation project. (Mitigation required under Cumulative conditions). The project applicant shall be required to pay a fair-share contribution to the cost of these improvements. Prior to approval of a Final Planned Development Plan or Tentative Map, the project proponents for the Hill Town and Sycamore Crossing projects shall retain qualified and licensed traffic engineering professional(s) to determine specific mitigation requirements for each project, mitigation timing, and fair-share allocation of these improvements**.**			
UTILITIES AND SERVICE SYSTEMS				
Impact USS-1 Development of the 2019 Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, but could require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, or increase future wastewater generation beyond wastewater treatment capacity.	**Mitigation Measure USS-1** **MM USS-1:** Prior to the approval of any subsequent development projects within the proposed Redevelopment Project Area, a project applicant shall obtain confirmation from the wastewater treatment provider that adequate wastewater treatment capacity is available to serve such development. Such confirmation will be placed in the project file of all appropriate City Departments..	**Planning and Engineering Departments** Require as a condition of project approval. **Project Sponsor** Project proponent to obtain confirmation from wastewater treatment provider.	Draft and incorporate condition as part of project approval. Prior to project approval.	Include in the project file with the City.

Environmental Impact	Mitigation Measure	Monitoring/ Reporting Action(s)	Mitigation Timing	Monitoring Schedule
Impact USS-3 Development of the 2019 Project would result in an increase in water demand. The Project Applicant would be required to ensure that sufficient water supply is available to meet project demands prior to project approval.	**Mitigation Measure USS-3** **MM USS-3:** Prior to development, proponents of projects subject to the requirements for water supply assessments shall be required to obtain a water supply assessment confirming the proposed development's water demand and documenting adequate supply.	**Planning Department** Require as a condition of project approval. **Project Sponsor** Project proponent to obtain a water supply assessment, as described, if required.	Draft and incorporate condition as part of project approval. Prior to project approval.	Include in the project file with the City.

Source: LSA (2019).