

**DRAFT**  
**Lassen Road Residential Development Project**  
**Initial Study/Mitigated Negative Declaration**  
**City of Livermore, Alameda County, California**

Prepared for:



**City of Livermore**

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Report Date: September 9, 2019

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## ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter
ADA	Americans with Disabilities Act
ADL	Aerially Deposited Lead
ADT	average daily traffic
APN	Assessor's Parcel Number
AQP	Air Quality Plan
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
BRA	biological resource assessment
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
CO	Carbon monoxide
CRLF	California red-legged frog
CTS	California tiger salamander
dBA	A-weighted decibel
DPR	Department of Parks and Recreation
EACCS	East Alameda County Conservation Strategy
EPA	United States Environmental Protection Agency
FCS	FirstCarbon Solutions
FHWA	Federal Highway Administration
GHG	greenhouse gas
IS/MND	Initial Study/Mitigated Negative Declaration
L <sub>dn</sub>	day/night average sound level
LOS	Level of Service
LUST	Leaking Underground Storage Tanks
MM	Mitigation Measure
mph	miles per hour

***Acronyms and Abbreviations***

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NAHC	Native American Heritage Commission
NO <sub>x</sub>	nitrogen
OHWM	ordinary high water mark
OPR	Office of Planning and Research
PD	Planned Development
PM	particulate matter
PPV	peak particle velocity
PUD	Planned Unit Development
REC	Recognized Environmental Conditions
ROG	reactive organic gas
SSSC	Side-street stop controlled
STC	Sound Transmission Class
SWPPP	Storm Water Pollution Prevention Plan
TAZ	traffic analysis zone
TDC	Transferable Development Credit
TIA	Traffic Impact Assessment
TOB	top of bank
USGS	United States Geographical Survey
VMT	vehicle miles traveled

## SECTION 1: INTRODUCTION

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to identify any potential environmental impacts from implementation of the Lassen Road Residential Development Project (project) in the City of Livermore, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Livermore is the Lead Agency in the preparation of this IS/MND and any additional environmental documentation required for the project. The City has discretionary authority over the proposed project. The intended use of this document is to determine the level of environmental analysis required, and to provide the basis for input from public agencies, organizations, and interested members of the public.

The remainder of this section provides a brief description of the project location and the characteristics of the project. Section 2 includes an environmental checklist giving an overview of the potential impacts that may result from project implementation.

### 1.1 - Project Location

The project site is located in the City of Livermore, Alameda County, California (Exhibit 1). The 35.2-acre project site consists of two parcels (Assessor's Parcel Number [APN] 902-0008-002 and APN 099-0023-008). The project site is bounded by the Livermore Valley Joint Unified School District property (west), the Archdiocese of Oakland property (north), residential and commercial uses (east), and Interstate 580 (south) (Exhibit 2). The project site is located on the Altamont, California, United States Geographical Survey (USGS) 7.5-minute topographic quadrangle map, Township 3 South, Range 2 East, Unsectioned (Latitude 37°43'10" North; Longitude 121°43'48" West).

### 1.2 - Environmental Setting

#### 1.2.1 - Existing Land Use Activities

The project site contains mostly sloping, undeveloped, grazing land and is situated on a ridgeline and south-facing slope of a northwest trending hill. The elevation of the site ranges from 495 feet above mean sea to level to 600 feet above mean sea level. The project site is accessed from a dead-end segment of Lassen Road. A barbwire fence encloses the property.

An approximately 297-lineal foot reach of the Arroyo Seco crosses through the southwestern portion of the project site, as shown in Exhibit 2. The Arroyo Seco is a blue-line stream that enters the project site from a culvert under Interstate 580 (I-580) and meanders to the west.<sup>1</sup> The stream channel is deeply incised and contains cattail and Bermuda grass

Biological communities consist of non-native annual grassland (95 percent), ruderal (3 percent), willow wetland (1 percent), and perennial stream (1 percent). Most of the vegetation consists of grasses and weeds. Willow thickets are present along the Arroyo Seco.

<sup>1</sup> A "blue-line stream" refers to a stream that appears as a blue line on an United States Geological Survey (USGS) topographical map

A 42-inch diameter Zone 7 water transmission line easement is located along the eastern and northern property boundaries. The easement runs diagonally through the site from north to south. Site photographs are provided in Exhibit 3a and Exhibit 3b.

### 1.2.2 - Surrounding Land Uses

The surrounding land use consists of undeveloped land, condominiums, motels, commercial/retail structures, and a children's day care center. The KinderCare Preschool is adjacent to the eastern project site boundary. The Livermore Valley Joint Unified School District corporation yard is located west of the Arroyo Seco. Adjacent to the northern project boundary is undeveloped land owned by the Archdiocese of Oakland and contemplated for a high school. The project is bounded by the I-580 along the southern project boundary.

### 1.2.3 - Land Use Designations

The project site is designated "Low Intensity Industrial" (12.86 acres), "Service Commercial" (1.20 acres), and "Limited Agriculture" (21.14 acres) by the City of Livermore General Plan and zoned "PUD 105-80" (33.99 acres) and "PUD 88-81" (1.21 acres) by the Livermore Development Code.

## 1.3 - Project Description

The project applicant (LD-Fund III Livermore Land LLC c/o Westgate Ventures) is proposing to amend the existing General Plan and Zoning designations and develop approximately 186 dwelling units on the project site. Residential development would occupy approximately 12 acres of the eastern portion of the site and the remaining approximately 23 acres of the western portion of the site would remain undeveloped and preserved as open space (Exhibit 4a and Exhibit 4b). Table 1 summarizes the project.

**Table 1: Project Summary**

End Use	Acres	Characteristics
Residential	11.94	186 dwelling units 386 parking spaces plus 64 guest spaces provided
Open Space	23.26	Includes the Arroyo Seco and areas visible from I-580 Trail with overlook areas with benches Drought tolerant and native planting
Source: City of Livermore 2018.		





Source: Census 2000 Data, The CaSIL

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## Exhibit 1 Regional Location Map

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Source: ESRI Aerial Imagery.

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## Exhibit 2 Local Vicinity Map Aerial Base

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LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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View of east portion of project site.



View of west portion of project site.

Source: FirstCarbon Solutions

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## Exhibit 3a Site Photographs

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LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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View of the northwestern portion of the project site.



View to the southeastern portion of the project site and the adjacent KinderCare Preschool.

Source: FirstCarbon Solutions

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## Exhibit 3b Site Photographs

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: Ruggeri-Jensen-Azar, July 2019.

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## Exhibit 4a Illustrative Site Plan

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: Ruggeri-Jensen-Azar, July 2019.

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**Exhibit 4b**  
**Site Plan**

CITY OF LIVERMORE  
 LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
 INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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## Residential Uses

The proposed project would employ three dwelling unit types: Oak Trail, Orchard, and Vineyard:

- Oak Trail would consist of 48 three-story townhouse condominium units. Units would range from 1,271 square feet to 1,972 square feet. Oak Trail units would employ architectural features such as gabled roofs, balconies, canopies, and trellises.
- Orchard would consist of 73 three-story townhouse condominium units. Units would range from 1,205 square feet to 1,902 square feet. Orchard units would employ architectural features such as front or wrapped porches, gabled roofs, balconies, canopies, and trellises.
- Vineyard would consist of 65 two-story condominium units. Units would range from 1,603 square feet to 1,906 square feet. Vineyard units would employ architectural features such as front or wrapped porches, gabled roofs, canopies, and trellises.

## Open Space/Trails

The proposed project would avoid any disturbance to the Arroyo Seco and its associated habitat. The project would designate approximately 23 acres of the western portion of the site as open space. The project applicant would install amenities within the upland portion of the open space area including a trail<sup>2</sup> and overlook with seating. The development would be screened by natural-looking, constructed berms along the lower slopes of the project site, adjacent to I-580. The project includes the construction of a 20-foot earthen mound on the western portion of the project site. Landscaping would include vineyards, native oaks, fruit orchards, and olive trees.

## Circulation

The project site would be accessed from Lassen Road, with a looped internal street network. Lassen Road provides a 40-foot wide point of entry from curb to curb with internal roadways between 20 to 26-feet wide, excluding on-street parking. The proposed width of internal roadways is sufficient for emergency vehicle circulation.

## Utilities

### Storm Drainage

The proposed project would install a storm drainage system consisting of inlets, underground piping, and five bioretention basins. Runoff from four of the bioretention basins would be conveyed by a network of 12-, 15-, and 18-inch-diameter pipes to the southeastern corner of the project site and discharged into an existing 18-inch diameter municipal storm drainage pipe. The western basin would discharge to an outfall that would employ overland release, similar to existing conditions. The storm drainage system would be designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways.

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<sup>2</sup> The trail would connect to a planned trail on the Archdiocese property to the north. That trail is evaluated in a separate environmental review process.

**Water**

The proposed project would install a looped, pressurized water distribution system consisting of 4-inch diameter domestic water lines and 8-inch diameter fire water lines. The domestic water and fire water lines would be connected to the existing 14-inch diameter water line on Lassen Road. The existing 42-inch diameter Zone 7 Transmission line would not be altered by the project.

**Wastewater**

The proposed project would install a gravity sanitary sewer system consisting of 8-inch diameter wastewater lines. The wastewater lines would connect to the existing 8-inch diameter municipal wastewater line in the southeastern corner of the project site.

**Grading and Construction**

Grading for the project is expected to balance on the site, with 125,400 cubic yards of cut and 125,400 yards of fill. The site would be graded to create a berm around the perimeter of the development area and a knoll. These features are intended to screen the development from the I-580 viewshed.

**General Plan Amendment and Zone Change**

As part of the project, the applicant is proposing a General Plan Amendment and a Zone Change, as shown in Table 2.

**Table 2: General Plan Amendment and Zone Change Summary**

Title	Current Designation	Proposed Designation
City of Livermore General Plan	<ul style="list-style-type: none"> <li>• Low Intensity Industrial (LII) on 12.86 acres</li> <li>• Service Commercial (SC) on 1.21 acres</li> <li>• Limited Agriculture (LDAG) on 21.14 acres</li> </ul>	<ul style="list-style-type: none"> <li>• Urban High Residential 3 (UH-3) on 11.94 acres</li> <li>• Open Space (OSP) on 23.27 acres</li> </ul>
Livermore Development Code	<ul style="list-style-type: none"> <li>• Planned Unit Development (PUD) 105-80 on 33.99 acres</li> <li>• Planned Unit Development (PUD) 88-81 on 1.21 acres</li> </ul>	<ul style="list-style-type: none"> <li>• Planned Development (PD) on all 35.2 acres</li> </ul>
Source: City of Livermore 2019.		

**1.4 - Required Discretionary Approvals**

The following discretionary approvals are required for the proposed project:

- General Plan Amendment authorizing residential uses
- Zoning Map Amendment and establishment of Planned Development-Residential
- Vesting Tentative Tract Map
- Site Plan Design Review
- Development Agreement

## **1.5 - Intended Uses of this Document**

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

Mr. Andy Ross, Associate Planner  
Community Development Department  
1051 South Livermore Avenue  
Livermore, CA 94550  
Phone: 925.960.4450  
Email: [aaross@cityoflivermore.net](mailto:aaross@cityoflivermore.net)

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## SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected			
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.			
<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources
<input type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources
<input type="checkbox"/>	Greenhouse Gas Emissions/Energy	<input type="checkbox"/>	Hazards/Hazardous Materials
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Transportation	<input type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Wildfire	<input type="checkbox"/>	Mandatory Findings of Significance

### Environmental Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: September 9, 2019 Signed: Andy Ross



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>1. Aesthetics</b> <i>Except as provided in Public Resources Code Section 21099, would the project:</i>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The analysis in this section is based on the Scenic Corridor and Additional Visual Studies prepared by Gates and Associates. The reported is provided in Appendix A.

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** The City of Livermore General Plan identifies ridgelines, including Brushy Peak and Mount Diablo as scenic vistas. Mount Diablo and Brushy Peak can be seen from various vantage points within the project site. The project site would undergo irreversible change where the residential units would be developed. However, most of the project site, especially along I-580 and the Arroyo Seco would remain undisturbed.

The City of Livermore General Plan Community Character Element designates the I-580 Scenic Corridor as the area within 3,500 feet of the freeway centerline and visible from the roadway. The project site is within the I-580 Scenic Corridor. The General Plan seeks to preserve and protect scenic views within the designated I-580 scenic corridor. The General Plan Community Character Element designates the project site as Subarea 3, Subpart D and would meet the policies specific to this site. According to these policies, limits on alterations of natural ground contours shall still apply to all other development, including the locational criteria of visible development on the lowest lying 10 percent slope at the base of the hill area.



According to the City of Livermore General Plan Community Character Element, the project site is designated as Zone I, which permits alterations in slope areas up to 10 percent. In addition, an area equal to 5 percent of the overall Zone I area within the property to be developed may be altered above the 10 percent slope. Exhibit 5a depicts the slope density of the project site. As the exhibit shows, the proposed project limits disturbance to the areas in excess of 10 percent slope.

The applicant commissioned a Scenic Corridor and Visual Study that evaluated views of the project site from the I-580. The study provides a comparison of existing and future views of the project site from various angles along the freeway. As shown in Exhibits 5b and 5c, the majority of the dwelling units would be screened and narrowly visible from certain westbound and eastbound vantage points on I-580.

Furthermore, the project would include five bioretention basins with native grasses to minimize run-off and erosion to be compatible with the existing environment and the intent of the Scenic Route goals, objectives, policies, and actions.

The impact would be less than significant.

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

**Less than significant impact.** I-580 within Livermore is classified as an “Eligible” State Scenic Highway by Caltrans. The project site does not contain any buildings, historic buildings, or rock outcroppings.

The City of Livermore General Plan designates I-580 as a scenic corridor and sets forth goals and policies to preserve and protect scenic views from the freeway. As discussed in Impact 1(a), a berm along the project site’s frontage with I-580 would be contoured consistent with the Scenic Corridor grading policies, Section C.3.b, and would be planted with low maintenance plant materials to effectively screen views of the proposed dwelling units from most vantage points along the freeway. As shown in Exhibits 5b and 5c, the majority of the dwelling units would be screened and narrowly visible from certain westbound and eastbound vantage points on I-580. The buildings visible in the westbound direction cannot be screened because of their height (3 stories) and proximity to the freeway. However, because most of the project would not be visible from the freeway, the proposed project would be consistent with the General Plan Scenic Corridor goals and policies that concern scenic views. Impacts would be less than significant.

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

**Less than significant impact.** The project site currently consists of undeveloped grazing land. The project site would undergo irreversible change where the residential units would be developed. However, most of the project site, especially along I-580 and the Arroyo Seco, would remain undisturbed. As discussed under Impact 1(a) above, the project would not result in a substantial adverse effect on scenic resources and would include the construction of natural-looking berms and landscape trees to substantially shield the residences from the view of travelers going eastbound along I-580. The new berms would be contoured consistent with the Scenic Corridor grading

policies, Section C.3.b, and would be planted with low maintenance plant materials to effectively screen views of the proposed dwelling units from most vantage points along the freeway, consistent with Scenic Corridor policies.

The project site is currently designated “Low Intensity Industrial” (12.86 acres), “Service Commercial” (1.20 acres), and “Limited Agriculture” (21.14 acres) by the City of Livermore General Plan. The General Plan currently contemplates development of the project site. The proposed project involves a General Plan Amendment to re-designate the project site to residential use and open space. From a visual perspective, the General Plan Amendment has no significant implications as the project site would support residential uses instead of commercial/light industry uses and, thus, would still be urban and open space in appearance.

The project buildings would consist of 2- and 3-story residential townhomes ranging from 28 to 38 feet, respectively, as measured from grade to the uppermost roof point. The residential portion is compatible with nearby land uses and building forms, which consists of 2- and 3-story condominiums, motels, commercial/retail structures, and a children’s day care center. Much of the land surrounding the site to the east and south is highly developed. Undeveloped land owned by the Archdiocese of Oakland north of the project site is contemplated for a high school. The residential character of the project would be compatible with the existing and surrounding land uses and the proposed school.

The City of Livermore General Plan designates I-580 as a scenic corridor and sets forth goals and policies to preserve and protect scenic views from the freeway. As shown in Exhibits 5b and 5c, the majority of the dwelling units would be screened and narrowly visible from certain westbound and eastbound vantage points on I-580. The only locations where dwelling units would be visible would be from the vicinity of the I-580/First Street interchange.

Overall, the proposed project would be compatible with its surroundings and would not diminish the visual attributes of the I-580 scenic corridor. Impacts would be less than significant.

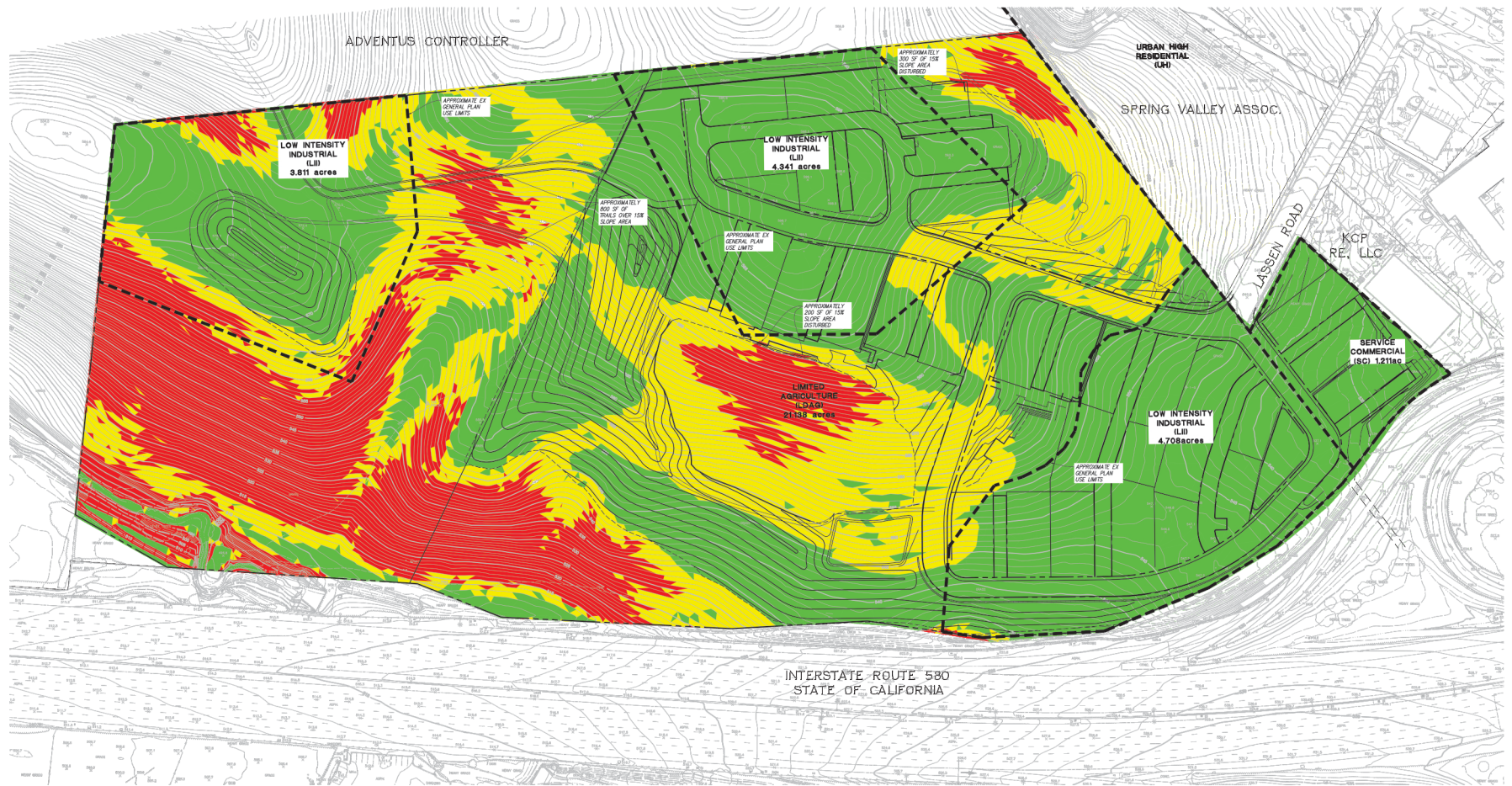
**d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**Less than significant impact.** The project proposes to develop 186 residential units with associated parking on a site that is currently vacant. As a result, the project would increase the amount of light and glare from the project site, compared with existing conditions. The new sources of light would come from interior and exterior lighting, as well as some glare reflecting off building surfaces. The project would comply with applicable General Plan and zoning regulations regarding the lighting design and building materials designed to limit nearby property’s exposure to lighting and glare. The project will be consistent with Livermore General Plan Community Character Element Policy CC-1.3.P1 to minimize obtrusive glare and wasted energy from excessive nighttime lighting and preserve views of the nighttime sky. The proposed project would be subject to Site Plan Design Review to determine conformance with City Development Code standards and Design Standards and Guidelines that pertain to light and glare. Furthermore, a photometric analysis prepared for the project demonstrates lighting will remain on the project site. Therefore, impacts would be less than significant.

## **Mitigation Measures**

None.

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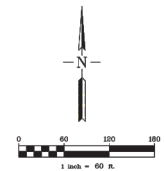


#### 10-15% SLOPE AREAS:

AREA:	ACREAGE:	% OF SITE TOTAL:
10-15% AREA GRADED FOR BUILDINGS (LOTS)	0.3 AC	0.9 %
10-15% AREA GRADED FOR LANDSCAPE/CONFORM/BERMS	1.45 AC	4.1 %
<b>SUBTOTAL GRADED AREA</b>	<b>1.75 AC</b>	<b>5 %</b>
10-15% AREA GRADED FOR ROADS	1.6 AC	4.5 %
10-15% AREA UNDISTURBED	4.9 AC	14 %
<b>8.3 AC TOTAL</b>		<b>23.5 %</b>

#### SLOPE LEGEND:

PERCENTAGE:	ACREAGE:
0% - 10%	20.2 AC
10% - 15%	8.3 AC
> 15%	6.7 AC
	<b>35.2 AC TOTAL</b>



Source: Ruggeri-Jensen-Azar, July 2019.

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17280012 • 09/2019 | 5a\_slope\_density\_analysis.cdr

## Exhibit 5a Slope Density Analysis

CITY OF LIVERMORE  
LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: digital imaging studio, August 30, 2019.

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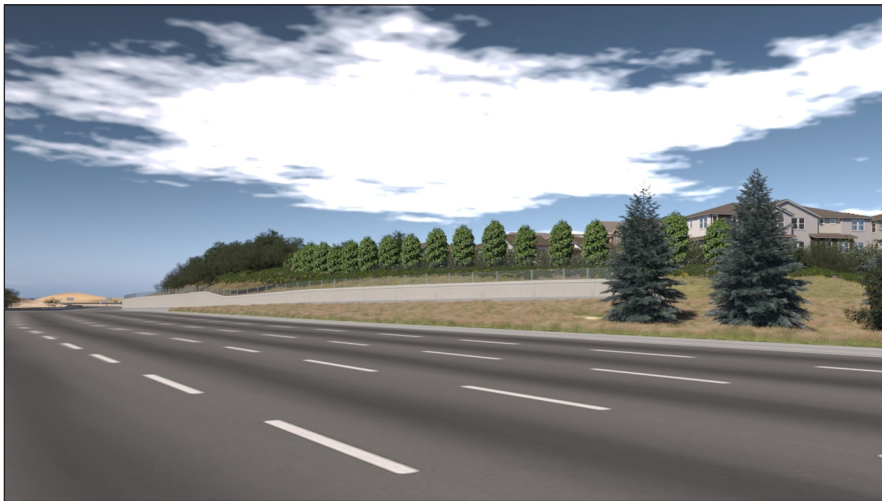
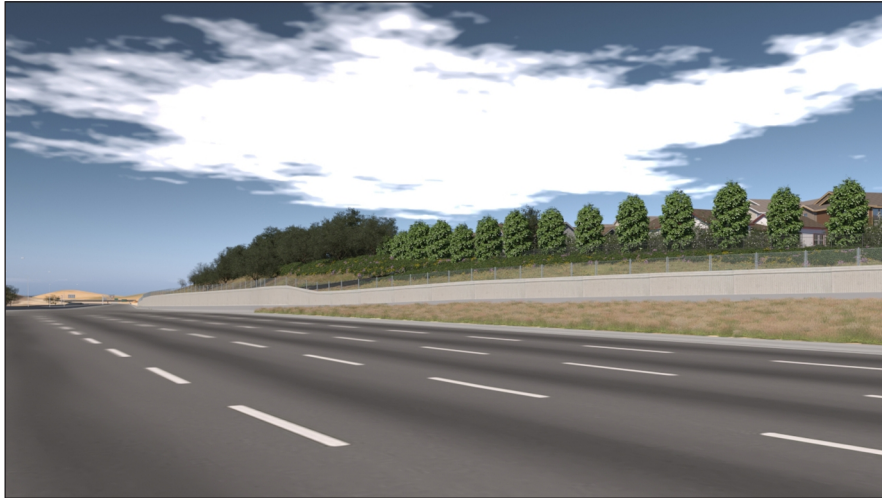
17280012 • 09/2019 | 5b\_Eastbound\_I580\_visual\_simulation.cdr

## Exhibit 5b Eastbound Views From I-580

CITY OF LIVERMORE  
LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: digital imaging studio, August 30, 2019.

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## Exhibit 5c Westbound Views From I-580

CITY OF LIVERMORE  
LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>2. Agriculture and Forestry Resources</b> <i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</i>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

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

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

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?**

**No impact.** The California Department of Conservation Farmland Mapping and Monitoring Program mapping for Alameda County designates the project site as “Grazing Land.” The site does not contain any lands identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, there would be no conversion of any farmland to non-agricultural use because of the project. No impacts would occur.

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

**No impact.** The California Department of Conservation’s Alameda County Williamson Act Map designates the project site as “Non-Enrolled Land,” indicating that the project site is not encumbered by a Williamson Act contract. The project site is zoned “PUD 105-80” (33.99 acres) and “PUD 88-81” (1.21 acres) by the Livermore Development Code, both of which are non-agricultural zoning designations. Therefore, the project would not conflict with agricultural zoning or a Williamson Act contract. No impact would occur.

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

**No impact.** The project site zoned “PUD 105-80” (33.99 acres) and “PUD 88-81” (1.21 acres) by the Livermore Development Code, both of which are non-forest zoning designation. Therefore, the project would not conflict with forest zoning. No impact would occur.

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

**No impact.** The project site does not support forest land. As such, project implementation would not result would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

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

**No impact.** The project site contains grazing land and does not contain any land designated Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forest land, or timberland. Therefore, no impacts associated with the conversion of Farmland or forest land would occur.

## **Mitigation Measures**

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>3. Air Quality</b> <i>Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.</i> <i>Would the project:</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The analysis in this section is based on the Air Quality Assessment prepared by Illingworth & Rodkin, Inc. The report is provided in Appendix B. FirstCarbon Solutions (FCS) performed a peer review of the Air Quality Assessment. The Air Quality Assessment provides the results of an assessment of potential air quality impacts for the project. Air quality impacts were addressed with respect to the applicable CEQA Checklist questions that require quantified analyses. In addition, the assessment evaluates the effects for existing sources of air pollutants or contaminants upon future project residents that are considered sensitive receptors.

## Environmental Evaluation

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.

Would the project:

**a) Conflict with or obstruct implementation of the applicable air quality plan?**

**Less than significant impact with mitigation incorporated.** The United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.”

The San Francisco Bay Area Air Basin is designated as nonattainment for the State ozone standards, the State PM<sub>10</sub> standards, and the State PM<sub>2.5</sub> standards. The region is in attainment or unclassified for all other ambient air quality standards. The Bay Area Air Quality Management District (BAAQMD) prepares air quality plans that include projected emissions inventories and account for emission reduction strategies in order to demonstrate how the region will achieve the ambient air quality standards by the given deadlines.

In April 2017, the BAAQMD adopted their 2017 Clean Air Plan (2017 CAP), which serves as the regional Air Quality Plan (AQP) for the San Francisco Bay Area Air Basin for attaining federal ambient air quality standards. The primary goals of the 2017 CAP are to protect public health and protect the climate. The 2017 CAP acknowledges that the BAAQMD's two stated goals of protection are closely related. As such, the 2017 CAP identifies a wide range of control measures intended to decrease both criteria pollutants and greenhouse gases (GHGs). The 2017 CAP also accounts for projections of population growth provided by Association of Bay Area Governments and vehicle miles traveled provided by the Metropolitan Transportation Commission, and identifies strategies to bring regional emissions into compliance with federal and State air quality standards. A project would be judged to conflict with or obstruct implementation of the 2017 CAP if it would result in substantial new regional emissions not foreseen in the air quality planning process. The BAAQMD recommends that projects consider three criteria to determine whether a project would conflict with or obstruct implementation of an applicable air quality plan.

**1. Does the project support the primary goals of the AQP?**

As discussed in Impact 3(b), the project's construction and operational emissions would not exceed BAAQMD regional thresholds of significance on an average daily or annual basis. Therefore, the project would not generate regional air pollutant emissions resulting in a significant unavoidable impact and would be consistent with the goals of the applicable AQP.

**2. Does the project include applicable control measures from the AQP?**

Regardless of significance, all projects within BAAQMD's jurisdiction are required to implement the BAAQMD Basic Construction Mitigation Measures. As discussed in Impact 3(b), the project would implement all Basic Construction Mitigation Measures after the incorporation of Mitigation Measure (MM) AIR-1, which would be consistent with the assumptions in the AQP. Furthermore, the project would comply with all applicable BAAQMD rules and regulations.

**3. Does the project disrupt or hinder implementation of any AQP control measures?**

The project would comply with all required control measures and rules and regulations required by the BAAQMD during construction and operation. The project would not include any special features that would disrupt or hinder implementation of the AQP control measures.

With the implementation of MM AIR-1, the project would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant with mitigation incorporated.

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

**Less than significant impact with mitigation incorporated.**

This section addresses the impacts of the project's regional criteria pollutant emissions. The nonattainment regional pollutants of concern are ozone, PM<sub>10</sub> and PM<sub>2.5</sub>. Ozone is a regional pollutant formed by photochemical reactions in the atmosphere and is not directly emitted into the air. Ozone precursors, such as reactive organic gas (ROG) and nitrogen (NO<sub>x</sub>), react in the atmosphere in the presence of sunlight to form ozone. Therefore, the BAAQMD has developed thresholds of significance for ROG and NO<sub>x</sub> to regulate the regional generation of ozone. PM<sub>10</sub> and PM<sub>2.5</sub> are of concern particularly during construction because of the potential to emit fugitive dust during earth-disturbing activities (construction fugitive dust), and the potential to form secondary particulate matter (PM) in the atmosphere.

As described above, projects that would generate construction or operational emissions that exceed BAAQMD emission thresholds of significance would violate or contribute substantially to an existing or projected air quality violation. BAAQMD thresholds of significance represent the allowable amount of emissions from a project for the region to achieve and maintain ambient air quality standards. Therefore, to evaluate the potential of the project's construction and operational emissions to violate or contribute to an air quality violation, this analysis evaluates the project's emissions with BAAQMD's regional thresholds of significance.

**Construction Emissions**

Construction-related emissions would result from on-site and off-site activities. On-site emissions consist principally of exhaust emissions from the heavy-duty off-road construction equipment, on-site motor vehicle operation, and fugitive dust (mainly PM<sub>10</sub>) from disturbed soil. Off-site emissions are caused by motor vehicle exhaust associated with delivery and haul truck vehicles, construction worker traffic, and road dust.

The California Emissions Estimator Model (CalEEMod) was used to compute construction emissions that include various types of residential construction across the site. A provided construction schedule and projected equipment usage were provided to input to the model. Since this schedule and list were incomplete, CalEEMod model default assumptions were used to fill in data gaps.

**Schedule**

For purposes of a conservative assessment, it is assumed that construction would occur over a 17-month schedule (375 workdays). This schedule assumes that the project is constructed in seven continuous phases: Demolition (minor), Site Preparation, Grading, Trenching, Exterior Building Construction, Paving, and Interior Building Construction.

**Construction Equipment**

Equipment type, quantity, number of days in use, average hours of use per day (of use) were provided for each phase, which were based on CalEEMod default assumptions. The average hours



per day were input to the model as the total number of hours for each phase divided by the number of workdays in that phase.

### **Truck and Worker Travel**

Worker and vendor travel is based on the CalEEMod default values, which assign a daily rate for each phase. CalEEMod also computes the number of haul trips that are based on the amount of demolition and soil material to be imported or exported from the site. Grading for the project is expected to balance on the site, with 125,400 cubic yards of cut and 125,400 yards of fill.

### **CalEEMod Construction Modeling Results**

CalEEMod provided construction emissions in tons per year. Average daily emissions were computed by dividing the emissions by the number of workdays (i.e., 375). Total construction emissions from full build out of the project are shown in Table 3.

**Table 3: Construction Period Emissions**

Description	ROG Emissions	NO <sub>x</sub> Emissions	PM <sub>10</sub> Exhaust Emissions	PM <sub>2.5</sub> Exhaust Emissions
Total Construction Emissions	3.09 tons	8.06 tons	0.29 ton	0.27 ton
Daily Project Emissions— (375-Day Schedule)	16 lbs/day	46 lbs/day	2 lbs/day	2 lbs/day
BAAQMD Thresholds	54 lbs/day	54 lbs/day	82 lbs/day	54 lbs/day
Significant?	No	No	No	No
Source: Air Quality Assessment prepared by Illingworth & Rodkin provided in Appendix B.				

### **Construction Fugitive Dust**

During grading and construction activities, dust would be generated with most of the dust resulting during the grading. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Nearby areas could be adversely affected by dust generated during construction activities. The BAAQMD does not have a quantitative threshold for fugitive dust but considers implementation of its Basic Construction Mitigation Measures sufficient to minimize fugitive particulate matter dust emissions. These measures are required for all projects regardless of their level of emissions with respect to significance thresholds. The potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from this source. The Basic Construction Mitigation Measures are required by MM AIR-1. Therefore, with mitigation, short-term construction impacts associated with fugitive dust would be less than significant.

### **Operation Emissions**

CalEEMod provided emissions for operation that primarily includes traffic and energy usage (i.e., natural gas usage). Table 4 provides a summary of the operational emissions. Since the site is undeveloped, there are no existing emissions from the project site. Therefore, the modeled

emissions shown in Table 4 represent net-new emissions caused by the project. Total daily and annual emissions from operation of the project would not exceed any of the significance thresholds. The impact is considered a less than significant.

**Table 4: Operation Period Emissions**

Description	ROG Emissions	NO <sub>x</sub> Emissions	PM <sub>10</sub> Exhaust Emissions	PM <sub>2.5</sub> Exhaust Emissions
Annual Project Emissions	1.92 tons	2.30 tons	0.99 ton	0.29 ton
Daily Project Emissions	11 lbs/day	13 lbs/day	5 lbs/day	2 lbs/day
BAAQMD Thresholds	54 lbs/day	54 lbs/day	82 lbs/day	54 lbs/day
Significant?	No	No	No	No
Note: Project operational emissions include mobile sources (motor vehicles) and natural gas consumption. Source: Air Quality Assessment prepared by Illingworth & Rodkin provided in Appendix B.				

Since project emissions would not exceed the significance thresholds this impact is considered less than significant.

**c) Expose sensitive receptors to substantial pollutant concentrations?**

**Less than significant impact with mitigation incorporated.** The proposed project would be a source of air pollutant and toxic air contaminant (TAC) emissions during project construction. Project emissions of criteria air pollutants are addressed above. This impact addresses emissions of TACs and PM<sub>2.5</sub> that could adversely affect sensitive receptors, such as surrounding residential uses and the KinderCare Preschool adjacent to the eastern project site boundary.

The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk, increased PM<sub>2.5</sub> concentrations or hazard to be significant. The BAAQMD recommends a 1,000-foot zone of influence around project boundaries. Project operation would not be a localized source of TACs or PM<sub>2.5</sub>, and therefore, operational health risks are not quantified. Temporary construction activities are a source of TACs and PM<sub>2.5</sub> from diesel exhaust emitted on and near the site.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose community risks for sensitive receptors such as residents of single-family homes to the north of the project, and the KinderCare Preschool, located adjacent to the eastern project site boundary. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM<sub>2.5</sub>. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A community risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors from construction emissions of diesel

particulate matter (DPM) and  $PM_{2.5}$ . Emissions and dispersion modeling was conducted to predict the off-site DPM and  $PM_{2.5}$  concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

### On-site Construction TAC Emissions

Construction period emissions were computed using CalEEMod along with projected construction activity, as described above. The CalEEMod model provided total annual  $PM_{10}$  exhaust emissions (assumed to be DPM) for the off-road construction equipment used for construction of the project and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles) of 0.2718 ton (544 pounds) over the construction period. A trip length of 1 mile was used to represent vehicle travel while at or near the construction site. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction site. Fugitive dust  $PM_{2.5}$  emissions were also computed and included in this analysis. The model predicts emissions of 0.1531 ton (306 pounds) of fugitive  $PM_{2.5}$  over the construction period.

### Dispersion Modeling

The EPA AERMOD dispersion model was used to predict concentrations of DPM and  $PM_{2.5}$  concentrations at existing sensitive receptors (preschool infants and children, and nearby residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects. The AERMOD modeling utilized eight area sources to represent the on-site construction emissions, four for exhaust emissions and four for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area sources. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive  $PM_{2.5}$  emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area sources. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur.

The modeling used a 5-year data set (2009-2013) of hourly meteorological data from the Livermore Municipal Airport that was prepared for use with the AERMOD model by the ARB for use in health risk assessments. Annual DPM and  $PM_{2.5}$  concentrations from construction activities during the 2019–2020 period were calculated using the model. DPM and  $PM_{2.5}$  concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 1.5 meters (4.9 feet) were used to represent the breathing heights of residents in nearby single-family homes and townhomes. Receptor heights of 1.0 meter (3.3 feet) were used to represent the breathing heights of infants and children at the KinderCare Preschool.

The maximum-modeled DPM concentration and  $PM_{2.5}$  occurred at a receptor in the KinderCare Preschool. The maximum residential DPM and  $PM_{2.5}$  concentrations occurred at the closest residence north of the construction site.

### Construction Health Risk Impacts

The health risk impact was computed using modeled TAC and PM<sub>2.5</sub> concentrations and the methods and exposure parameters described in further detail in the Air Quality Assessment in Appendix B. The maximum excess preschool infant cancer risk from these construction activities would be 27.5 in one million for an infant exposure. The maximum excess residential cancer risks from these construction activities would be 9.3 in one million for an infant exposure and 0.2 in one million for an adult exposure. Residential excess cancer risks would not exceed the BAAQMD significance threshold of 10 in one million.

The maximum preschool infant excess cancer risk would exceed the BAAQMD significance threshold of 10 in one million and would be considered a significant impact. Implementation of MM AIR-2 would reduce the maximum increased cancer risk for an infant at the KinderCare Preschool and the maximum residential childcare cancer risk to less than significant levels; the excess cancer risks would be reduced to 3.1 in one million and 1.1 in one million, respectively.

The maximum-modeled annual PM<sub>2.5</sub> concentration, which is based on combined exhaust and fugitive dust emissions, was 0.23 micrograms per cubic meter (µg/m<sup>3</sup>) and occurred at the KinderCare Preschool. This maximum annual PM<sub>2.5</sub> concentration would not exceed the BAAQMD significance threshold of 0.3 µg/m<sup>3</sup>.

The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.1024 µg/m<sup>3</sup>. The maximum computed health index based on this DPM concentration is less than 0.02, which is much lower than the BAAQMD significance criterion of a hazard index greater than 1.0.

### Cumulative-Source Impacts

The cumulative impacts of TAC emissions from construction of the project combined with nearby TAC and PM<sub>2.5</sub> sources on the maximally exposed individual during construction are summarized in Table 5. As shown in Table 5, after mitigation, the sum of impacts from combined sources would be below the thresholds of significance.

**Table 5: Impacts from Combines Sources at Construction Maximally Exposed Individual**

Source	Maximum Cancer Risk (per million)	Hazard Index	PM <sub>2.5</sub> concentration (µg/m <sup>3</sup> )
Project Buildout (unmitigated)	27.5 (infant)	0.02	0.23
Project Buildout (mitigated)	3.1 (infant)	<0.01	0.07
I-580 traffic (500 feet south) using BAAQMD Google Earth Screening Tool—Link 608 (6ft elevation)	<38	<0.03	<0.23
First Street/Springtown Blvd (200 feet north)	<3.8	<0.01	0.0
Plant G8281 Springtown Gasoline 909 Blue Bell Drive—Stationary Source Tool—Gas Station Distance Multiplier at 400 feet	<1.3	0.0	0.0

**Table 5 (cont.): Impacts from Combines Sources at Construction Maximally Exposed Individual**

Source	Maximum Cancer Risk (per million)	Hazard Index	PM <sub>2.5</sub> concentration (µg/m <sup>3</sup> )
Plant G8949 Unocal #6034 4700 First Street— <i>Stationary Source Tool—Gas Station Distance Multiplier at &gt;1,000 feet</i>	<0.6	0.0	0.0
Plant 15852 Target Corporation T0828—Generator 4300 Las Positas Road— <i>Stationary Source Tool—Diesel Engine Distance Multiplier at &gt;1,000 feet</i>	0.0	0.0	0.0
Combined Sources (unmitigated)	<71.2	<0.06	0.46
Combined Sources (mitigated)	<46.8	<0.07	0.30
<b>BAAQMD Threshold—Combined Sources</b>	<b>100</b>	<b>10.0</b>	<b>0.8</b>
Notes: Source: Air Quality Assessment prepared by Illingworth & Rodkin provided in Appendix B.			

### On-Site Community Risk Impacts

This section describes the effects of nearby air pollutant and contaminant sources upon the project site. Due to a recent Supreme Court decision regarding BAAQMD's CEQA Air Quality Guidelines, this is not addressed as a CEQA-related air quality issue. The 2017 version of the CEQA Guidelines provide guidance to address this issue for lead agencies. Sources of TAC emissions located within 1,000 feet of the project site were analyzed. These include I-580, local high-volume roadways, and stationary sources permitted by BAAQMD. Table 6 summarizes the community risk posed by each source. The levels shown in Table 6 are the maximum level that would occur anywhere on the project site from each source.

**Table 6: Community Risk Impacts from TAC Sources Affecting On-Site Sensitive Receptors**

Source	Maximum Cancer Risk (per million)	Maximum Annual PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Maximum Hazard Index
<b>Highways</b>			
I-580 Refined Roadway Modeling using AERMOD— 189,000 average daily traffic (ADT) ADT source: Caltrans.	20.3	0.70	<0.01
<b>Local High-Volume Roadways</b>			
Springtown/First Street Roadway Screening Calculator at 600 feet east— 32,000 ADT	1.6	0.04	<0.01

**Table 6 (cont.): Community Risk Impacts from TAC Sources Affecting On-Site Sensitive Receptors**

Source	Maximum Cancer Risk (per million)	Maximum Annual PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Maximum Hazard Index
ADT source: First Street, south of Southfront Road, Livermore ADT data rounded up from 31,833 to 32,000 (note Springtown Boulevard has lower ADT)	—	—	—
<b>Permitted Stationary Sources</b>			
Plant G8281 Springtown Gasoline 909 Blue Bell Drive <i>Stationary Source Tool—Gas Station Distance Multiplier at 900 feet</i>	0.4	0.00	0.00
Plant G8949 Unocal No. 6034 4700 First Street <i>Stationary Source Tool—Gas Station Distance Multiplier at 1,000 feet</i>	0.6	0.00	0.00
Plant 15852 Target Corporation T0828—Generator 4300 Las Positas Road <i>Stationary Source Tool—Diesel Engine Distance Multiplier at 450 feet</i>	0.0	0.00	0.00
Project Buildout			
Unmitigated	27.5 (infant)	0.02	0.23
Mitigated	3.1 (infant)	<0.01	0.07
<b>Combined Total (Mitigated Project Buildout)*</b>	<b>&lt;22.9*</b>	<b>&lt;0.74*</b>	<b>&lt;0.02*</b>
Notes: * Note that combined total assumes that the maximum risk at the project site from each source occurs at the same place. This results in an overestimate because the maximum impacts occur at different locations across the site. This approach is appropriate to identify if potentially significant combined risks would occur. Source: Air Quality Assessment prepared by Illingworth & Rodkin provided in Appendix B.			

The Air Quality Assessment prepared by Illingworth & Rodkin recommends that the project include measures to minimize long-term annual TAC and PM<sub>2.5</sub> exposure for new project occupants, such as installation air filtration devices rated Minimum Efficiency Reporting Value (MERV) 13 or higher. This recommendation is reflected in MM AIR-3 and would serve to reduce impacts to a level of less than significant.

### Interstate 580

TAC emissions from traffic on I-580 include DPM, particularly from trucks, and organic TAC compounds from gasoline-fueled vehicles. As recommended by the BAAQMD, in addition to DPM, total organic gas (TOG) emissions from vehicle exhaust and running evaporative losses from gasoline vehicles, which are considered organic TAC emissions, were used to evaluate cancer risks and non-

cancer health effects. Vehicle PM<sub>2.5</sub> emissions, which include exhaust emissions and PM<sub>2.5</sub> emissions generated from tire and brake wear and roadway dust, from all vehicles (diesel- and gasoline-fueled) were also evaluated for potential health effects. A review of the traffic information reported by California Department of Transportation (Caltrans) for 2016 indicates that in the vicinity of the project area, I-580 has an ADT of 189,000. About 12.2 percent of these trips are made by trucks, with about 10.0 percent of these trucks being heavy duty trucks.

#### *Traffic Emissions Modeling*

Vehicle emissions were calculated using emission factors for traffic on I-580 using the ARB EMFAC2014 model. Default EMFAC2014 vehicle model year distributions for Alameda County were used in calculating emissions for 2021. Average daily traffic volumes and truck percentages were based on Caltrans data for I-580 for 2016. Traffic volumes were assumed to increase 1 percent per year. Average hourly traffic distributions for Alameda County roadways were developed using the EMFAC model, which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for I-580.<sup>3</sup> The modeling was conducted assuming emissions for the year 2021. Year 2021 would be the first full year of project occupancy and emissions for 2021 were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years) since overall vehicle emissions and, in particular, diesel truck emissions will decrease in the future.

For all hours of the day, other than during peak AM and PM periods, an average speed of 65 miles per hour (mph) was assumed for all vehicles. Based on traffic data from the Alameda County Transportation Commission's 2016 Level of Service Monitoring Report, traffic speeds during the peak AM and PM periods were identified. For a 2-hour period during the peak AM period, an average travel speed of 25 mph was used for westbound traffic and the average free-flow travel speed was used for eastbound traffic. For the peak PM period, the average free-flow travel speed was used for westbound traffic and an average travel speed of 40 mph was used for southbound traffic.

#### *Dispersion Modeling*

Dispersion modeling of TAC and PM<sub>2.5</sub> emissions was conducted using the EPA AERMOD model, which is recommended by the BAAQMD for this type of analysis. East and westbound traffic on I-580 within about 1,000 feet of the project site were evaluated. A 5-year data set (2009-2013) of hourly meteorological data from the Livermore Municipal Airport prepared for use with the AERMOD model by the ARB for use in health risk assessments was used for the modeling. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations and elevations.

The modeling used receptors placed at the locations of the residential units of the proposed project. Receptor heights of 1.5 meters (5 feet) were used to represent the breathing heights of residents.

<sup>3</sup> The Burden output from EMFAC2007, ARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour-by-hour traffic volume information.

### *Computed Cancer and Non-Cancer Health Impacts*

The modeled TAC and PM<sub>2.5</sub> concentrations from I-580 were used to assess impacts at the project site. The maximum increased lifetime cancer risk and annual PM<sub>2.5</sub> concentrations for new residents at the project site from I-580 are shown in Table 6.

Modeled cancer risks range from 20.3 in one million to a 2.0 per million. The portion of the site that is within about 350 to 400 feet of I-580 would have cancer risk and PM<sub>2.5</sub> concentrations that exceed the recommended thresholds (i.e., cancer risk > 10.0 per million and annual PM<sub>2.5</sub> concentrations > 0.3 µg/m<sup>3</sup>). The health risks impacts were computed using modeled TAC and PM<sub>2.5</sub> concentrations and the methods and exposure parameters described in Appendix B.

### **Local Roadways**

For local roadways, BAAQMD has provided a screening calculator to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect on a proposed project. Two local roadways appear to affect the project site. These include Springtown Boulevard/First Street. Inputs to the screening calculator include county, roadway orientation, side of the roadway the receptor is located, distance from the edge of the roadway, and the average daily traffic volume or ADT.

Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new California Office of Environmental Health Hazard Assessment (OEHHA) guidance described above. The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of TOGs for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for year 2018<sup>4</sup>. The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by the BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.

The following inputs were used to model nearby roadways using the BAAQMD Roadway Screening Analysis Calculator for Alameda County:

- First Street was modeled as north-south roadway north of the project site with the closest potential residence at 600 feet east of the roadway edge. The ADT was determined from the City of Livermore—2012/13 Summary ADT Counts. The ADT for the First Street roadway segment south of Southfront Road is 31,833 vehicles. This value was rounded up to 32,000 ADT for this analysis.

Potential cancer risk, annual PM<sub>2.5</sub> concentrations and non-cancer hazard index from these roadways would be below the BAAQMD significance thresholds for community risk from single sources. The output from the roadway screening calculator is provided in Appendix B.

<sup>4</sup> EMFAC2014 produces emission rates for 2018 that are 54 percent less for exhaust PM<sub>2.5</sub> and 44 percent less for total organic gases than EMFAC2011 produces for the year 2014.



### **Stationary Sources**

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's Stationary Source Risk and Hazard Analysis Tool. This mapping tool uses Google Earth to identify the location of stationary sources and their estimated risk and hazard impacts. A Stationary Source Inquiry Form was prepared with available plant information. The BAAQMD provides screening plant cancer risk, hazard and annual PM<sub>2.5</sub> concentration predictions, distance multipliers to adjust the risk levels for distance between the sources and the closest portion of the project site where sensitive receptors would reside. These factors were used, as recommended by the BAAQMD, for the two gasoline stations and one diesel generator. In addition, the cancer risk levels were adjusted by a factor of +1.3744 to adjust for cancer risk calculations that use the new OEHHA guidance described above. The risk levels, shown in Table 5, from each of these sources are below the significance thresholds established by the BAAQMD.

### **Cumulative Community Risk Levels**

The combination of risk, hazards, and annual PM<sub>2.5</sub> concentrations are also reported in Table 6. This was computed by simply adding the risk from each source, which results in an overestimate of the cumulative levels. This methodology assumes the maximum effect on the site from each source occurs at one location, while each source has a maximum impact at a different location within the site. However, the cumulative risk levels using this conservative assumption are below the significance thresholds; therefore, a refined analysis of the cumulative levels was not conducted.

### **Operational CO Hot Spot**

Increased intersection congestion can lead to increased localized carbon monoxide or CO concentrations (hot spots) in the vicinity of the intersection. Typically, there needs to be a substantial increase in the number of vehicles accessing an intersection and a decrease in the intersection level of service (LOS) in order for there to be elevated CO concentrations of concern. The BAAQMD has provided screening guidance to assess whether a project might cause or contribute to a potential exceedance of an ambient air quality standard for CO. The BAAQMD predicts that traffic at project-affected intersections would have to exceed 44,000 vehicles per hour. The project would not cause or contribute to CO exceedances since the traffic at affected intersections would be well below the BAAQMD screening criteria. Note that the Bay Area, as a whole, is considered attainment for CO and has not recorded an exceedance of a standard in over 20 years. Considering this information, CO-related impacts during long-term projects would be less than significant.

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

**Less than significant impact.** Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors that would cause complaints from surrounding uses. Impacts would be less than significant.

## Mitigation Measures

- MM AIR-1** During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by the BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:
1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
  2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
  3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
  4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
  5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
  7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
  9. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
- MM AIR-2** Prior to the issuance of grading permits, the applicant shall develop a plan demonstrating that the off-road equipment used to on-site to construct the project would achieve a fleet-wide average of at least 63 percent reduction in exhaust PM<sub>10</sub> emissions. One feasible plan to achieve this reduction would include the following:
- All mobile and portable diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days continuously shall meet, at a minimum, EPA particulate matter emissions standards for Tier 2 engines or equivalent and include diesel particulate matter filters that are equivalent to ARB-certified Level 3 Diesel Particulate Filters (note that meeting EPA Tier 4 engine standards would suffice);

Note that the construction contractors could use other measures to minimize construction period DPM emission to reduce the estimated cancer risk below the thresholds. The use of equipment that includes alternatively-fueled equipment (i.e., non-diesel) would meet this requirement. Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the City and demonstrated to reduce impacts to less than significant.

**MM AIR-3** Prior to issuance of building permits, the applicant shall prepare and submit plans to the City of Livermore demonstrating that air filtration devices rated MERV 13 or higher will be installed in each dwelling unit. The approved plans shall be incorporated into the project.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>4. Biological Resources</b> <i>Would the project:</i>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The analysis in this section is based on the biological resource assessment (BRA) and wetland delineation prepared by WRA, Inc. provided in Appendix C, as well as a field survey conducted by FCS biologists on October 12, 2018, to confirm and corroborate the findings. FCS performed a peer review of the BRA. The BRA describes the results of the site visit, which assessed the project site and immediately adjacent areas for: (1) the potential to support special-status plant and wildlife species; (2) the potential presence of sensitive biological communities such as wetlands or riparian habitats; and (3) the potential presence of other sensitive biological resources protected by local, state, and federal laws and regulations. Additionally, FCS reviewed the East Alameda County Conservation Strategy for information regarding conservation values, minimization, avoidance strategies, and mitigation ratios.



## Environmental Evaluation

Would the project:

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

**Less than significant impact with mitigation incorporated.** The project site is approximately 35.2 acres in the City of Livermore, Alameda County, California. The project site is an irregular, roughly rectangular area adjacent to, and north, of I-580. The project site contains characteristics of land that has been developed or disturbed, including disturbed soils and the presence of invasive and non-native plant species. The project site currently consists of upland, non-native annual grassland. Most of the site is grazed by livestock, with the exception of a small fenced area immediately south of Lassen Road, which has been disked.

### Special-Status Plant Species

Fifty special-status plant species were evaluated for their potential to occur on the project site based on their ecology and regional occurrences. Potential impacts occurring to special-status plant species, if they were found on-site, would likely be significant. Both the WRA report as well as the field survey by FCS biologists conclude that based on the absence of suitable habitat, it was determined that all 50 of these special-status plant species are considered unlikely to occur on the project site.

One species, bent-flowered fiddleneck (*Amsinckia lunaris*), was highlighted as having the potential to occur within the project site by WRA's initial BRA. The bent-flowered fiddleneck is an annual forb that blooms from March to June. It typically occurs in open, dry habitats within grasslands, areas within cismontane woodland, and coastal bluff scrub habitat, often on serpentine substrate, at elevations ranging from 10 to 1,625 feet. Bent-flowered fiddleneck is known to exist in 38 USGS 7.5-minute quadrangles in Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo, Sonoma, and Yolo counties. The nearest and most recent documented occurrence in the vicinity of the project site is from 1999, at a location approximately 5 miles to the northeast in the Altamont Pass vicinity. Based on the site reconnaissance survey, FCS biologists have concluded that bent-flowered fiddleneck does not have the potential to occur in the grassland habitat within the project site due to the lack of proper soil conditions. Soils within the grassland habitat do not contain serpentine inclusions or components, and the absence of serpentine components in the soil profile of the project site preclude the occurrence of the bent-flowered fiddleneck. As a result, impacts to this species and the other 49 special status plant species are not expected to occur.

### Special-Status Wildlife Species

FCS evaluated the potential for 47 special-status wildlife species to occur on project site, based on their ecology and regional occurrences. Because the project site has been heavily disturbed, coupled with its location adjacent to a high-traffic roadway, it was determined that 39 of the 47 special-status wildlife species are considered unlikely to occur on the project site. The eight special-status wildlife

species with the potential to occur on the project site include American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), Allen's hummingbird (*Selasphorus sasin*), yellow warbler (*Setophaga petechia*), western pond turtle (*Actinemys marmorata*), California red-legged frog (*Rana draytonii*), and California tiger salamander (*Ambystoma californiense*).

Of the eight special-status wildlife species with the potential to occur in or within the vicinity of the project site, none were observed during field assessments by WRA or FCS. Two of the eight species, American badger and burrowing owl are associated with the grassland communities where project construction will be concentrated, and the six remaining special-status species with potential to occur on the site are associated with the Arroyo Seco and its immediate habitat.

The project may result in a significant impact to habitat for burrowing owl and American badger given the ground squirrel and other small mammal burrows observed within the upland portion of the project site. Implementation of MM BIO-1 and 2 is required to avoid and minimize impacts to individual burrowing owl and American badgers respectively and to reduce project impacts to a less than significant level.

Western pond turtle, California red-legged frog, and California tiger salamander are species associated with aquatic habitats. As noted above, the project will not impact the Arroyo Seco and project design measures will include a setback and a buffer for open space preservation. It would be unlikely that the western pond turtle would be impacted by project construction given the avoidance and preservation of the riparian corridor of the Arroyo Seco. As such, construction is not expected to impact western pond turtle.

The project has a low potential to impact the upland dispersal area for both California tiger salamander and California red-legged frog. The project site does not contain significant vegetation to support California red-legged frog breeding or seasonal wetlands to support California tiger salamander breeding. However, there are several stock ponds within 2 miles of the project site that may be suitable for both species. California red-legged frog and California tiger salamander have the potential to disperse through the upland area of the project site following significant rain events and the California tiger salamander may utilize burrows as refuge during dry months. However, it is more probable that both would utilize the Arroyo Seco as a movement corridor and disperse through the vacant grassland habitat to the west rather than dispersing through the buffer zone and into the Residential Development Area. Nonetheless, the project does have the potential to impact the dispersal and refuge habitat for the California red-legged frog and California tiger salamander. Implementation of MM BIO-3 and MM BIO-4 is required to avoid and minimize impacts to individual California tiger salamander and California red-legged frog respectively.

While there are no trees within the project development area, the vicinity of the project site does contain suitable habitat for nesting birds. Construction activities that adversely affect the nesting success of migratory birds and birds of prey or result in mortality, injury, or other harm of individual birds would be considered a significant impact. Therefore, implementation of MM BIO-5 is required to avoid and minimize impacts to individual white-tailed kites, yellow warblers (*Dendroica petechial*),

Allen's hummingbirds, migratory birds, and other birds of prey and reduce project impacts to a less than significant level.

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

**Less than significant impact.** On the southwestern corner of the site are two sensitive biological communities, willow wetland (0.12 acre) and a perennial stream, the Arroyo Seco (0.36 acre). The single willow wetland is located within the Arroyo Seco channel. It is a small feature that contains elements of two vegetation alliances described by the California Native Plant Society, including red willow thickets (*Salix laevigata* [Woodland Alliance]), and arroyo willow thickets (*Salix lasiolepis* [Shrubland Alliance]). The overstory is a mix of red willow and arroyo willow. The understory is relatively sparse, and commonly observed species include watercress (*Nasturtium officinale*), slender willow herb (*Epilobium ciliatum*), and Italian ryegrass.

The stream is deeply incised, has a small bend, and flows from southeast to northwest. Approximately 0.15 acre (287 linear feet) of the stream are below the ordinary high water mark (OHWM). OHWM indicators present include bed and bank, scouring, and sediment sorting. Below OHWM, vegetation is generally sparse and includes watercress, cattail (*Typha* sp.), tall nutsedge (*Cyperus eragrostis*), and Bermuda grass (*Cynodon dactylon*). Approximately 0.36 acre (287 linear feet) of the stream are below top of bank (TOB). Vegetation between OHWM and TOB is more similar to non-native annual grassland, but scattered coyote brush (*Baccharis pilularis* ssp. *consanguinea*) individuals are present at low cover. Common herbaceous species include Italian ryegrass, Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), prickly lettuce (*Lactuca serriola*), and black mustard (*Brassica nigra*).

The project has been designed such that all of the wetland and perennial stream areas would be protected. The development would disturb approximately 12 acres of non-native grassland, primarily on the eastern half of the project site. The remaining approximate 23 acres would be preserved as open space uses (trails, gardens, and ornamental landscaping) surrounding the Residential Development Area, and preserved space for the purpose of environmental protection on the western end of the project site. Therefore, the proposed project would not adversely affect riparian habitat or other sensitive biological communities. Impacts from project construction would result in a less than significant impact.

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

**Less than significant impact.** The project site contains a wetland and perennial stream in the southwest corner. The willow wetland may be considered a jurisdictional feature and subject to the requirements of the United States Army Corps of Engineers, Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). However, project construction would not result in the fill, removal, or hydrological interruption of the wetland; construction

activities would occur more than 200 feet from these resources. Therefore, the proposed project would result in less than significant impact to federally protected wetlands.

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

**Less than significant impact.** Lands to the south and east surrounding the site have been developed with roads, residences, and other buildings, which would constrain the movement of wildlife. Within the site itself, wildlife may use the Arroyo Seco and willow wetland areas as part of their dispersal movements. The Arroyo Seco perennial stream likely facilitates the movement of amphibians, reptiles, birds, and mammals within and through the site. The proposed residential uses are to be set back from all riparian habitat, as noted above. This buffer would help to preserve the ecological integrity of the riparian corridor. With project implementation, development would be largely concentrated in the 12-acre Residential Development Area and the vast majority of the remaining portion of the 35-acre site would be permanently preserved as open space, and thus continue to function as a dispersal corridor for potential wildlife species. Therefore, the proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species and impacts would be less than significant impact.

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

**Less than significant impact.** The City of Livermore Tree Preservation Ordinance (Section 12.20 of the Livermore Municipal Code) defines “protected trees” as having an 18-inch circumference at breast height (4.5 feet above grade), and requires that prior to the removal of a protected tree, all trees on-site must be surveyed by a certified arborist. Of the trees observed, approximately five red willows located in the Arroyo Seco channel bottom appeared to be have a potentially large enough CBH to qualify as protected trees. The proposed project would preserve the willow wetland area, and no trees would be removed during the implementation of this project. Therefore, the proposed project would result in a less than significant impact.

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

**No impact.** The project site is located in Conservation Zone 4 of the East Alameda County Conservation Strategy (EACCS). The EACCS intends to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for impacts resulting from infrastructure and development projects. The mitigation measures set forth in this IS/MND are consistent with the EACCS guidance. The EACCS is a voluntary conservation strategy and is not an adopted or approved plan that requires a consistency determination under CEQA. As such, the project site is not located within an adopted habitat conservation plan or natural community conservation plan area. Therefore, the proposed project would not conflict with an adopted conservation plan, and no impacts would occur.

## Mitigation Measures

**MM BIO-1** No more than 14 days prior to ground disturbance, the project applicant shall follow the following measures associated with pre-construction survey for western burrowing owls:

1. In order to avoid impacts to active burrowing owl nests, a qualified biologist shall conduct pre-construction surveys for burrowing owls within the Residential Development Area and within 250 feet of the Residential Development Area no more than 14 days prior to the onset of ground disturbance. These surveys shall be conducted in a manner consistent with the CDFW's burrowing owl survey methods.
2. If burrowing owls are detected within or immediately adjacent to the Residential Development Area (i.e., within 250 feet) during the breeding season (February 1 through August 31), a construction-free buffer of up to 250 feet shall be established around all active owl nests. The buffer area shall be enclosed with temporary fencing, and construction equipment and personnel shall not enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. After the breeding season, passive relocation of any remaining owls may take place under the conditions described below.
3. During the non-breeding season (September 1 through January 31), any burrows occupied by resident owls in areas planned for development shall be protected by a construction-free buffer with a radius of up to 250 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.

**MM BIO-2** Prior to ground disturbance, the project applicant shall follow the following measures associated with pre-construction survey for American badgers:

1. During the course of the preconstruction surveys for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of site disturbance within the Residential Development Area. If badgers are found to be absent, no further mitigation measures shall be necessary.
2. If an active badger den is identified during pre-construction surveys within or immediately adjacent to the Residential Development Area, a construction-free buffer of up to 300 feet shall be established around the den. Once the biologist has determined that the badger has vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present on-site during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to



individuals or natal/reproductive den abandonment. The monitor shall be required on-site until it is determined that young are of an independent age and construction activities would not harm individual badgers.

**MM BIO-3** Prior to ground disturbance, the project applicant shall follow the following measures associated with pre-construction survey for California tiger salamanders:

1. A qualified biologist shall conduct a preconstruction survey for the entire the entire grassland area of the project site. If California tiger salamanders are detected during the preconstruction surveys, the qualified biologist will stop work until such time the individual(s) either move clear of the construction zone on their own or, if authorized by the agencies, the biologist will capture and move individuals to a suitable protected area on-site. Any individuals that are captured shall be held for the minimum amount of time necessary to release them back into the riparian corridor and out of the work zone.
2. Should California tiger salamanders be observed during pre-construction surveys, an exclusion fence shall be installed, and a qualified biologist shall survey the site each day prior to the start of daily construction until the qualified biologist has determined that neither of these species is present on-site, after which construction can continue without a qualified biologist present.

**MM BIO-4** Prior to ground disturbance, the project applicant shall follow the following measures associated with pre-construction survey for California Red-Legged Frogs:

1. A qualified biologist shall conduct a preconstruction survey for the entire the entire grassland area of the project site. If California red-legged frogs are detected during the preconstruction surveys, the qualified biologist will stop work until such time the individual(s) either move clear of the construction zone on their own or, if authorized by the agencies, the biologist will capture and move individuals to a suitable protected area on-site. Any individuals that are captured shall be held for the minimum amount of time necessary to release them back into the riparian corridor and out of the work zone.
2. Should California red-legged frogs be observed during pre-construction surveys, an exclusion fence shall be installed, and a qualified biologist shall survey the site each day prior to the start of daily construction until the qualified biologist has determined that neither of these species is present on-site, after which construction can continue without a qualified biologist present.

**MM BIO-5** No more than 14 days prior to ground disturbance, the project applicant shall follow the following measures associated with pre-construction survey for nesting raptors and migratory birds, including yellow warblers:

1. If tree removal, brushing, grading, or construction is planned to occur within the breeding period for migratory birds and nesting raptors (i.e., between February 1

and August 31), a qualified biologist shall conduct pre-construction surveys for active nests of birds of prey and migratory birds within 14 days of the onset of these activities. If construction is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.

2. If nesting raptors or other migratory birds are detected on the site during the survey, a suitable construction-free buffer shall be established around all active nests. The precise dimension of the buffer, which is typically up to 250 feet, would be determined at that time and may vary depending on such factors as location, species, topography, and line of sight to the construction area. The buffer area shall be enclosed with temporary fencing, and construction equipment and personnel shall not enter the enclosed area. Buffers shall remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>5. Cultural and Tribal Cultural Resources</b>				
<i>Would the project:</i>				
a) Cause a substantial adverse change in the significance of a historical resource as pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</i>				
d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

### Cultural Resources

This section describes the existing cultural resources setting and potential effects from project implementation on the project site and its surrounding area. The analysis in this section is based on the Cultural Resource Assessment prepared by Peak & Associates, Inc., which evaluated the site for evidence of cultural resources. The reported is provided in Confidential Appendix D, which has been withheld from public distribution pursuant to Public Resources Code, Sections 5097.9, 5097.993D. Parties with appropriate cultural resource credentials that would like to review the report should contact the City of Livermore.

Would the project:

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

**Less than significant impact with mitigation incorporated.** As part of the Cultural Resource Assessment, a record search was conducted for the project area at the Northwest Information Center of the California Historical Resources Information System on February 21, 2018. The Northwest Information Center reported that there have been five surveys that covered portions of the project area, but they all covered small strips along the edges. The bulk of the land involved in the current project has never been surveyed. The previous surveys were mostly related to projects on I-580. The only sites recorded were standing buildings on the south side of I-580, across the freeway from the current project. There have been at least 16 studies reported in the area that involved literature or records reviews but did not involve any fieldwork. The cultural resources pedestrian survey, conducted by Peak & Associates on February 21, 2018, did not result in the identification of any historic resources that will be adversely affected by the proposed project.

While unlikely, subsurface construction activities always have the potential to damage or destroy previously undiscovered historic resources. Historic resources can include wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse. Accordingly, implementation of MM CUL-1 will be required to reduce potential impacts to historic resources that may be discovered during project construction. With the incorporation of mitigation, impacts associated with historic resources would be less than significant.

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

**Less than significant impact with mitigation incorporated.** During the cultural resources field survey, soil visibility was good to fair. Dense grass in some areas impeded view of soil, but investigation of naturally bare areas, as well as areas exposed by cattle grazing and heavy ground squirrel activity allowed for sufficient evaluation. Soil was noted as dark brown to light brown with orange tint near the surface. Deep rodent burrowing revealed a very light tan to white chalky soil below the brown strata, which seemed to prevail throughout the parcel. Natural stone of several varieties and common in content was observed and carefully inspected. Quartz, quartzite, feldspar, chert, and other crypto-crystalline silicates made up the majority of rock types, with sandstone, schists and andesite also appearing less commonly. Much of this stone was identified as good quality stone suitable for use for tools by prehistoric peoples, but close scrutiny of all surface examples failed to show signs of assay, reduction or other cultural modification.

Other than grass, no trees or bushes occupy the parcel with exception of the riparian zone along the creek, which has varying densities of native and non-native species. Since the parcel has natural features commonly associated with prehistoric human presence such as a creek, plenty of natural stone, south-facing slopes and similar resources nearby, close transects of 5 to 10 meters were employed during the survey, with additional scrutiny where visibility was exceptional. Occasional secondary passes over locations dense with natural stone or exceptional subsurface disturbance by

rodents did occur. The field survey identified and recorded a prehistoric site (PA-18-L01) within the boundary of the subject property, but at a considerable distance from the proposed disturbance area. As such, no known archaeological resources, including site PA-18-L01, would be adversely impacted by the proposed development. In the interests of protecting the integrity of this resource, MM CUL-1 prohibits ground disturbing activities within 200 feet of it. Pursuant to Public Resources Code Section 5097.9 and 5097.993, the location and nature of this site have been withheld from this public document, however details including standard Department of Parks and Recreation (DPR) 523 forms site recordation forms may be found in confidential Appendix D.

While unlikely, subsurface construction activities always have the potential to damage or destroy previously undiscovered archaeological resources. Accordingly, implementation of MM CUL-1 will be required to reduce potential impacts to archaeological resources that may be discovered during project construction. With the incorporation of mitigation, impacts associated with historic resources would be less than significant.

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

**Less than significant impact with mitigation incorporated.** No human remains or cemeteries are known to exist within or near the project site. Although human remains within the project site are unlikely, there is always the possibility that construction activities associated with the project could potentially damage or destroy previously undiscovered human remains. This would be a potentially significant impact.

In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and 5097.98 must be followed. MM CUL-2 further specifies the procedures to follow in the event human remains are uncovered. Along with compliance with these guidelines and statutes, implementation of this mitigation would reduce potential impacts related to human remains to a less than significant level.

**Tribal Cultural Resources**

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

**d) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or**

**Less than significant impact.** The Cultural Resource Assessment failed to identify any listed Tribal Cultural Resources that may be adversely affected by the proposed project. As such, no known eligible or potentially eligible Tribal Cultural Resources (TCRs) will adversely affected by the proposed project. The impact would be less than significant.

- e) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

**Less than significant impact.** Tribal consultation efforts conducted by the City of Livermore pursuant to SB-18 and AB-52 failed to identify additional significant TCRs meeting the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. As such, no additional significant TCRs will be adversely affected by the proposed project. The impact would be less than significant.

## Mitigation Measures

**MM CUL-1** No ground disturbing activities shall take place within a 200-foot radius of prehistoric site PA-18-L01, and any proposed ground disturbance within a 500-foot radius of the resource shall be monitored by an archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology. In order to assist in the recognition of potential cultural resources during the project grading phase, a training session for all workers should be conducted in advance of the initiation of construction activities at the site. The training session will be conducted by a qualified archaeologist who will provide information on the recognition of artifacts, human remains, and cultural deposits. In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers should avoid altering the materials until a qualified archaeologist has evaluated the situation. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. The archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resource, including but not limited to excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Any previously undiscovered resources found during construction within the Project Site shall be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and will be submitted to the City of Livermore, the Northwest Information Center, and the State Historic Preservation Office, as required.

**MM CUL-2** In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94, and Section 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine if the remains are



Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the most likely descendant of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

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

Additionally, California Public Resources Code Section 15064.5 requires the following relative to Native American Remains:

- When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code Section 5097.98. The applicant may develop a plan for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American Burials with the appropriate Native Americans as identified by the Native American Heritage Commission.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>6. Geology and Soils</b> <i>Would the project:</i>				
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The analysis in this section is based on the Preliminary Geotechnical Exploration by ENGEO Incorporated. The reported is provided in Appendix E. FCS performed a peer review of the Preliminary Geotechnical Exploration. The Preliminary Geotechnical Exploration provides an assessment of the potential geotechnical concerns associated with the use of the site for a residential development. The assessment included a site visit, a review of published geologic maps, excavation of twelve test pits up to 8 feet deep, and preparation of this report to identify potential geotechnical hazards and provide preliminary geotechnical recommendations.

## Environmental Evaluation

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.**

**No impact.** According to the Preliminary Geotechnical Exploration, the project site is not located within an Alquist-Priolo Earthquake Fault Zone and no surface evidence of faulting has been observed. The Greenville Fault, the nearest active fault to the project site, is located approximately 2.7 miles northeast of the project site. This condition precludes the possibility of the proposed project being exposed to fault rupture. No impact would occur.

- ii) **Strong seismic ground shaking?**

**Less than significant impact with mitigation incorporated.** The proposed project would develop 186 dwelling units on the project site. The Preliminary Geotechnical Exploration indicates that the project site is located within a seismically active region of California and may be subject to strong ground shaking during an earthquake. MM GEO-1 requires the applicant to retain a qualified geotechnical engineer to prepare and submit a design-level geotechnical study to the City of Livermore that sets forth recommendations for abating potential seismic and soil hazards. The approved study's recommendations are required to be incorporated into the project building plans. Furthermore, MM GEO-2 requires the project applicant to follow earthwork practices as recommended by the preliminary exploration. The implementation of MM GEO-1 and MM GEO-2 would reduce impacts to a level of less than significant.

- iii) **Seismic-related ground failure, including liquefaction?**

**Less than significant impact.** Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. As reported in the Preliminary Geotechnical Exploration, sands and groundwater were not encountered in the test pits, and for these reasons, the potential for liquefaction at the site is low during seismic shaking. Therefore, impacts associated with seismic-related ground failure would be less than significant.

- iv) **Landslides?**

**Less than significant impact with mitigation incorporated.** Earthquake-induced landsliding involves lateral ground movements caused by seismic shaking. According to the Preliminary Geotechnical Exploration, the site occupies a relatively gentle slope and is not mapped within a State of California Seismic Hazard zone. The risk of earthquake-induced landsliding is anticipated to be low provided

slope stability is addressed in the design-level geotechnical report and when preparing grading plans. Implementation of the appropriate earthwork practices recommended in MM GEO-1 and MM GEO-2 would lower the impacts of potential landsliding to less than significant levels.

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

**Less than significant impact with mitigation incorporated.** The proposed project would involve ground-disturbing activities such as grading that have the potential to cause erosion. Accordingly, the proposed project would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) during construction in accordance with federal and state requirements. The SWPPP would identify structural and non-structural Best Management Practices (BMPs) intended to prevent erosion during construction. In addition, the SWPPP must include a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs, and (if applicable) a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. These requirements are reflected in MM HYD-1a. With the implementation of MM HYD-1a, the impact of soil erosion and loss of topsoil would be less than significant.

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

**Less than significant impact with mitigation incorporated.** The Preliminary Geotechnical Exploration indicates that the site is underlain by artificial fills, surficial soils, Quaternary alluvium, Quaternary colluvium, and Pliocene to Pleistocene Livermore Gravels. The site is not mapped within a State of California Seismic Hazard zone, and as noted in the Preliminary Geotechnical Exploration, the potential for liquefaction is low during seismic shaking. Project-specific recommendations to minimize the potential for liquefaction and lateral spreading and are included in MM GEO-1 and MM GEO-2. With the implementation of these mitigation measures coupled with adherence to the Uniform Building Code and the California Building Code, the impacts of related to unstable soils would be less than significant.

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

**Less than significant impact with mitigation incorporated.** Expansive soils change in volume with changes in moisture. These soils can shrink or swell and cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. The geologic mapping and subsurface exploration indicated that the site is underlain by artificial fills, surficial soils, Quaternary alluvium, Quaternary colluvium, and Pliocene to Pleistocene Livermore Gravels. The Preliminary Geotechnical Exploration indicated that the surface soil and colluvium mantling bedrock on the project site generally consists of highly expansive clays. MM GEO-1 requires the applicant to retain a qualified geotechnical engineer to prepare and submit a design-level geotechnical study to the City of Livermore that sets forth recommendations for abating potential seismic and soil hazards. The approved study’s recommendations are required to be incorporated into the project building plans

and implemented per MM GEO-2. The implementation of MM GEO-1 and MM GEO-2 would reduce impacts to a level of less than significant.

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

**No impact.** The project would connect with the municipal sewer system and would not require septic tanks or similar alternative wastewater disposal system. Therefore, no impacts associated with septic tanks or similar alternative wastewater systems would occur.

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

**Less than significant impact with mitigation incorporated.** According to the geological map of Dibblee and Minch, 2006 project is mapped almost entirely on Plio-Pleistocene Livermore Gravel (QTlg). The formation consists of gray to yellow-brown pebble to cobble conglomerate, and is potentially fossiliferous.

During the survey, no paleontological or geologic resources were observed. Natural stone of several varieties and common in content was observed and carefully inspected. Quartz, quartzite, feldspar, chert, and other crypto-crystalline silicates made up the majority of rock types, with sandstone, schists and andesite also appearing less commonly. Paleontological resources may include but are not limited to fossils from mammoths, saber-toothed cats, rodents, reptiles, and birds. It is possible that construction activities associated with the project could encounter previously undiscovered paleontological resources. Damage or destruction of these resources would be a potentially significant impact. Implementation of MM GEO-3 would establish a procedure for handling paleontological resources that may be discovered during project construction. This mitigation would reduce impacts associated with paleontological resources to a less than significant level.

## Mitigation Measures

- |                 |  |
|-----------------|--|
| <b>MM GEO-1</b> | Prior to issuance of building permits, the applicant shall prepare and submit building plans to the City of Livermore for review and approval that demonstrate compliance with the latest adopted edition of the California Building Standards Code. These standards include seismic design requirements and soil engineering requirements.  |
| <b>MM GEO-2</b> | Prior to the issuance of grading permits, the project applicant shall prepare and submit grading plans that implement the applicable recommendations of the Preliminary Geotechnical Exploration regarding appropriate earthwork and soil engineering practices.   |
| <b>MM GEO-3</b> | Due to the potentially fossiliferous nature of soils within the project area, all soil disturbance in excess of 10 feet in depth should be monitored by a qualified paleontological monitor. In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 100-foot radius of the |

find shall be temporarily halted or diverted. The project contractor shall notify a qualified paleontologist to examine the discovery. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the City of Livermore for review and approval prior to implementation, and the applicant shall adhere to the recommendations in the plan.



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>7. Greenhouse Gas Emissions and Energy</b> <i>Would the project:</i>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The analysis in this section is based on the Air Quality Assessment prepared by Illingworth & Rodkin, Inc. The report is provided in Appendix B. FCS performed a peer review of the Air Quality Assessment. The Air Quality Assessment provides the results of an assessment of potential air quality impacts for the project. Air quality impacts were addressed with respect to the applicable CEQA Checklist questions that require quantified analyses. In addition, the assessment evaluates the effects for existing sources of air pollutants or contaminants upon future project residents that are considered sensitive receptors.

## Environmental Evaluation

### Greenhouse Gas Emissions

Would the project:

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

**Less than significant impact.** BAAQMD's project-level significance thresholds for operational GHG generation are used when determining a project's potential GHG impacts. The thresholds suggested by the BAAQMD CEQA Air Quality Guidelines for project-level operational GHG generation are as follows:

1. Compliance with a qualified GHG Reduction Strategy, or
2. 1,100 metric tons (MT) of carbon dioxide equivalent (CO<sub>2</sub>e)/year, or
3. 4.6 MT CO<sub>2</sub>e per service population ([SP], residents and employees) (for 2020) and adjusted to 2.6 MT CO<sub>2</sub>e/SP/year (for 2030).<sup>5</sup>

<sup>5</sup> BAAQMD does not have a recommended post-2020 GHG threshold.

Note that BAAQMD's recommended GHG threshold of 1,100 MT CO<sub>2</sub>e/year or 4.6 MT CO<sub>2</sub>e/SP/year was developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. The basis of the BAAQMD thresholds were used to develop plan level thresholds for 2040. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO<sub>2</sub>e/SP/year. This is calculated for 2030 based on the GHG reduction goals of the new Senate Bill (SB) 32 Scoping Plan developed by the ARB that takes into account the 1990 inventory and the projected 2030 Statewide population and employment levels.

### **Project Construction**

The project would generate GHG emissions during construction activities such as site preparation, grading, building construction, paving, and architectural coating from on-site heavy-duty construction vehicle use, vehicles hauling materials to and from the project site, and construction worker trips. These emissions are considered temporary or short-term.

GHG emissions associated with the project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project were predicted using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

### **CalEEMod Modeling**

The CalEEMod model (version 2016.3.2) was used to predict air pollutant emissions associated with the project, as described under Section 3-Air Quality. The CalEEMod modeling included default conditions developed for the model. One exception was for emissions from electricity generation, where the model inputs were updated based on more recent emission rates. CalEEMod has a default rate of 641.3 pounds of CO<sub>2</sub> per megawatt of electricity produced, which is based on Pacific Gas & Electric (PG&E) 2008 emissions rate. The latest PG&E rate reported in the California Climate Registry is 430 pounds of CO<sub>2</sub> per megawatt of electricity produced.

### **Construction Emissions**

GHG emissions associated with construction of the maximum land uses under rezoning were computed to range from 477 to 1,168 MT CO<sub>2</sub>e per year under the most intensive construction scenario. The total construction period emissions were computed as 1,645 MT CO<sub>2</sub>e for the entire construction duration. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices assumed to be incorporated into construction of the proposed rezoning project include, but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of

construction waste or demolition materials. In order to account for the construction emissions, the total emissions generated during construction were amortized based on the life of the development (residential use—25 years) and added to the operational emissions. The 1,645 MT CO<sub>2</sub>e estimated from construction of the project would result in approximately 66 MT CO<sub>2</sub>e per year over a 25-year amortization schedule. These total project GHG emissions (amortized construction plus annual operational) were analyzed against the applicable BAAQMD significance thresholds. Since total project emissions are below the applicable thresholds, GHG emissions generated during the construction period would be less than significant; no mitigation is required.

### Operational Emissions

Following construction, emissions would occur on a nearly continuous basis as the project operates through traffic generation, energy usage, water usage and waste generation. The CalEEMod model was used to predict annual emissions associated with operation of the fully developed project. The operational emissions were assumed to be at the highest levels in 2021 with the full build-out and occupancy of the project. Table 7 reports the annual emissions resulting from operation of the project. As previously discussed, Table 7 also includes construction GHG emissions amortized over the life of the project (25 years).

**Table 7: Annual Project Greenhouse Gas Emissions (CO<sub>2</sub>e) in Metric Tons**

Operation Emission Source	2021 Emissions (MT CO <sub>2</sub> e per year)	2030 Emissions (MT CO <sub>2</sub> e per year)
Area	10	10
Energy Consumption	335	335
Mobile (Vehicles)	1,170	958
Solid Waste Generation	45	45
Water Usage	21	21
Amortized Construction Emissions	66	66
<b>Total Emissions</b>	<b>1,647</b>	<b>1,435</b>
<b>Emissions per Service Population per Year<sup>1</sup></b>	<b>3.0 MT CO<sub>2</sub>e/SP/year</b>	<b>2.6 MT CO<sub>2</sub>e/SP/year</b>
<b>Threshold</b>	<b>4.6 MT CO<sub>2</sub>e/SP/year</b>	<b>2.6 MT CO<sub>2</sub>e/SP/year</b>
Notes: Source: City of Livermore 2018. Source: Air Quality Assessment prepared by Illingworth & Rodkin provided in Appendix B.		

As shown in Table 7, the project's combined long-term operational emissions and amortized construction emissions would not exceed the BAAQMD's threshold of 4.6 MT CO<sub>2</sub>e/SP/year in 2021 or the "Substantial Progress" efficiency metric of 2.6 MT CO<sub>2</sub>e/SP/year in the year 2030. Therefore, the project's generation of GHG emissions would not result in a significant impact.

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

**Less than significant impact.** In 2006, the California Legislature adopted Assembly Bill 32 (AB 32). AB 32 established a statewide reduction goal to reduce GHG emissions back to 1990 levels by the year 2020. Consistent with the State of California's objectives outlined in AB 32, the City of Livermore included Climate Change Goal CLI-1.1 in its General Plan to reduce GHG emissions generated by the community to a level 15 percent less than 2008 levels. As a result, the City of Livermore Climate Action Plan was adopted in 2012 and outlines the measures needed to achieve the emission reduction target within the community. Transportation-related emissions represent almost 38 percent of the City's GHG emission inventory in 2020. As a result, transportation-related reduction measures have great potential to reduce the City's GHG emissions. The Climate Action Plan states that the measures would contribute to significant reductions in GHG emissions since the City would create a transportation and land use network that can support mixed-use and high-density development. To address impacts beyond 2020, the project is assessed for its consistency with ARB's adopted 2017 Climate Change Scoping Plan Update. Significance for this impact is determined by project compliance with the City's Climate Action Plan and project consistency with ARB's 2017 Climate Change Scoping Plan Update.

***City of Livermore Climate Action Plan***

The City of Livermore Climate Action Plan includes measures that are considered mandatory for all proposed development projects and additional measures that are considered voluntary. Compliance with the mandatory measures would ensure an individual project's consistency with the City's Climate Action Plan. Below is a listing of the mandatory measures beyond State-mandated requirement included in the City's Climate Action Plan:

- **Energy-3:** Exceed Title 24 Requirements for New Buildings
- **On Road-1:** Idling Restrictions
- **On Road-4:** Traffic Signal Synchronization
- **On Road-5:** Bicycle and Pedestrian Improvements
- **Waste-1:** Increased Waste Diversion
- **Water-1:** Reduce Per Capita Urban Water Use 20 percent below 2005 per Capita levels
- **Urban Forestry-1:** Urban shade trees

The project would advance the following applicable measures set forth in the Livermore Climate Action Plan:

- **Energy-3:** The project complies with the most current Title 24 (energy conservation) regulations, the City's Water Efficient Landscape and Debris Recycling ordinances. The project's intended green features are identified in the submitted GreenPoint Rated checklist (GreenPoint Rated is administered by Build It Green, a non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.) Therefore, the project will support Climate Action Plan local GHG reduction measure Energy-3 (to exceed minimum Title 24 requirements).

- **On Road-1:** Under this measure, the City would adopt an ordinance that limits idling time for heavy-duty trucks below ARB regulations. Heavy-duty trucks accessing the project site would be subject to adopted idling restrictions. Implementation of MM AIR-1 would help minimize heavy-duty truck idling during construction of the project. As a residential project, the majority of vehicles accessing the project site during operations are expected to be passenger vehicles. The project would support this measure during project construction, while this measure would not be applicable during project operations.
- **On Road-3:** The project helps the City of Livermore encourage the use of transit by siting within less than 0.1 mile from an existing bus stop off the intersection of Springtown Boulevard and Bluebell Drive. The use of this alternative mode of transportation would reduce vehicle miles traveled, thereby reducing GHG emissions.
- **On Road-5:** Under this measure, the City would complete its bikeway network identified in the General Plan. As discussed in Section 16-Transportation/Traffic, the project is near Class II bicycle lanes provided on Springtown Boulevard north of Lassen Road, on First Street south of I-580, and on Bluebell Drive west of Springtown Boulevard. Future residents would have easy access to the bikeway network, furthermore encouraging the use of alternative modes of transportation. MM TRANS-2, requiring American with Disabilities Act (ADA) accessible sidewalk and pedestrian paths along the proposed project, would further encourage the use of alternative modes of transportation.
- **Waste-1:** The project has been designed to facilitate waste collection from Livermore Sanitation. The project proposes use of a three-cart system for each home (landfill, recycle and green waste). The use of a three-cart system would increase the amount of waste diverted from landfills, which would reduce vehicle miles associated with transporting waste to landfills, as well as contributing to land conservation due to the reduced need for landfills.
- **Water-1:** The project will install drought tolerant plantings and comply with the City of Livermore Water Efficient Landscape ordinance reducing outdoor water use. Measures include the use of hydrozones for irrigation, limiting the amount of turf within the project (at 8 percent, well below the allowed 25 percent), the use of low-water using plants and avoiding invasive plant species. In addition, the project has been designed to not exceed the maximum applied water allowance. Decreased water use will decrease the amount of energy needed to transport and deliver this water, thereby reducing GHG emissions.
- **Urban Forestry-1:** The project would incorporate landscaping throughout the site. The project would provide landscaping in accordance with City standards that would include the planting of shade trees.

On Road-4, which involves the enhancement of signal synchronization, is not applicable to the project. Because the project would comply with all applicable mandatory measures, the proposed project would be consistent with the Livermore Climate Action Plan. Impacts would be less than significant.

*Senate Bill 32 2017 Scoping Plan Update*

The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. Table 8 provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures. As shown in Table 8, none of the measures are applicable to the project.

**Table 8: Consistency with SB 32 2017 Scoping Plan Update**

2017 Scoping Plan Update Reduction Measure	Project Consistency
<b>SB 350 50 percent Renewable Mandate.</b> Utilities subject to the legislation will be required to increase their renewable energy mix from 33 percent in 2020 to 50 percent in 2030.	<b>Not applicable.</b> This measure would apply to utilities and not to individual development projects. The project would purchase electricity from a utility subject to the SB 350 Renewable Mandate.
<b>SB 350 Double Building Energy Efficiency by 2030.</b> This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	<b>Not applicable.</b> This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. The project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received.
<b>Low Carbon Fuel Standard.</b> This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	<b>Not applicable.</b> This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the project site would benefit from the standards.
<b>Mobile Source Strategy (Cleaner Technology and Fuels Scenario).</b> Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million zero emission vehicles (ZEVs) on the road by 2030 and increasing numbers of ZEV trucks and buses.	<b>Not applicable.</b> This measure is not applicable to the project; however, vehicles accessing project site would benefit from the increased availability of cleaner technology and fuels.
<b>Sustainable Freight Action Plan</b> The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	<b>Not applicable.</b> The project is residential in nature and would not support large truck and freight operations.
<b>Short-Lived Climate Pollutant (SLCP) Reduction Strategy.</b> The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	<b>Not applicable.</b> The project would not include major sources of black carbon.
<b>SB 375 Sustainable Communities Strategies.</b> Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	<b>Not applicable.</b> The project does not include the development of a Regional Transportation Plan.



**Table 8 (cont.): Consistency with SB 32 2017 Scoping Plan Update**

2017 Scoping Plan Update Reduction Measure	Project Consistency
<b>Post-2020 Cap-and-Trade Program.</b> The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	<b>Not applicable.</b> The project is not one targeted by the cap-and-trade system regulations, and, therefore, this measure does not apply to the project.
<b>Natural and Working Lands Action Plan.</b> The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	<b>Not applicable.</b> The project is in a built-up urban area and would not be considered natural or working lands.
Source of ARB 2017 Scoping Plan Update Reduction Measures: ARB 2017.	

#### Summary

As discussed above, the project is consistent with the applicable mandatory measures of the City's Climate Action Plan; therefore, the project would not conflict with the recommendations of AB 32 in achieving a statewide reduction in GHG emissions. MM AIR-1 and MM TRANS-2 would further support the goals of the City's Climate Action Plan, but are not required for the project to achieve consistency. Furthermore, as shown in Table 8, implementation of the project would not conflict with the reduction measures proposed in SB 32. Considering this information, the proposed plan would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of GHGs.

#### Energy

Would the project:

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

**Less than significant impact.** The proposed project would consume energy as part of building operations and transportation activities. Project energy consumption is summarized in Table 9.

**Table 9: Project Energy Consumption Estimates**

Consumption Activity	Variable	Consumption Rate	Annual Consumption
Building Electricity	186 residential units	6,231 kWh/dwelling unit/year	11.8 million kWh
Building Natural Gas	186 residential units	38,000 cubic-feet/dwelling unit/year	7.1 million cubic feet

**Table 9 (cont.): Project Energy Consumption Estimates**

Consumption Activity	Variable	Consumption Rate	Annual Consumption
Transportation Fuel	2,558,306 vehicle miles traveled	35.1 miles/gallon	72,886 gallons
Notes: kWh = kilowatt hour Source: Air Quality Assessment prepared by Illingworth & Rodkin provided in Appendix B. Source: PG&E 2018.			

Operation of the proposed project would consume an estimated 11.7 million kilowatt hours of electricity and an estimated 7.1 million cubic feet of natural gas on an annual basis. The proposed project's buildings would be designed and constructed in accordance with the City latest adopted energy efficiency standards, which are based on the State's Title 24 energy efficiency standards. These are widely regarded as the most advanced energy efficiency standards and compliance would ensure that building energy consumption would not be wasteful, inefficient, or unnecessary.

Project-related vehicle trips would consume an estimated 72,886 gallons of gasoline and diesel annually. The proposed project is located in an urbanized portion of the City of Livermore near the I-580/First Street interchange. Furthermore, the project also includes the development of an off-site multi-use trail on neighboring property that will help facilitate bicycle and pedestrian means of transportation. Overall, the project is located in an area with convenient access to transportation facilities and, thus, fuel consumption would not be wasteful, inefficient, or unnecessary. Impacts would be less than significant.

**d) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

**Less than significant impact.** The project would be served with electricity provided by East Bay Community Energy and natural gas provided by PG&E. East Bay Community Energy provides between 38 and 100 percent renewable electricity to its customers (depending on the service selected). This exceeds the State mandate of 33 percent renewable. Furthermore, the proposed project's buildings would be designed and constructed in accordance with the City latest adopted energy efficiency standards, which are based on the State's Building Energy Efficiency Standards. As such, the proposed project would not conflict with State or local renewable or energy efficiency objectives. Impacts would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>8. Hazards and Hazardous Materials</b> <i>Would the project:</i>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The analysis in this section is based on the Phase I Environmental Site Assessment prepared by ENGEO, Incorporated. The report is provided in Appendix F.

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** The project applicant is proposing to develop 186 two- and three-story residential townhomes on 11.94 acres and preserve the remaining 23.26 acres as open space. Residential developments typically do not involve the regular use, storage, transport, or disposal of significant amounts of hazardous materials. Project construction and operations would involve the minor routine transport and handling of minimal quantities of hazardous substances such as diesel fuels, lubricants, solvents, asphalt, pesticides, and fertilizers. Handling and transportation of these materials could result in the exposure of workers or residents to hazardous materials. However, the project would not create a significant hazard to the public or the environment, because project construction and operations would comply with applicable federal, State, and local laws pertaining to the safe handling and transport of hazardous materials. Impacts would be less than significant.

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

**Less than significant impact.** As described in Impact 8(a), the proposed project would involve the minor use of hazardous materials typically required during construction, such as diesel fuel and other motor lubricants. Contractors would comply with applicable federal, state, and local laws pertaining to the safe handling and transport of hazardous materials, which would minimize potential spill occurrences. Spills that may occur during construction activities would likely be minimal and potential adverse effects would be localized. Plans and specifications typically require contractors to clean up immediately any spills of hazardous materials.

The project site contains undeveloped land with nearby properties consisting of condominiums, motels, commercial/retail structures and a children's day care center. An Aerially Deposited Lead (ADL) Evaluation was conducted to investigate the potential presence of lead-impacted soil on the southern property boundary, adjacent to I-580. Based on soil sampling and laboratory testing, the soils do not appear to be impacted by ADL. Impacts related to the potential release of hazardous materials would be less than significant.

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

**Less than significant impact with mitigation incorporated.** The eastern project boundary abuts the KinderCare Preschool. The project site is also located approximately 1.15 miles southwest of the Leo R. Croce Elementary School. Undeveloped land owned by the Archdiocese of Oakland north of the project site is contemplated for a high school.

As discussed under Impact 2(d), on-site project construction TAC emission could possibly expose preschool infants to a cancer risk, which would exceed BAAQMD significance threshold of 10 in one million. However, with the implementation of MM AIR-2, the impact of hazardous emissions on the preschool would be less than significant. As the Leo R. Croce Elementary School and planned Catholic high school buildings are located farther away, impacts at these locations would also be less than significant.

As described under Impact 8(a), project operations would involve minor routine use of hazardous substances such as diesel fuels, lubricants, pesticides, and fertilizers. The use of these substances would be confined to the project site and be of limited quantity such that no significant impact to the pre-school, elementary school, or potential future high school would occur.

- 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?**

**Less than significant impact.** The project site was assessed to identify Recognized Environmental Conditions (RECs) associated with the property. Based on the review of federal, tribal, state and local databases regarding the property in this assessment, no Recognized, Historic, Controlled Environmental Conditions RECs were identified for the property. Within the vicinity of the property, Chevron No. 21-1253/Texaco, located approximately 0.05 mile east at 930 Springtown Boulevard, is identified as a closed Leaking Underground Storage Tanks (LUST) site. Groundwater monitoring wells were installed at the project site, and the reported direction of groundwater flow is towards the west and northwesterly direction. Based on the distances to the identified site and the reported direction of groundwater flow identified within the LUST case closure summaries, it is unlikely that this site would pose an environmental risk to the project site. As such, there are no significant hazards to the public or environment associated with the project; thus, the impact would be less than significant.

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

**No impact.** The project site is located approximately 3.94 miles east of the Livermore Municipal Airport and is outside of the boundaries of the applicable Airport Land Use Compatibility Plan. This condition precludes the possibility of creating an aviation safety hazard for people residing or working in the project area. No impact would occur.

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

**Less than significant impact.** The project would not include modification of any existing roadways in a way that would impede emergency access or evacuation. Factors such as number of access points, roadway width, and proximity to fire stations determine whether a project provides sufficient emergency access. Lassen Road provides a 40-foot wide point of entry from curb to curb and internal roadways are between 20 to 26-feet wide, excluding on-street parking. The preliminary fire

access plan, provided in the Traffic Impact Assessment (TIA), shows the trajectory of a Livermore-Pleasanton Fire Department truck through the site plan. The proposed width of internal roadways is sufficient for emergency vehicle circulation. The project would not impair emergency response or evacuation. The impact would be less than significant.

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

**Less than significant impact.** The project site is surrounded by urban development and infrastructure, except for undeveloped land to the northeast. California Department of Forestry and Fire Protection (CAL FIRE) designates the project site as “Non-Very High Fire Hazard Safety Zone.” The project does not introduce any new uses or activities expected to increase the project site’s susceptibility to wildfire. No impact would occur.

## Mitigation Measures

Implement MM AIR-2.



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>9. Hydrology and Water Quality</b> <i>Would the project:</i>				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

Would the project:

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

**Less than significant impact with mitigation incorporated.** The proposed project has the potential to release water pollutants during both construction and operations that may violate water quality standards.

The proposed project would involve ground-disturbing activities such as grading that have the potential to cause erosion. Accordingly, the proposed project would be required to prepare and implement a SWPPP during construction in accordance with federal and State requirements. The SWPPP would identify structural and non-structural BMPs intended to prevent erosion during construction. In addition, the SWPPP must include a visual monitoring program, a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs, and (if applicable) a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. This requirement is reflected in MM HYD-1a. Collectively, these features would ensure that the proposed project would not violate any water quality standards. With the implementation of mitigation measures, impacts would be less than significant.

The proposed project would install a storm drainage system consisting of inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas. Runoff from four of the bioretention basins would be conveyed by a network of 12-, 15-, and 18-inch-diameter pipes to the southeastern corner of the project site and discharged into an existing 18-inch diameter storm drainage pipe. The western basin would discharge to an outfall that would employ overland release, similar to existing conditions. The storm drainage system would be designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways stormwater treatment features. This requirement is reflected in MM HYD-1b. Furthermore, the proposed project would install a looped, gravity sanitary sewer system consisting of 8-inch diameter wastewater lines. The wastewater lines would be connected to the existing 8-inch diameter wastewater pipe in the southeastern corner of the project site. Additionally, the proposed man-made berms would be vegetated to minimize erosion into the Arroyo Seco and storm drain system. Collectively, these features would ensure that the proposed project would not violate any water quality standards. With the implementation of mitigation measures, impacts would be less than significant.

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

**Less than significant impact.** The proposed project would demand 119.1 acre-feet of potable water on an annual basis. Livermore Municipal Water obtains its water from Livermore Valley groundwater basin wells; surface and imported water is provided by the Zone 7 Water Agency. Livermore Municipal Water does not pump groundwater; however, the City does receive groundwater from the Zone 7 Water Agency. The City of Livermore Urban Water Management Plan indicates that the Zone 7 Water Agency annually pumps of 12,000 acre-feet per year of groundwater and the proposed project would not change the amount of groundwater pumped by the Zone 7 Water Agency. The existing project site is currently undeveloped. Of the 35.2-acre project site, the project would develop residential townhomes on 11.94 acres and preserve the remaining 23.26 acres as open space. There are five bioretention basin areas in the south and southeastern residential portion designed for stormwater runoff from the project site. Thus, the development of the proposed project would not have the potential to substantially deplete groundwater supplies or interfere with groundwater recharge. Impacts would be less than significant.

c) **Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

(i) **result in substantial erosion or siltation on- or off-site;**

**Less than significant impact.** The existing project site is currently undeveloped. The 11.94 acres of the residential portion would be mostly hardscaped. The proposed man-made berms would be vegetated to minimize erosion into the Arroyo Seco and storm drain system. The proposed project would install a storm drainage system consisting of inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas south and southeastern residential portion of project site, and would be designed to detain and meter the release of peak runoff to avoid inundating downstream waterways in a manner that would not substantially alter existing drainage patterns such that substantial erosion or siltation occurs downstream. Impacts would be less than significant.

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

**Less than significant impact.** The existing project site is currently undeveloped. The 11.94 acres of the residential portion would be mostly hardscaped. The proposed project would install an on-site storm drainage system consisting of inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas. Runoff from four of the bioretention basins would be conveyed by a network of 12-, 15-, and 18-inch-diameter pipes to the southeastern corner of the project site and discharged into an existing 18-inch diameter storm drainage pipe. The western basin would discharge to an outfall that would employ overland release that does not exceed existing conditions. The storm drainage system would be designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways in a manner that results in flooding. Collectively, these features would ensure that the proposed project would not substantially alter the existing drainage pattern of the site. Impacts would be less than significant.

(iii) **create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or**

**Less than significant impact.** The existing project site is currently undeveloped. The 11.94 acres of the residential portion would be mostly hardscaped. The proposed project would install an on-site storm drainage system consisting inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas. Runoff from four of the bioretention basins would be conveyed by a network of 12-, 15-, and 18-inch-diameter pipes to the southeastern corner of the project site and discharged into an existing 18-inch diameter storm drainage pipe. The western basin would discharge to an outfall that would employ overland release that does not exceed existing conditions. The storm drainage system would be designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways in a manner that exceeds the capacity of storm drainage facilities. Additionally, the on-site storm drainage system would include stormwater treatment features intended to prevent pollutants from leaving the project site. Collectively, these features would ensure that the proposed project would not contribute runoff that

would exceed the capacity of downstream stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

**(iv) impede or redirect flood flows?**

**Less than significant impact.** The existing project site is currently undeveloped. The 11.94 acres of the residential portion would be mostly hardscaped. The proposed berms would be vegetated to minimize erosion into the Arroyo Seco and storm drain system. The proposed project would install a storm drainage system consisting of inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas south and southeastern residential portion of project site, and would be designed to detain and meter the release of peak runoff to avoid inundating downstream waterways in a manner that would not substantially alter existing drainage patterns such that substantial erosion or siltation occurs downstream. Impacts would be less than significant.

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

**No impact.** Most of the project site is located within an area of minimal flood hazard. In the southwest corner of the project site, the land along the vicinity of the Arroyo Seco is designated Zone X, which is defined as areas with a 0.2 percent annual chance of flood (i.e., a 500-year flood hazard area), and Zone AE, which is defined as a regulatory floodway and a 100-year flood hazard area. However, no development will take place in the vicinity of the Arroyo Seco. As such, the proposed project would not place housing within a 100-year flood hazard area.

The City of Livermore General Plan Public Safety Element Figure 10-5 indicates that the project site is not within the dam failure inundation area of any water impoundment facilities. Additionally, the project site is not protected by any levees. These conditions preclude inundation by levee or dam failure.

The project site is not near any large inland bodies of water and is more than 20 miles from the Pacific Ocean, a condition that precludes inundation by tsunami. Additionally, the study area has not historically experienced mudflows. These conditions preclude inundation by tsunami, seiche, or mudflow. No impacts would occur.

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

**Less than significant impact.** The existing project site is currently undeveloped. The 11.94 acres of the residential portion would be mostly hardscaped. The proposed project would install an on-site storm drainage system consisting inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas. Runoff from four of the bioretention basins would be conveyed by a network of 12-, 15-, and 18-inch-diameter pipes to the southeastern corner of the project site and discharged into an existing 18-inch diameter storm drainage pipe. The western basin would discharge to an outfall that would employ overland release, that does not exceed existing conditions. The storm drainage system would be designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways in a manner that exceeds

the capacity of storm drainage facilities. Additionally, the on-site storm drainage system would include stormwater treatment features intended to prevent pollutants from leaving the project site. Collectively, these features would ensure that the proposed project would not contribute runoff that would exceed the capacity of downstream stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

## Mitigation Measures

- MM HYD-1a** Prior to issuance of grading permits for the proposed project, the City of Livermore shall verify that the applicant has prepared a SWPPP in accordance with the requirements of the statewide Construction General Permit. The SWPPP shall be designed to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a RWQCB permit, all non-stormwater discharges (e.g., chemicals) are identified and either eliminated, controlled, or treated; (3) site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization BMPs installed to reduce or eliminate pollutants after construction are completed. The SWPPP shall be prepared by a qualified SWPPP developer. The SWPPP shall include the minimum BMPs required for the identified Risk Level. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or the Caltrans Stormwater Quality Handbook Construction Site BMPs Manual.
- MM HYD-1b** Prior to issuance of building permits for the proposed project, the City of Livermore shall verify that the project applicant has prepared operational stormwater quality control measures that comply with the requirements of the current Municipal Regional Permit. Responsibilities include but are not limited to designing BMPs into project features and operations to reduce potential impacts to surface water quality and to manage changes in the timing and quantity of runoff (i.e., hydromodification) associated with operation of the project. These features shall be included in the design-level drainage plan and final development drawings. Specifically, the final design shall include measures designed to mitigate potential water quality degradation and hydromodification of runoff from all portions of completed developments. The proposed project shall incorporate site design and BMPs described in the current version of Alameda County Clean Water Program, C.3 Stormwater Technical Guidance manual. Low Impact Development features—including minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, or biotreating stormwater runoff close to its source—shall be used at each development covered by the Municipal Regional Permit. Funding for long-term maintenance of all BMPs must be specified. For each development project, the project sponsor shall establish a self-perpetuating

Operation and Maintenance of Stormwater Treatment Systems plan (Municipal Regional Permit provision C.3.h). This plan shall specify a regular inspection schedule of stormwater treatment facilities in accordance with the requirements of the Municipal Regional Permit. Reports documenting inspections and any remedial action conducted shall be submitted regularly to the City for review and approval.



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>10. Land Use and Planning</b> <i>Would the project:</i>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Would the project:

**a) Physically divide an established community?**

**No impact.** The project site consists of undeveloped land. There are no dwelling units or other types of established communities on the site. Residential uses are located to the east of the site, and the proposed residential development would be compatible with the existing uses and would not constitute a division of an established community. No impact would occur.

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

**Less than significant impact with mitigation incorporated.** This impact will address project consistency with the applicable provisions of the General Plan and Development Code.

### Land Use Designations

As part of the project, the applicant is proposing a General Plan Amendment. The project site is currently designated "Low Intensity Industrial" (12.86 acres), "Service Commercial" (1.20 acres), and "Limited Agriculture" (21.14 acres) by the City of Livermore General Plan and zoned "PUD 105-80" (33.99 acres) and "PUD 88-81" (1.21 acres) by the Livermore Development Code. The proposed General Amendment would designate the project site "Urban High Residential 3" (11.94 acres) and "Open Space" (23.27 acres). The site would be rezoned to "PD-R." The current designations and zoning would be amended to reflect the characteristics of the proposed project. These land use changes are part of the proposed project and intended to achieve conformance with the applicable provisions of the General Plan and Development Code. Impacts would be less than significant.

### Noise Land Use Compatibility

Implementation of the proposed project could introduce new residential land uses to an ambient noise environment that is in conflict with the City's established land use compatibility guidelines.

Therefore, a significant impact would occur if the project would result in a conflict with the City's adopted land use compatibility standards.

This analysis is based on the Environmental Noise Assessment prepared by Illingworth & Rodkin, Inc., and additional modeling completed by FCS. The assessment and additional modeling outputs are provided in Appendix G. For a discussion of the characteristics of noise and further information regarding the applicable noise regulatory framework, refer to the Noise impact discussion.

The City of Livermore establishes Land Use Compatibility Guidelines for Exterior Noise in the Noise Element of its General Plan.<sup>6</sup> These guidelines reflect the levels of noise exposure that are generally considered to be compatible with various types of land uses. The land use category listed in the City's Land Use Compatibility Guidelines for Exterior Noise that most closely applies to the proposed project is "Residential Multi-Family." The applicable land use compatibility standards are summarized as follows:

- Environments with noise levels up to 65 A-weighted decibel (dBA) day/night average sound level ( $L_{dn}$ ) are considered "normally acceptable" for new multi-family residential land use development; or
- Environments with noise levels between 60 dBA and 70 dBA  $L_{dn}$  are considered "conditionally acceptable" for new multi-family residential land use development.

The dominant noise source in the project vicinity is from vehicular traffic on along I-580. To document these noise levels, an ambient noise monitoring effort was conducted and traffic noise modeling was performed.

According to Environmental Noise Assessment prepared for the Lassen Road Property project by Illingworth & Rodkin, Inc., (provided in Appendix G) projected future exterior noise levels at residential façades nearest I-580 are calculated to be between 67 and 74 dBA  $L_{dn}$  at unshielded ground level exposures, described as Level 1 in the Illingworth & Rodkin report. Exterior noise levels at the Level 2 façades of these same receptors are calculated to range from 71 to 79 dBA  $L_{dn}$ , while the exposure levels at the Level 3 facades range from 73 to 80 dBA  $L_{dn}$ . These traffic noise levels are within the City's "Clearly Unacceptable" range for new Residential Multi-Family land use developments. Under the "Clearly Unacceptable" designation, new construction or development should not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to adequately reduce exposure of people. For multi-family use development, these land use compatibility standards apply to outdoor common use areas.

Future noise levels at the playground, plaza, lounge area, promenade, trail overlooks, the majority of the trail, and throughout the majority of the site fall within the City's "normally acceptable" range for residential land use compatibility (65 dBA  $L_{dn}$  or less), primarily due to the landscape contouring that is planned for the site and the shielding provided by the project buildings. The playground and

<sup>6</sup> City of Livermore. 2004. City of Livermore General Plan. Noise Element. February. Website: <http://www.cityoflivermore.net/citygov/cdd/planning/general.htm>. Accessed October 5, 2018.

plaza areas, as well as the lounge area, promenade, and trail overlook areas would be exposed to 55 to 60 dBA  $L_{dn}$ . The outdoor seating areas would be exposed to less than 50 dBA  $L_{dn}$ . These levels are within the “normally acceptable” range for multi-family residential land use development. The part of the trail adjacent to the I-580 would be exposed to noise levels ranging from 65 dBA  $L_{dn}$  to 75 dBA  $L_{dn}$ . The site is elevated above the I-580, therefore, a barrier located at the southern property line of the site would provide limited noise reduction to these areas. Given that the majority of the trail would be exposed to levels below 65 dBA  $L_{dn}$  and occupants would have access to numerous outdoor areas throughout the site that are exposed to “normally acceptable” traffic noise levels, exterior noise levels on the site would be considered compatible with the proposed land use.

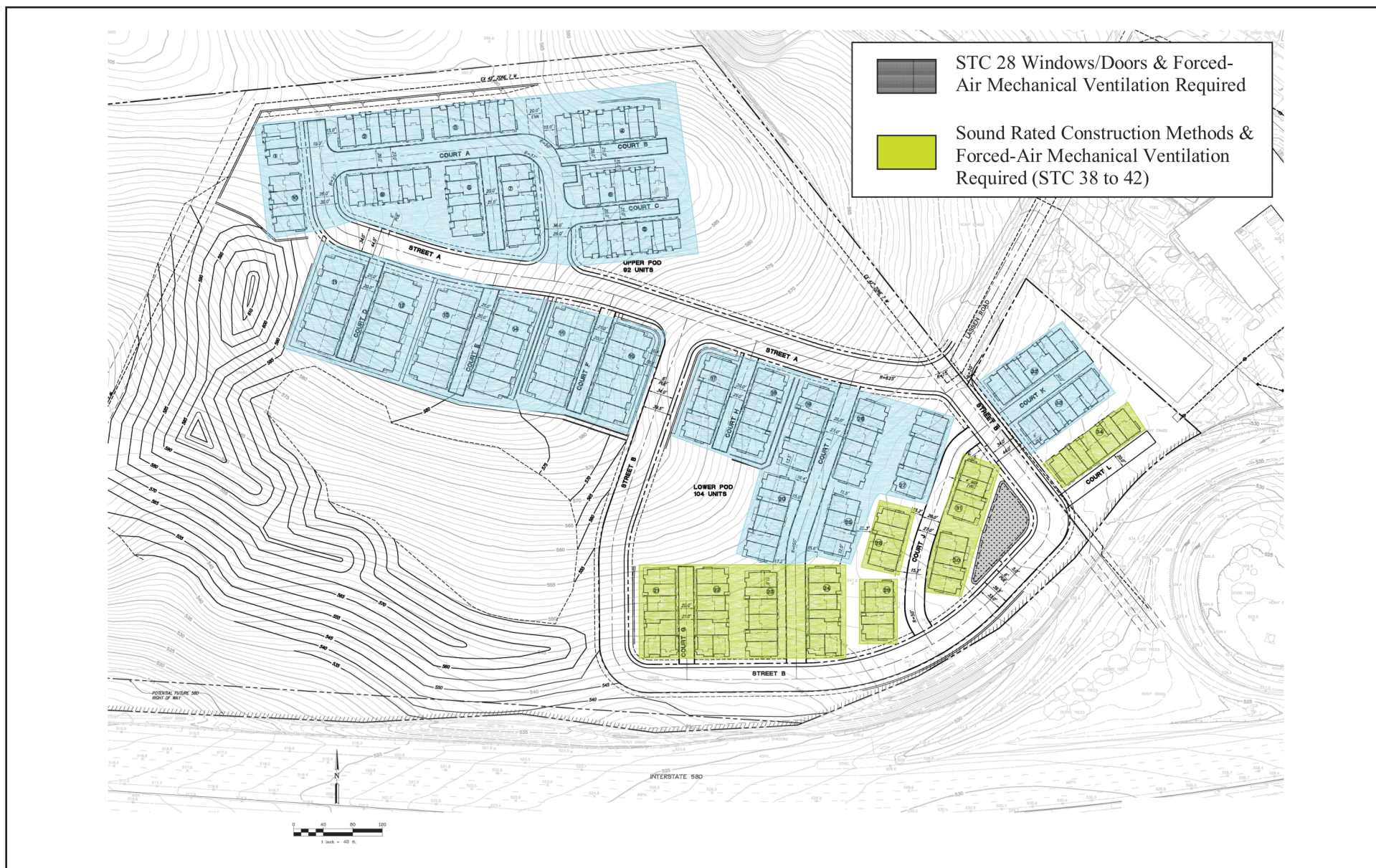
In addition to meeting acceptable exterior noise level requirement, the project must also meet acceptable interior noise level requirements. As indicated by the City’s General Plan, interior noise levels within new residential units are required to be maintained at or below 45 dBA  $L_{dn}$ . Interior noise levels would vary depending on the final design of the buildings (relative window area to wall area) and construction materials and methods. Standard residential construction provides approximately 15 dBA of exterior to interior noise reduction assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces.

Where exterior noise environments range from 60 dBA to 65 dBA  $L_{dn}$ , interior noise levels can be typically maintained below City standards with the incorporation of an adequate forced air mechanical ventilation system in each residential unit. As shown in Exhibit 6, these measures would provide for adequate noise attenuation for the dwelling units located away from I-580.

Facades of residential buildings adjacent to I-580, facing the road will be exposed to interior noise levels of 65 dBA  $L_{dn}$  or greater. In such cases, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA  $L_{dn}$  with proper wall construction techniques, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems. Preliminary calculations show that it is likely that windows/doors with ratings of STC 38 to 40 would be required in noise environments of 75 dBA  $L_{dn}$  or less.

In noise environments exceeding 75 dBA  $L_{dn}$ , the construction materials and techniques necessary to reduce interior noise levels to acceptable levels become more expensive and difficult to implement. Noise insulation features such as stucco-sided staggered-stud walls and high STC-rated windows and doors (STC 38 to 42) would be required for first-row façades facing and adjacent to I-580. First-row residences would also need to be equipped with a full heating and air-conditioning system because it is unlikely residents would open their windows for ventilation. Therefore, noise insulation features will need to be included in the project’s design once detailed floor plans and building elevations are available. The noise control treatments should be designed to reduce interior noise levels to 45 dBA  $L_{dn}$  or less. Implementation of MM LUP-1, which requires adherence to the STC ratings and construction materials and techniques, would reduce traffic noise impacts to the project to a less than significant level.





Source: Ruggeri-Jensen-Azar, November 2017.

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## Exhibit 6 Dwelling Unit Sound Attention Requirements

CITY OF LIVERMORE  
LASSEN ROAD RESIDENTIAL DEVELOPMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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## Mitigation Measures

- MM LUP-1** Prior to issuance of building permits, the applicant shall prepare plans demonstrating the use of the prescribed noise attenuation measures within the dwelling units shown on Exhibit 6:
- 60 to 65 dBA  $L_{dn}$  (Blue): Forced-air mechanical ventilation and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28 shall be required.
  - 65 dBA  $L_{dn}$  and Higher (Green): Forced-air mechanical ventilation, stucco-sided staggered-stud walls, and sound-rated windows and doors (STC 38 to 42) shall be required.



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>11. Mineral Resources</b> <i>Would the project:</i>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

Would the project:

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

**No impact.** The project site contains undeveloped land and does not support mineral extraction activities. Thus, the project would have no impact regarding the loss of availability of a known mineral resource. No impact would occur.

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

**No impact.** The project site contains undeveloped land and does support mineral extraction activities. The City of Livermore General Plan does not identify the project site as a source of locally important mineral resources. No impact would occur.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>12. Noise</b> <i>Would the project result in:</i>				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The analysis is based on the Environmental Noise Assessment prepared by Illingworth & Rodkin, Inc., and additional modeling completed by FCS. The assessment and additional modeling outputs are provided in Appendix G.

*Based on the new CEQA Appendix G checklist questions, the noise land use compatibility discussion is now addressed within Section 10, Land Use and Planning, Impact (b) of this document.*

## Environmental Evaluation

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?**

### Short Term Construction Impacts

**Less than significant impact with mitigation incorporated.** A significant impact would occur if construction activities would result in generation of a substantial temporary increase in ambient noise levels outside of the City's permissible hours for noise producing construction activities that would result in annoyance or sleep disturbance of nearby sensitive receptors. Noise impacts from construction activities associated with the project would be a function of the noise generated by

construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities.

### **Construction Traffic Noise**

One type of noise impact that could occur during project construction would result from the increase in traffic flow on local streets, associated with the transport of workers, equipment, and materials to and from the project site. The transport of workers, construction equipment, and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because project construction workers and construction equipment would use existing routes, noise from passing trucks would be similar to existing vehicle-generated noise on these local roadways. Furthermore, project-related construction trips would not be expected to double the traffic volumes along any roadway segment in the project vicinity and would thus not result in a perceptible change in existing traffic noise levels. For these reasons, short-term intermittent noise from trucks would be minor when averaged over a longer time-period and would not be expected to exceed existing peak noise levels in the project vicinity. Therefore, construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

### **Construction Equipment Noise**

Construction noise levels are rarely steady in nature and, often, fluctuate depending on the type and number of equipment being used at any given time. In addition, there could be times where large equipment is not operating and noise would be at or near normal ambient levels. Construction is completed in discrete steps, each of which has its own mix of equipment and its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase.

The site preparation phase, which includes excavation and grading activities, tend to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery and compacting equipment, such as bulldozers, draglines, backhoes, front loaders, roller compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of front-end loaders, excavators, haul trucks, water trucks, concrete mixer trucks, and pickup trucks. The maximum noise level generated by each concrete mixing truck is assumed to be 85 dBA  $L_{max}$  at 50 feet from this equipment. Each front-end loader would also generate 85 dBA  $L_{max}$  at 50 feet. The maximum noise level generated by excavators is approximately 85 dBA  $L_{max}$  at 50 feet. Each doubling of sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, a reasonable worst-case combined noise level during this phase of construction would be 90 dBA  $L_{max}$  at a distance of 50 feet from the acoustic center of a construction area. This would result in a reasonable worst-case hourly average of 86 dBA  $L_{eq}$ . The acoustical center reference is used because construction

equipment must operate at some distance from one another on a project site, and the combined noise level as measured at a point equidistant from the sources (acoustic center) would be the worst-case maximum noise level.

The nearest off-site noise-sensitive receptor to the proposed project site is the Kinder Care Learning Center building located at 4655 Lassen Road. This building's nearest façade would be located approximately 60 feet from the acoustic center of construction activity where multiple pieces of heavy machinery would potentially operate, simultaneously, at the project site. At this distance, worst-case construction noise levels could range up to approximately 88.4 dBA  $L_{max}$ , intermittently, and could have an hourly average of up to 84.4 dBA  $L_{eq}$ , at the nearest façade of the Kinder Care Learning Center building.

The second closest noise-sensitive receptor to the proposed project site is a single-family residence located along Spring Valley Common and northeast of Lassen Road. This residence would be located approximately 250 feet from the acoustic center of construction activity where multiple pieces of heavy machinery would potentially operate, simultaneously, at the project site. At this distance, worst-case construction noise levels could range up to approximately 76 dBA  $L_{max}$ , intermittently, and could have an hourly average of up to 72 dBA  $L_{eq}$ , at the façade of the nearest single-family residential home.

Although there could be a relatively high single event noise exposure potential causing an intermittent noise nuisance, the effect of construction noise levels on longer-term (hourly or daily) ambient noise levels would be small but could result in annoyance or sleep disturbances at nearby sensitive receptors if construction activities are not limited to the permissible construction hours established by the City of Livermore Municipal Code. Therefore, noise producing construction activities shall be restricted to the hours between 7:00 a.m. and 8:00 p.m. Monday through Friday; 9:00 a.m. and 6:00 p.m. on Saturday; construction activities cannot occur during any hour on a Sunday or on City-observed holidays. Restricting construction activities to these stated time-periods, as well as implementing the best management noise reduction techniques and practices (both outlined in MM NOI-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, the potential short-term construction noise impacts to ambient noise levels in the vicinity of the project site would be reduced to less than significant with mitigation incorporated.

### **Operational/Stationary Source Noise Impacts**

**Less than significant impact.** A significant impact would occur if operational noise levels generated by stationary noise sources at the proposed project site would result in a substantial permanent increase in ambient noise levels. Audible increases in noise levels generally refer to a change of 3 dBA or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. A change of 5 dBA is considered the minimum readily perceptible change to the human ear in outdoor environments. Therefore, for purposes of this analysis, an increase of greater than 3 dBA above existing ambient noise levels would be considered a substantial permanent increase in ambient noise levels.

## Mechanical Equipment Operations

Mechanical equipment is analyzed using a reference measurement for a representative piece of equipment. Noise levels from representative mechanical ventilation equipment range up to approximately 60 dBA  $L_{eq}$  at a distance of 25 feet from the equipment.

Proposed mechanical ventilation systems could be located as close as 35 feet from the nearest noise-sensitive receptor, which is the KinderCare Learning Center building located at 4655 Lassen Road. At this distance, operational noise levels generated by this equipment would range up to approximately 57.1 dBA  $L_{eq}$  at this nearest noise-sensitive receptor. According to the Environmental Noise Assessment prepared for the Lassen Road Property project (provided in Appendix G), existing hourly noise levels (shown as ST-1) adjacent to the nearest noise-sensitive receptor, which is the KinderCare Learning Center, range up to 59 dBA  $L_{eq}$ . Noise levels resulting from the operation of mechanical ventilation equipment at the proposed project site would not exceed existing daytime ambient noise levels at the nearest off-site receptor by 5 dBA or more. Therefore, the impact of mechanical ventilation equipment operational noise levels to sensitive off-site receptors would be less than significant.

Therefore, operational noise levels generated by stationary noise sources at the proposed project site would have a less than significant impact to existing ambient noise levels.

## Traffic Noise Impacts

**Less than significant impact.** A significant impact would occur if implementation of the proposed project would result in a substantial increase in ambient noise levels compared with noise levels existing without the project. For purposes of this analysis, an increase of 5 dBA or greater would be considered a substantial permanent increase in ambient noise levels.

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate existing and future project-related traffic noise conditions in the vicinity of the project site. The projected traffic noise levels along roadways adjacent to the project site were analyzed to determine compliance with the City's land use compatibility standards. The daily traffic volumes were obtained from the traffic analysis prepared for the project by Fehr & Peers Associates, Inc.<sup>7</sup> The resultant noise levels were weighed and summed over a 24-hour period in order to determine the  $L_{dn}$  values. The traffic noise modeling input and output files are included in Appendix G of this document. Table 10 shows a summary of the traffic noise levels for existing, Existing Plus Project, Near Term, Near Term Plus Project, Cumulative, and Cumulative Plus Project conditions as measured at 50 feet from the centerline of the outermost travel lane.

<sup>7</sup> Fehr & Peers Associates, Inc. 2018. Lassen Road Residential Project Final Transportation Impact Analysis. May.

**Table 10: Traffic Noise Model Results Summary**

Roadway Segment	L <sub>dn</sub> (dBA) 50 feet from Centerline of Outermost Lane								
	Existing (dBA) L <sub>dn</sub>	Existing + Project (dBA) L <sub>dn</sub>	Increase Over Existing (dBA) L <sub>dn</sub>	Near Term (dBA) L <sub>dn</sub>	Near Term + Project (dBA) L <sub>dn</sub>	Increase Over Near Term (dBA) L <sub>dn</sub>	Cumulative (dBA) L <sub>dn</sub>	Cumulative + Project (dBA) L <sub>dn</sub>	Increase Over Cumulative (dBA) L <sub>dn</sub>
Springtown Boulevard—Lassen Road to Bluebell Drive	66.0	66.3	0.3	66.3	66.5	0.2	66.5	67.5	1.0
Notes: <sup>1</sup> Modeling results do not take into account mitigating features such as topography, vegetative screening, fencing, building design, or structure screening. Rather it assumes a worst case of having a direct line of site on flat terrain. Source: FCS 2019.									

The highest traffic noise level increase with implementation of the project would occur along Springtown Boulevard between Lassen Road and Bluebell Drive under Cumulative Plus Project conditions. The modeling results show that traffic noise levels with the project would range up to 67.5 dBA L<sub>dn</sub> as measured at 50 feet from the centerline of the outermost travel lane. Along this roadway segment, the proposed project would result in an increase of 1.0 dBA (see Appendix G). This increase is well below the 5 dBA increase that would be considered a substantial permanent increase in noise levels compared with noise levels that would exist without the project. Therefore, project-related traffic noise impacts to existing ambient noise levels would be less than significant.

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

**Less than significant impact.** This section analyzes both construction and operational groundborne vibration impacts. The City of Livermore has not adopted criteria for construction groundborne vibration impacts. Therefore, for purposes of this analysis, the Federal Transit Administration (FTA) vibration impact criteria are utilized to determine the significance of project-related construction groundborne vibration levels. The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment document.

Groundborne vibration is typically only an annoyance to people indoors where the vibration results in noticeable shaking of a building. When assessing annoyance from groundborne vibration, vibration is typically expressed as root mean square velocity in units of decibels of 1 micro-inch per second. To distinguish these vibration levels referenced in decibels from noise levels referenced in decibels, the unit is written as “VdB.”

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving and operating heavy earthmoving equipment. However, construction vibration



impacts on building structures are generally assessed in terms of peak particle velocity (PPV). For purposes of this analysis, project related impacts are expressed in terms of PPV.

### ***Short-term Construction Vibration Impacts***

Of the variety of equipment that would be used during construction, small vibratory rollers would produce the greatest groundborne vibration levels. Impact equipment such as pile drivers is not expected to be used during construction of this project. Small vibratory rollers produce groundborne vibration levels ranging up to 0.101 inch per second (in/sec) PPV at 25 feet from the operating equipment.

The facade of the Kinder Care Learning Center building located at 4655 Lassen Road is the closest off-site structure, located approximately 25 feet from where heavy equipment would potentially operate. At this distance, groundborne vibration levels from the operation of a small vibratory roller would attenuate to below 0.101 in/sec PPV at the façade of this structure. These levels would be below the industry standard vibration damage criteria of 0.2 PPV for the most sensitive type of structure. Therefore, impacts resulting from construction-related groundborne vibration levels would be less than significant.

### ***Operational Vibration Impacts***

The proposed project would not include any permanent sources of vibration that would expose persons in the project vicinity to groundborne vibration levels that could be perceptible without instruments by a reasonable person at the property lines of the project site. In addition, there are no existing significant permanent sources of groundborne vibration in the vicinity of the site to which the proposed project would be exposed. The project site is located more than 50 feet from the closest lane on I-580. This distance is sufficient to attenuate any vibration from transportation sources to levels that would not be perceptible without instruments within the site. Therefore, project operational groundborne vibration level impacts would be considered less than significant.

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

**No impact.** The nearest airport to the project site is the Livermore Municipal Airport that is located approximately 3.7 miles southwest of the project site. Because of its distance from the Airport's runways, the project site is located well outside of the Airport's 55 dBA CNEL noise contours. The project site is not located within 2 miles of a private airstrip. Therefore, implementation of the project would not expose persons residing, working or visiting the project site to excessive noise levels associated with airport noise. No impacts associated with public airport noise would occur.

## Mitigation Measures

- MM NOI-1** To reduce potential construction noise impacts, the following multi-part mitigation measure shall be implemented for the proposed project:
- The construction contractor shall ensure that all equipment driven by internal combustion engines shall be equipped with mufflers, which are in good condition and appropriate for the equipment.
  - The construction contractor shall ensure that unnecessary idling of internal combustion engines (i.e., idling in excess of 5 minutes) is prohibited.
  - The construction contractor shall utilize “quiet” models of air compressors and other stationary noise sources where technology exists.
  - At all times during project grading and construction, the construction contractor shall ensure that stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from the nearest residential land uses.
  - The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (starting too early, bad muffler, etc.) and establishment reasonable measures necessary to correct the problem. The construction contractor shall visibly post a telephone number for the disturbance coordinator at the construction site.
  - The construction contractor shall limit construction activities to the hours between 7:00 a.m. and 8:00 p.m. Monday through Friday; 9:00 a.m. and 6:00 p.m. on Saturday; no construction activities shall occur during any hour on a Sunday or on City-observed holidays.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>13. Population and Housing</b> <i>Would the project:</i>				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** The proposed project would develop 186 dwelling units on the project site. The California Department of Finance indicates that the City of Livermore has an average of 2.87 persons per household. Using this figure as a multiplier, the proposed project would approximately add 531 persons to the City of Livermore's population. The California Department of Finance estimates the City of Livermore's 2018 population to be 91,411 persons. The proposed project's 531 residents would represent an increase of less than 1 percent relative to the City's 2018 population estimate. The population growth can be accommodated within the City of Livermore's Housing Implementation Program, which serves as the City's growth management tool and provides a method to allocate housing units for the Transferable Development Credit (TDC) Program. The TDC Program guarantees annual dwelling unit allocations from 2004 through 2019 for a total of 3,200 units. The proposed project's dwelling units would be allocated housing units under the City's TDC Program. There are existing TDC units that will accommodate the proposed 186 dwelling units. The Housing Implementation Program adopted for 2017-2019 concludes there are adequate existing public services and infrastructure to serve the proposed residential development. The implementation of the project would not induce substantial population growth within the City of Livermore and the impact would be less than significant.

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

**No impact.** The project site contains undeveloped land, with no existing dwelling units. Thus, the project would not displace any existing people or housing. No impacts would occur.

### Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>14. Public Services</b> <i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

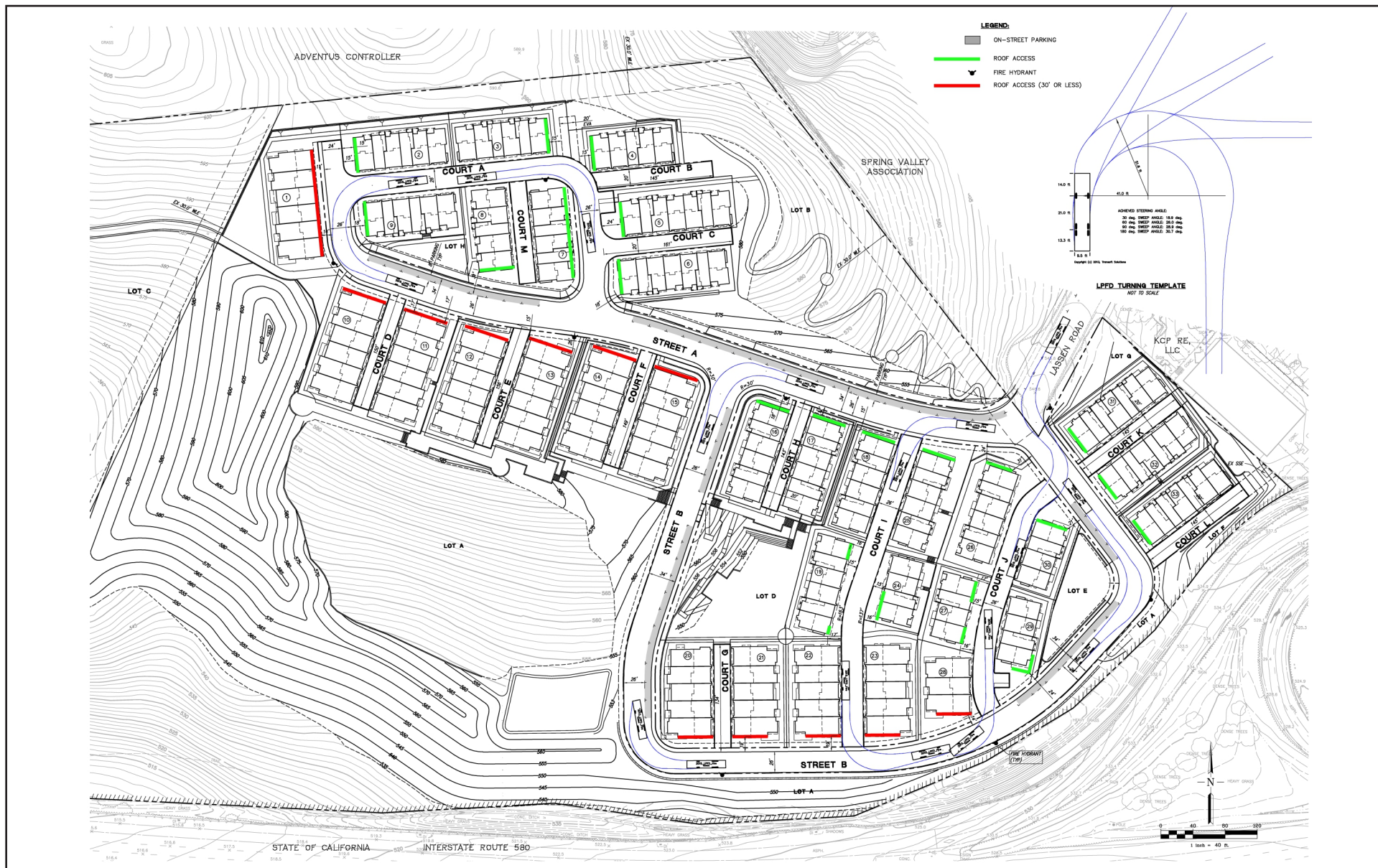
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain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

### a) Fire protection?

**Less than significant impact.** The project site is located 1.20 miles from Fire Station No. 8 (5750 Scenic Avenue). Using an average travel speed of 35 miles per hour, a fire engine would be able to reach the project site in 2 minutes, 3 seconds, which would be considered an acceptable response time. The project site would be accessed via a 40-foot-wide driveway on Lassen Road and have a 20- to 26-foot internal roadways, which would provide sufficient width and turning radii for a ladder truck. Exhibit 7 shows the fire access plan for the proposed project. Additionally, all new construction would be required to meet Fire Code requirements for fire detection and suppression. For these reasons, the proposed project would not create a need for new or expanded fire facilities. Impacts would be less than significant.

### b) Police protection?

**Less than significant impact.** The Livermore Police Department currently serves the project site with police protection. The proposed project would add approximately 531 persons to the City of Livermore's population, however, the new residential developments would provide crime deterrent and prevention measures such as fencing and exterior lighting. The Livermore Police Department has reviewed the project plans and has concluded that the proposed project would not create a need for new or expanded police facilities. Impacts would be less than significant.



Source: ktgy, Ruggeri-Jensen-Azar, Gates & Associates, Westgate Ventures, July 2019.

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c) **Schools?**

**Less than significant impact.** The Livermore Valley Joint Unified School District currently provides K-12 education to the project site. The project would develop 186 two- and three-story residential townhomes. Using the Livermore Valley Joint Unified School District's student generation rates of 0.18 student/home for elementary, 0.10 student/home for middle school, and 0.15 student/home for high school, the proposed project would generate approximately 34 elementary school students, 19 middle school students, and 28 high school students to the School District, for a total of 81 new students. Students from the project would attend Leo R. Croce Elementary School, Altamont Creek Elementary School, Lawrence Elementary School, Christensen Middle School, and Livermore High School. According to the Livermore Valley Joint Unified School District, the District would be able to accommodate the additional students that this project would generate. The applicant would be required to pay development fees to the School District to fund capital improvements to school facilities. Pursuant to Government Code Section 65995, payment of development fees is "full and complete mitigation" for impacts on schools. Impacts would be less than significant.

d) **Parks?**

**Less than significant impact.** The proposed project would add approximately 531 persons to the City of Livermore's population. There are several parks within 0.5 mile of the project site, including Wattenburger Park, Lester J. Knott Park, and Springtown Open Space (former golf course). The proposed project would contribute fees to the Livermore Area Recreation and Park District to fund capital improvements to park and recreational facilities. Additionally, the proposed project includes the preservation of 23.26 acres as open space, and includes a planned trail to an overlook along the northern portion of the project site. For these reasons, the proposed project would not directly result in a need to construct new or expand existing park and recreational facilities. Impacts would be less than significant.

e) **Other public facilities?**

**Less than significant impact.** The proposed project would add approximately 531 persons to the City of Livermore's population. There are several public facilities in the City of Livermore that may be patronized by project residents, including the Main and Springtown Public Library, the Robert Livermore Community Center, and the Springtown Open Space (former golf course). The proposed project would generate property and sales tax and would contribute fees to the City of Livermore and Livermore Area Recreation and Park District to fund capital improvements to public facilities. For these reasons, the proposed project would not directly result in a need to construct new or expand existing public facilities. Impacts would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>15. Recreation</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

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

**Less than significant impact.** The proposed project would add approximately 531 persons to the City of Livermore's population. There are several parks within 0.5 mile of the project site, including Wattenburger Park, Lester J. Knott Park, and Springtown Open Space (former golf course). The proposed project would contribute fees to the Livermore Area Recreation and Park District to fund capital improvements to park and recreational facilities. Additionally, the proposed project includes the preservation of 23.26 acres as open space, and includes a planned trail to an overlook along the northern portion of the project site. For these reasons, the proposed project would not directly result in a need to construct new or expand existing park and recreational facilities. Impacts would be less than significant.

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

**Less than significant impact.** The proposed project includes the preservation of 23.26 acres as open space, and includes a planned trail to an overlook along the site's northern boundary. In addition, the proposed project would include open space and children's play area with a play structure. For these reasons, the proposed project would not directly result in a need to construct new or expand existing park and recreational facilities. Impacts would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>16. Transportation</b> <i>Would the project:</i>				
a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The analysis in this section is based on the Transportation Impact Assessment (TIA) prepared by Fehr & Peers Associates, Inc. The report is provided in Appendix H.

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** Fehr & Peers prepared a TIA to evaluate the transportation impacts of the project. Trip generation associated with the proposed project is summarized in Table 11. The project is expected to generate approximately 1,139 daily vehicle trips, including approximately 87 morning peak-hour and 102 evening peak-hour trips. Please note that the TIA evaluated the potential effects of 196 dwelling units, which provides a more conservative analysis than the 186 dwelling units proposed.

**Table 11: Project Vehicle Trip Generation Estimates**

Use	Size	Weekday						
		Daily	AM Peak-hour			PM Peak-hour		
			In	Out	Total	In	Out	Total
Residential <sup>1</sup>	196 dwelling units <sup>2</sup>	1,139	15	72	87	68	34	102
Notes: <sup>1</sup> ITE land use category 230—Residential townhome (Adj. Streets, 7-9A, 4-6P): Daily: (T) = 5.81 (X) AM Peak-hour: T = 0.44 (X); Enter = 17 percent; Exit = 83 percent PM Peak-hour: T = 0.52 (X); Enter = 67 percent; Exit = 33 percent <sup>2</sup> Fehr & Peers based the analysis on 196 dwelling units, which is more than the 186 dwelling units proposed. Source: Fehr & Peers Associates, Inc. 2018.								

The potential impacts were evaluated relative to the level of service policies and methodologies applicable in the City of Livermore. Table 12 summarizes peak-hour level of service of intersection with project traffic volume added to the existing traffic volume.

**Table 12: Existing with Project Peak-hour Intersection Levels of Service**

Intersection	Traffic Control <sup>1</sup>	Peak-hour	Existing		Existing with Project	
			Delay <sup>2</sup>	LOS	Delay <sup>2</sup>	LOS
Lassen Road/Spring Valley Common	SSSC	AM	1.2 (9.0)	A (A)	0.7 (9.5)	A (A)
		PM	0.5 (9.0)	A (A)	0.2 (9.7)	A (A)
Springtown Boulevard/Lassen Road	SSSC	AM	1.8 (11.0)	A ( B)	2.8 (11.4)	A (B)
		PM	1.7 (11.0)	A (B)	2.6 (11.1)	A (B)
Springtown Boulevard/Bluebell Drive	Signalized	AM	10.4	B	10.7	B
		PM	19.3	B	20.8	C
Springtown Boulevard/I-580 Westbound Ramps	Signalized	AM	6.5	A	8.1	A
		PM	6.4	A	7.0	A
Springtown Boulevard/I-580 Eastbound Ramps	Signalized	AM	13.8	B	13.9	B
		PM	30.5	C	31.9	C
Bluebell Drive/Larkspur Drive	SSSC	AM	1.0 (19.6)	A (C)	1.0 (19.8)	A (C)
		PM	0.6 (26.7)	A (D)	0.6 (25.7)	A (D)

Notes:  
Bold text indicates potentially unacceptable intersection operations.  
<sup>1</sup> Signal = Signalized intersection; SSSC = Side-street stop-controlled intersections; traffic on the main street does not stop while traffic on the side-street is controlled by a stop sign.  
<sup>2</sup> Average intersection delay is calculated for all signalized intersections using the 2010 HCM method. For SSSC intersections, average delay or LOS is listed first followed by the delay or LOS for the worst approach in parentheses.  
Source: Fehr & Peers Associates, Inc. 2018.

As shown in Table 12, although the project would increase the total number of trips, it would not decrease the LOS at any study intersection below acceptable levels (mid-level LOS D or better). The results of the intersection level of service analysis show that the proposed project would not result in a significant impact at any of the study intersections under Existing and Existing Plus Project conditions. The impact would be less than significant.

Table 13 summarizes peak-hour level of service of intersection under Cumulative traffic conditions. To develop cumulative traffic forecasts, the 2040 Alameda County Transportation Commission travel demand model was used in combination with a review of recent forecasts prepared near the study area.

**Table 13: Cumulative with Project Peak Hour Intersection Levels of Service**

Intersection	Traffic Control <sup>1</sup>	Peak-hour	Cumulative without Project		Cumulative with Project	
			Delay <sup>2</sup>	LOS	Delay <sup>2</sup>	LOS
Lassen Road/Spring Valley Common	SSSC	AM	2.2 (9.3)	A (A)	1.5 (9.8)	A (A)
		PM	1.1 (9.0)	A (A)	0.7 (9.6)	A (A)
Springtown Boulevard/Lassen Road	SSSC	AM	2.0 (11.0)	A ( B)	2.9 (11.9)	A (B)
		PM	1.8 (9.7)	A (A)	2.6 (10.0)	A (B)
Springtown Boulevard/Bluebell Drive	Signalized	AM	12.0	B	10.8	B
		PM	11.4	B	11.6	B
Springtown Boulevard/I-580 Westbound Ramps	Signalized	AM	7.1	A	6.5	A
		PM	7.1	A	7.2	A
Springtown Boulevard/I-580 Eastbound Ramps	Signalized	AM	8.2	A	11.7	B
		PM	36.1	D	35.8	D
Bluebell Drive/Larkspur Drive	SSSC	AM	1.9 (26.5)	A (D)	1.9 (26.7)	A (D)
		PM	2.1 ( <b>55.2</b> )	A ( <b>F</b> )	2.1 ( <b>53.3</b> )	A ( <b>F</b> )
Notes: Bold text indicates potentially unacceptable intersection operations. <sup>1</sup> Signal = Signalized intersection; SSSC = Side-street stop-controlled intersections; traffic on the main street does not stop while traffic on the side street is controlled by a stop sign. <sup>2</sup> Average intersection delay is calculated for all signalized intersections using the 2010 HCM method. For SSSC intersections, average delay or LOS is listed first followed by the delay or LOS for the worst approach in parentheses. Source: Fehr & Peers Associates, Inc. 2018.						

At the Bluebell Drive/Larkspur Drive intersection, the southbound approach would operate at LOS F during the PM peak-hour, both without and with the project. The project is expected to add right-turning vehicles (as opposed to left-turning vehicles that endure higher delay) to the southbound right-turn movement at the intersection and, as shown in Table 13. This increase in trips to southbound leg of the intersection actually causes the average delay of the approach to improve by 2 seconds with the addition of project traffic from 55.2 seconds of delay to 53.3 seconds of delay, resulting in a less-than-significant impact at that intersection.

All other intersections would operate at an acceptable level of service. For these reasons, impacts would be less than significant.

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

**Less than significant impact.** In response to SB 743, the Office of Planning and Research (OPR) has updated CEQA Guidelines to include new transportation-related evaluation metrics. Draft Guidelines were developed in August 2014, with updated draft Guidelines prepared January 2016, which

incorporated public comments from the August 2014 Guidelines. The OPR released final proposed Guidelines on November 27, 2017. The final proposed Guidelines include a new Section 15064.3 on vehicle miles traveled (VMT) analysis and thresholds for land use developments. The OPR also released a Technical Advisory on Evaluating Transportation Impacts in CEQA. New Guidelines do not take effect until January 1, 2020 unless the lead agency adopts them earlier. Neither the City of Livermore nor the Alameda County Transportation Commission has established any standards or thresholds on VMT. Therefore, following analysis is presented for informational purposes only.

## VMT Assessment

A preliminary assessment of the VMT generated by the proposed project was prepared in the TIA for information and disclosure purposes only. VMT estimates for the project were estimated using the Alameda County Transportation Commission's travel demand model. The project site was added into the model, and the project's VMT was estimated through a select link analysis of the node representing the project. The average household population of the project was assumed to similar to the neighboring traffic analysis zones (TAZs).

VMT estimates within the City of Livermore were estimated using the regional Metropolitan Transportation Commission's travel demand model. The Metropolitan Transportation Commission Model is a regional model for the nine county Bay Area. Citywide VMT was reported as the sum of vehicle miles traveled for trips going to or from TAZs within the City of Livermore. Total household, population, and employment data for the TAZs within the City of Livermore were also pulled from the model. The resulting metric is a summary of the average VMT per household and service population (residents and workers). For purposes of comparison to the proposed project, the total home-based VMT per residential population was used.

As shown in Table 14, the project has the potential to generate approximately 13,300 vehicle miles of travel per day. The project would generate VMT per capita (residents only) at a level approximately 30 percent more than the existing Citywide average.

**Table 14: Project VMT**

Scenario	Households	Population	Employment	Daily Residential VMT	Residential VMT per Capita (VMT/Population)
Project Only	196	554	0	13,300	24.4
Existing City of Livermore	—	60,510	17,472	1,136,000	18.8
Notes: 196 dwelling units was the basis for calculating VMT, which is higher and, thus, more conservative, than the proposed 186 dwelling units. Source: Fehr & Peers Associates, Inc. 2018.					

Results of the VMT analysis indicate that the project would contribute to an increase in vehicle miles of travel per resident and would increase the VMT per capita when compared to the current

citywide average. However, this in itself is not considered a significant impact because neither the City nor the Alameda County Transportation Commission have an adopted VMT threshold. Impacts would be less than significant.

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

**Less than significant impact with mitigation incorporated.** The project site is located in northeastern Livermore near the Springtown neighborhood. Local access to the project site is solely provided by Lassen Road off Springtown Boulevard/First Street. Regional access to the project site is provided by I-580. Lassen Road provides a 40-foot wide point of entry from curb to curb and internal roadways are between 20 to 26-feet wide, excluding on-street parking. Furthermore, as required by MM TRANS-1, stop signs and striping stop bars would be provided at intersections within the internal roadway. Thus, the proposed project would not create hazards through design features or incompatible uses. Impacts would be less than significant.

**d) Result in inadequate emergency access?**

**Less than significant.** Factors such as number of access points, roadway width, and proximity to fire stations determine whether a project provides sufficient emergency access. Lassen Road provides a 40-foot wide point of entry from curb to curb and internal roadways are between 20 to 26-feet wide, excluding on-street parking, with the Main Loop Road, which is 34-feet wide curb to curb. The fire access plan depicted in Exhibit 7 shows the turning geometry of a Livermore-Pleasanton Fire Department truck and confirms that adequate emergency access can be provided. Impacts would be less than significant.

## Mitigation Measures

**MM TRANS-1** Prior to issuance of a building permit, the applicant shall prepare plans demonstrating the use of stop signs and striping stop bars at the following locations:

- The southbound approach of Court A at the intersection of Street A/Court A (east)
- The northbound approach of Street B at the intersection of Street A/Street B (west)
- The northbound approach of Street B at the intersection of Street A/Street B (east)



Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>17. Utilities and Service Systems</b> <i>Would the project:</i>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

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?**

**Less than significant impact.** The proposed project would be served with potable water service and wastewater collection and treatment service provided by the City of Livermore. The project would install internal water and wastewater infrastructure systems that would connect to the City's municipal water and sewer systems. No off-site improvements would be required.

The proposed project would install a storm drainage system consisting of inlets, underground piping, and bioretention basins. The storm drainage system consists of five bioretention basin areas. Runoff

from four of the bioretention basins would be conveyed by a network of 12-, 15-, and 18-inch-diameter pipes to the southeastern corner of the project site and discharged into an existing 18-inch diameter storm drainage pipe. The western basin would discharge to an outfall that would employ overland release, similar to existing conditions. The storm drainage system would be designed to detain and meter the release of peak runoff in order to avoid inundating downstream waterways stormwater treatment features. No off-site improvements would be required.

The proposed project would be served with electricity and natural gas service and would connect to existing PG&E infrastructure. No off-site improvements would be required.

In sum, all necessary utility infrastructure needed to serve the proposed project exists near the project site and no off-site improvements that would result in significant impacts on the environment would be necessary. Impacts would be less than significant.

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

**Less than significant impact.** The proposed project would add approximately 531 persons to the City's population. The City of Livermore 2015 Urban Water Management Plan sets forth a 2020 water target use of 192 gallons/capita/day. Multiplying the 192/gallons/capita/day rate by 531 persons yields a daily water consumption value of 101,952 gallons. On an annual basis, this equates to 114.2 acre-feet. The 2015 Urban Water Management Plan indicates that annual water supplies are anticipated to range from 8,976 acre-feet to 11,048 acre-feet between 2020 and 2035. Thus, a water demand of 114.2 acre-feet would represent approximately 1 percent of the City of Livermore Municipal Water supply totals forecasted under all water year scenarios between 2020 and 2035. Accordingly, adequate water supplies would be available to serve the project from existing and planned supplies during normal, dry, and multiple dry years. Impacts would be less than significant.

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

**Less than significant impact.** The proposed project would develop 186 dwelling units on the project site, and is estimated to generate a demand for 101,952 gallons of water per day. Using standard industry assumption that (1) domestic water use represents 40 percent of consumption; and (2) wastewater generation represents 90 percent of domestic water use, the proposed project would generate 36,703 gallons of effluent on a daily basis. The City of Livermore's Water Reclamation Plant has a treatment capacity of 8.5 million gallons per day. Currently, the treatment plant processes over 6 million gallons per day. Using a conservative estimate of 1 million gallons per day remaining capacity, the addition of 36,703 gallons of wastewater would represent approximately 3.6 percent of the available remaining capacity. Additionally, the proposed project does not have any attributes that would generate effluent that would require special treatment (e.g., industrial process wastewater). For these reasons, the proposed project would not exceed the wastewater treatment requirements of the Water Reclamation Plant. City of Livermore Municipal Water and the City of Livermore would have adequate resources and capacity to serve the proposed project with water

and wastewater, respectively. Aside from standard on-site infrastructure (e.g., service laterals), no upgrades would be required to either the water or the wastewater systems. Impacts would be less than significant.

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

**Less than significant impact.** The proposed project would develop 186 dwelling units on the project site. Using a standard residential waste generation rate of 3,650 pounds per dwelling unit/year, the project would generate 473 cubic yards of solid waste on an annual basis.<sup>8</sup> Solid waste from the City of Livermore is landfilled at the Vasco Road Sanitary Landfill. The landfill has 5.6 million cubic yards of remaining capacity. The project may use Altamont Landfill and Resource Recovery Facility, which had a remaining capacity of 65.4 cubic yards. Additionally, the Alameda County Waste Management Authority has identified a site for a planned Integrated Waste Management Facility in Altamont Hills east of Livermore, although it has not proceeded with permitting for this facility at the time of this writing. Regardless, there is more than adequate landfill capacity in the region to serve the City of Livermore's disposal needs for the near future. Impacts would be less than significant.

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

**Less than significant impact.** The proposed project would develop 186 dwelling units. As with all residential customers in Livermore, project residents would be issued containers for the collection of the various items and allow recoverable and compostable items (green waste) to be diverted from the waste stream. This would allow the City to meet its State-issued disposal targets. Impacts would be less than significant.

## Mitigation Measures

None.

<sup>8</sup> Calculation: (186 dwelling units x 3,650 pounds)/(2,000 pounds/1 ton) = 352 tons/year. 352 tons/year x 1.4 cubic yards/ton = 473 cubic yards/year.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>18. Wildfire</b> <i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</i>				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** Lassen Road provides a 40-foot wide point of entry from curb to curb and internal roadways are between 20 to 26-feet wide, excluding on-street parking. Exhibit 7 shows that a Livermore-Pleasanton Fire Department fire engine can negotiate all turns on the project's internal roadway system. As such, adequate emergency access and evacuation would be provided. Impacts would be less than significant.

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

**No impact.** CAL FIRE designates the project site as a "Non-Very High Fire Hazard Safety Zone." The project site is surrounded by urban development and infrastructure on three sides (west, east, and south) and grazing land contemplated for a future high school (north). Undeveloped lands to the north are agricultural and, thus, are managed in a manner to reduce their susceptibility to wildlife.

When developed, the project site and surroundings would become developed, which would minimize the risk of wildfire. No impact would occur.

- 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?**

**No impact.** The project site is located adjacent to existing and planned urban development and infrastructure, and has a low susceptibility to wildland fire. Accordingly, the project does not propose the installation of infrastructure for the purposes of combating wildfires (e.g., roads, fuel breaks, water tanks, etc.) No impacts would occur.

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

**Less than significant impact.** The project site is located adjacent to existing and planned urban development and infrastructure and has a low susceptibility to wildland fire. Thus, it would not be exposed to substantial risks associated with post-fire landslides and flooding. Impacts would be less than significant.

## Mitigation Measures

None.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
<b>19. Mandatory Findings of Significance</b>				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

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

**Less than significant impact with mitigation incorporated.** The proposed project may result in several impacts associated with biological resources and cultural resources that would be significant if left unmitigated. MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, MM CUL-1, MM CUL-2, MM CUL-3 would fully mitigate all potential impacts to levels of less than significant. With the implementation of these mitigation measures, the proposed project would have less than significant impacts.

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

**Less than significant impact.** All cumulative impacts related to air quality, noise, and traffic are either less than significant after mitigation or less than significant and do not require mitigation. Given the scope of the project and its impacts and mitigation measures, the incremental effects of this project are not considerable relative to the effects of past, current, and probably future projects. As discussed previously, the project does not have a significant cumulative traffic impact. Therefore, the proposed project would not result in cumulatively considerable impacts on these areas. Impacts would be less than significant.

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

**Less than significant impact.** All impacts identified in this IS/MND are either less than significant after mitigation, or less than significant and do not require mitigation. Therefore, the proposed project would not result in environmental effects that cause substantial adverse effects on human beings either directly or indirectly. Impacts would be less than significant.

## Mitigation Measures

Implement MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, MM CUL-1, MM CUL-2, and MM CUL-3.



## SECTION 3: REFERENCES

Alameda County Transportation Commission. 2016 Level of Service Monitoring on the Congestion Management Program Roadway Network. November 2014.

Alameda County Waste Management Authority. Alameda County Integrated Waste Management Plan—Countywide Element. Website:  
<http://www.stopwaste.org/sites/default/files/CoIWMP%20update%202017%20Final%201.pdf>. Accessed October 2018.

Alameda County. 2012. Livermore Executive Airport: Airport Land Use Compatibility Plan. Website:  
[https://www.acgov.org/cda/planning/generalplans/documents/LVK\\_ALUCP\\_082012\\_FULL.pdf](https://www.acgov.org/cda/planning/generalplans/documents/LVK_ALUCP_082012_FULL.pdf). Accessed October 2018.

Bay Area Air Quality Management District (BAAQMD). 2011. CEQA Air Quality Guidelines. Website:  
[http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/baaqmd-ceqa-guidelines\\_final\\_may-2012.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/baaqmd-ceqa-guidelines_final_may-2012.pdf?la=en). Accessed October 23, 2018.

Bay Area Air Quality Management District (BAAQMD). 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May 2012.

Bay Area Air Quality Management District (BAAQMD). 2015. Email from Virginia Lau to Bill Popenuck of Illingworth & Rodkin, Inc. November 15, 2015.

Bay Area Air Quality Management District (BAAQMD). 2018. Air Monitoring Data. Website:  
<http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data?DataViewFormat=yearly&DataView=met&StartDate=1/1/2018&ParameterId=203&StationId=1023>. Accessed February 2019.

California Department of Conservation. 2015. Alameda County Williamson Act FY 2014/2015. Website: [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Alameda\\_14\\_15\\_WA.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Alameda_14_15_WA.pdf). October 2018.

California Department of Conservation. 2018. Alameda County Important Farmland 2016. Website:  
<ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/ala16.pdf>. Accessed October 2018.

California Department of Finance. 2018. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2018 with 2010 Census Benchmark. Website:  
<http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>. Accessed November 2018.

California Department of Finance. 2018. Population Estimates for Cities, Counties, and the State. Website: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>. Accessed October 2018.

California Department of Forestry and Fire Protection (CAL FIRE). 2008. Very High Fire Hazard Severity Zones in LRA. Website:  
[http://frap.fire.ca.gov/webdata/maps/alameda/fhszl\\_map.1.pdf](http://frap.fire.ca.gov/webdata/maps/alameda/fhszl_map.1.pdf). Accessed October 2018.

- California Department of Transportation (Caltrans). 2017. 2016 Annual Average Daily Truck Traffic on California State Highways.
- California Water Service Company. 2016. 2015 Urban Water Management Plan Livermore District. Website: [https://www.calwater.com/docs/uwmp2015/liv/2015\\_Urban\\_Water\\_Management\\_Plan\\_Final\\_\(LIV\).pdf](https://www.calwater.com/docs/uwmp2015/liv/2015_Urban_Water_Management_Plan_Final_(LIV).pdf). Accessed October 2018.
- City of Livermore. 2013. City of Livermore General Plan. Website: <http://www.cityoflivermore.net/civicax/filebank/documents/6098>. Accessed October 2018.
- City of Livermore. City of Livermore—2012/2013 Summary ADT Counts. Website: <http://www.cityoflivermore.net/civicax/filebank/documents/9402/>. Accessed October 2018.
- East Bay Community Energy. 2019. Resident Rates. Website: <https://ebce.org/residents/>. Accessed February 28, 2019.
- ENGEO Incorporated. 2017. Aerially Deposited Lead Evaluation. June 21.
- ENGEO Incorporated. 2017. Phase I Environmental Site Assessment. April 6.
- ENGEO Incorporated. 2017. Preliminary Geotechnical Exploration. June 13.
- Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. August.
- Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.
- Fehr & Peers Associates, Inc. 2018. Traffic Impact Assessment—Lassen Road Residential Project. May.
- Illingworth & Rodkin, Inc. 2018. Lassen Road Property, Livermore—Environmental Noise Assessment. April 11.
- Illingworth & Rodkin, Inc. 2018. Air Quality Assessment. January 17.
- Livermore Valley Joint Unified School District. Email Correspondence with Chris Van Schaack, Deputy Superintendent. February 12, 2019.
- Pacific Gas & Electric Company (PG&E). 2018. 2017 Joint Annual Report to Shareholders. Website: [http://s1.q4cdn.com/880135780/files/doc\\_financials/2017/annual/2017-Annual-Report-Final.pdf](http://s1.q4cdn.com/880135780/files/doc_financials/2017/annual/2017-Annual-Report-Final.pdf). Accessed February 28, 2019.
- Peak & Associates, Inc. 2018. Cultural Resource Assessment for the Lassen Livermore Project. March 16.
- WRA, Inc. 2018. Biological Resource Assessment—SCHMIDIG/LAM Property. January.

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