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MEMORANDUM

DATE: March 29, 2019

TO: Tricia Pontau, Assistant Planner

FROM: Theresa Wallace, AICP, Principal
Kyle Simpson, Associate

SUBJECT: California Environmental Quality Act (CEQA) Addendum for the Downtown Specific Plan Amendment Project; Livermore, California

This document, prepared pursuant to the California Environmental Quality Act (CEQA) and the regulations and policies of the City of Livermore, provides information and analysis concerning the Downtown Specific Plan Amendment project (proposed project). This document is an Addendum to the Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent EIR[1] (2009 Subsequent EIR), which was certified by the City of Livermore in March 2009. The 2009 EIR was prepared subsequent to the certified 2004 EIR that evaluated the effects of the Downtown Specific Plan (2004 Final EIR).[2] This Addendum to the 2009 Subsequent EIR evaluates whether minor changes associated with the proposed project would result in new or substantially more adverse significant effects or require new mitigation measures not identified in the 2009 Subsequent EIR. See Attachment A for a full description of the proposed project. The City of Livermore is the Lead Agency under CEQA. In accordance with CEQA Section 21093(b) and CEQA Guidelines Section 15152(a), this Addendum tiers off the 2009 Subsequent EIR, certified in March 2009, which is hereby incorporated by reference.

INTRODUCTION

The proposed project area is approximately 9.3 acres in size and is primarily located in the northern portion of the block bound by Railroad Avenue, South Livermore Avenue, First Street, and South L Street. The project area also includes other non-contiguous sites to the east across South Livermore Avenue (the location of the hotel) and to the north on I Street and Railroad Avenue (to be used for parking).

The proposed project would result in the demolition of existing buildings, landscaping and associated parking on the project site, and the construction of 130 residential units, approximately

1 LSA Associates, Inc. 2009. *Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent Environmental Impact Report*. March.

2 LSA Associates, Inc. 2004. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report*. June.

20,000 square feet of retail/restaurant uses, a 135-room, three-story boutique hotel, an approximately 20,000-square-foot Science and Society Center, an approximately 15,000-square-foot black box theater, public and private parking spaces, and associated public and private open space. The project would require a Certificate of Appropriateness for demolition, Demolition Permits, Downtown Design Review, Parcel Maps and Building Permits.

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

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

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

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

   (A) The project will have one or more significant effects not discussed in the previous EIR;

   (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

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

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

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

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

Attachment B to this Addendum provides the Environmental Checklist prepared for the project. This checklist provides information to: (1) compare the environmental impacts of the proposed project with impacts expected to result from development approved in the Downtown Specific Plan and evaluated in the 2009 Subsequent EIR; (2) demonstrate that the proposed project would not result in new or more severe significant environmental impacts; (3) provide new or revised mitigation measures not identified in the 2009 Subsequent EIR, and (4) conclude that no substantial changes with respect to the circumstances under which the project would be undertaken since the 2009 Subsequent EIR was certified resulted in new or more severe significant environmental effects.

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

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

Substantial Changes

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

Substantial Changes in Circumstances

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

New Information

No new information of substantial importance, which was not known or could not have been known when the 2009 Subsequent EIR was certified, has been identified which shows that the proposed minor modifications to the 2009 Subsequent EIR associated with the proposed project would be expected to result in: (1) new significant environmental effects not identified in the 2009 Subsequent EIR; (2) substantially more severe environmental effects than shown in the 2009 Subsequent EIR; (3) mitigation measures or alternatives previously determined to be infeasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the City

declines to adopt the mitigation measure or alternative; or (4) mitigation measures or alternatives which are considerably different from those analyzed in the 2009 Subsequent EIR would substantially reduce one or more significant effects on the environment, but the City declines to adopt the mitigation measure or alternative. In addition, the proposed minor modifications would require no new mitigation measures, as described throughout the Environmental Checklist, because no new or substantially more severe impacts are expected beyond those identified in the 2009 Subsequent EIR.

CONCLUSION

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

ATTACHMENT A
PROJECT DESCRIPTION

The following describes the proposed Downtown Specific Plan Amendment project (proposed project) that includes residential uses, retail, a hotel, public and private open space, new public streets, streetscape improvements, and parking on approximately 9.3 acres of land owned by the City of Livermore (City). In addition to the description of the proposed project itself, this section includes a summary description of the project's location and existing site characteristics. This project description is part of the preparation of an Addendum to the Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent Environmental Impact Report[1] (2009 Subsequent EIR), which was certified by the City of Livermore in March 2009. The 2009 EIR was prepared subsequent to the certified 2004 EIR that evaluated the effects of the Downtown Specific Plan (2004 Final EIR).[2] The City is the CEQA lead agency for the proposed project.

PROJECT SITE

The following section describes the location and site characteristics for the proposed project area and provides a brief overview of the existing land uses within and in the vicinity of the site.

Location and Surrounding Land Uses

The City of Livermore occupies approximately 24 square miles in the Livermore Valley in eastern Alameda County, approximately 43 miles east of San Francisco. Livermore is located in the Tri-Valley area, a geographic and economic sub-region of the Bay Area that includes the cities of Pleasanton (directly west of Livermore), Dublin, Danville, and San Ramon. The Tri-Valley is bounded on the west by the Las Trampas/Pleasanton/Sunol ridge system and on the east by the foothills of Mount Diablo. Unincorporated areas of Alameda County lie to the north, east, and south of the City limits.

The proposed project is located on the site formerly known as Livermore Village, and is within a portion of the Downtown Core Land Use Plan Area of the Downtown Specific Plan area. The Downtown Specific Plan area consists of approximately 272 acres located near the geographic center of the City of Livermore.

Regional vehicular access to the project site is provided by Interstate 580 (I-580) located approximately 1.5 miles north of the project area and State Highway 84 (SR 84) that traverses the western portion of the City. Figure 1 shows the regional and local context of the proposed project area. Commercial uses surround the project site on most sides, with multi-family residential uses located to the northwest of the project site. Figure 2 shows an aerial photograph of the existing area and surrounding land uses.

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1 LSA Associates, Inc. 2009. *Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent Environmental Impact Report*. March.

2 LSA Associates, Inc. 2004. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report*. June.

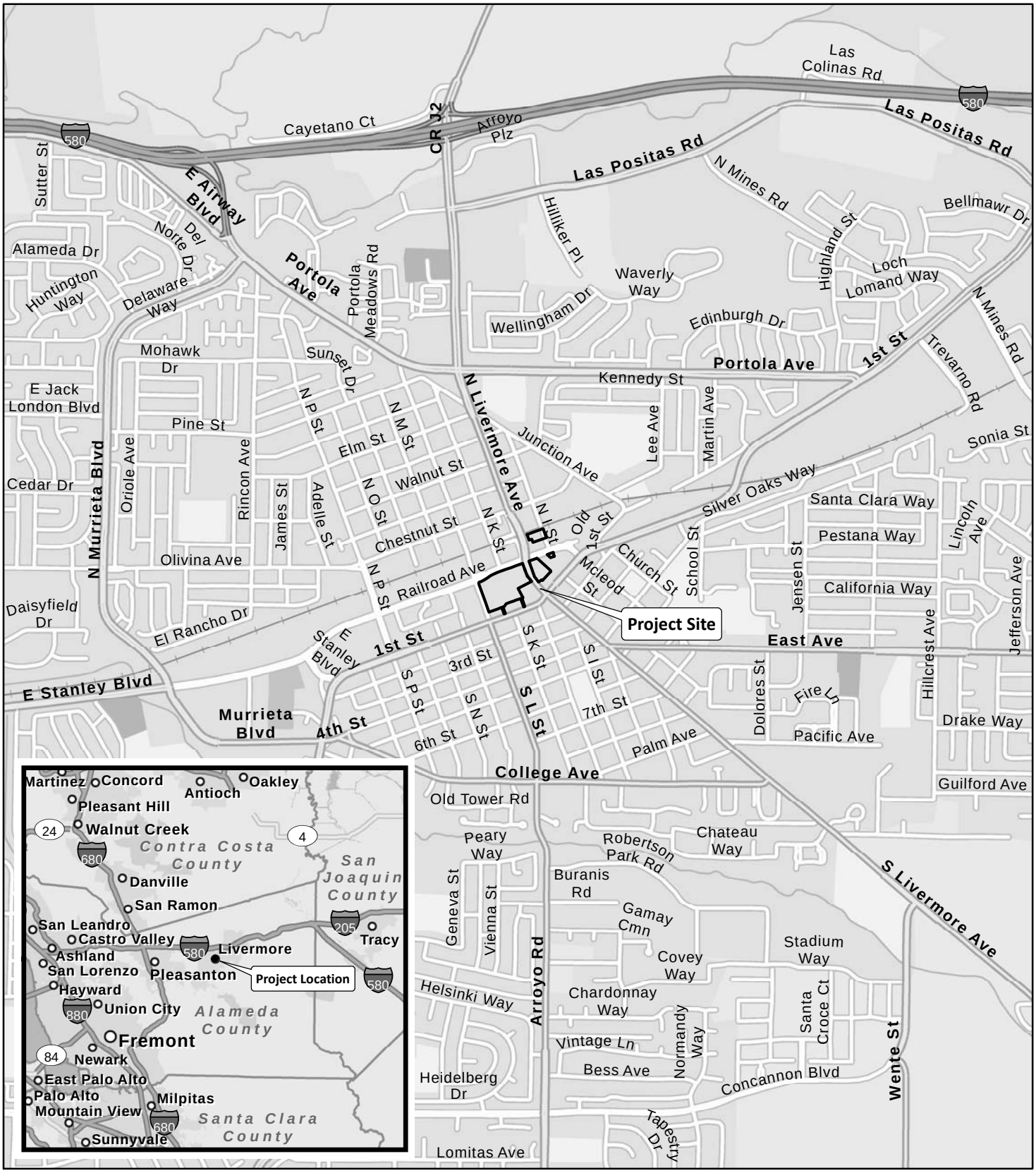

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FIGURE 1

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SOURCE: ESRI StreetMap North America (2012).

Downtown Specific Plan

Project Location and Regional Vicinity Map

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FIGURE 2

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Downtown Core Concept Area

Downtown Specific Plan Amendment

Aerial Photograph and Surrounding Land Uses

SOURCES: GOOGLE EARTH, 8/31/17; LSA, 2018.

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Site Characteristics and Current Site Conditions

The proposed project area is approximately 9.3 acres in size and is primarily located in the northern portion of the block bound by Railroad Avenue, South Livermore Avenue, First Street, and South L Street. The project area also includes other non-contiguous sites to the east across South Livermore Avenue (the location of the hotel) and to the north on I Street and Railroad Avenue (to be used for parking). As shown on Figure 2, the project site contained several buildings along the perimeter that were recently demolished (2121-2139 Railroad Avenue). The Bireley building located at 2048 First Street and the auto service building, located at 2205 Railroad Avenue, are also scheduled to be demolished. Several buildings within the project site have been demolished since 2004, including the Lucky's supermarket building previously located along Railroad Avenue and the KFC building located along South L Street. The two-story Southern Pacific Railroad Depot building, previously located on South L Street, has been relocated to the Livermore Transit Center located at 2500 Railroad Avenue. Veterans Way, a new east-west road connecting South Livermore Avenue and South L Street, is currently under construction.

General Plan and Downtown Specific Plan

The General Plan land use designation for the Downtown Specific Plan area is Downtown Area (DA). The DA designation is a general designation that applies to the area traditionally known as Downtown Livermore. The DA seeks to provide a unique, locally-oriented, pedestrian-friendly shopping environment supported by higher-intensity residential development.

In 2004, the City of Livermore adopted the Downtown Specific Plan[3] for the Downtown area. The purpose of the Downtown Specific Plan is to implement the community's desire for a revitalized historical Downtown area which includes: a more defined, intense retail core area allowing mixed uses on First Street; an enhanced pedestrian-oriented public realm along First Street, including slower traffic, more shade trees and seating, pocket plazas, outdoor eating areas, and public places for art and special events; an emphasis on a Downtown arts and cultural district; additional housing of varied types and densities; and the preservation of historical characteristics and structures that make the Downtown area unique.

The Downtown Specific Plan details land uses and their distribution, proposed infrastructure improvements, development standards, and design guidelines. The Downtown Specific Plan also establishes residential densities to ensure the efficient use of land consistent with a healthy and vibrant Downtown. New residential development is intended to promote a pedestrian scale with common open space, public paseos and pathways, and design features that contribute to an attractive neighborhood character.

In order to facilitate revitalization of the Downtown area and carry out the community's goals, the Downtown Specific Plan divides the Downtown area into five distinct Land Use Plan Areas that serve as the Downtown Specific Plan's zoning districts. The proposed project lies within the Downtown Core Land Use Plan Area. The purpose of the Downtown Core is to revitalize the City's historic core area as the center of the City of Livermore. The primary intent of this Land Use Plan Area is to

[3] Livermore, City of. 2004. *Downtown Specific Plan.*

promote the continued development and revitalization of the City's pedestrian-oriented Downtown district that serves as the center of the Livermore Community, its most unique shopping district, and as a neighborhood hub for the residences within and surrounding it. In 2004, the Livermore City Council certified the General Plan and Downtown Specific Plan EIR.

In 2009 a Subsequent EIR to the 2004 Final EIR was prepared to analyze the potential environmental impacts of proposed Downtown Specific Plan amendments as well as the development of a Regional Performing Arts Theater and the associated realignment of Railroad Avenue at First Street. The project analyzed by the 2009 Subsequent EIR included the following components:

- **Downtown Specific Plan Amendments.** The City proposed the following amendments to the Specific Plan and General Plan which included the following:
    - Increase the size of a proposed regional performing arts theater from 1,500 seats to 2,000 seats;
    - Increase the number of movie screens in the Downtown from 12 screens to 15 screens;
    - Increase the number of hotel and bed and breakfast rooms in the Downtown area to 300 rooms;
    - Increase the amount of commercial development from 855,000 square feet to 1,000,000 square feet;
    - Increase the amount of office development from 217,000 square feet to 356,000 square feet;
    - Include a parking structure on L Street within the Downtown Core Area;
    - Add a new chapter (Financing) to the Downtown Specific Plan; and
    - Revise the General Plan and Downtown Specific Plan to reflect the above changes.
- **Regional Performing Arts Theater.** The 2009 Subsequent EIR analyzed the construction of a 2,000 seat theater on one of three specific locations within the Downtown. One of the potential Theater sites (the First Street/Maple Street site) would have required the realignment of Railroad Avenue which also is evaluated in this EIR.

PROPOSED PROJECT

The Downtown Specific Plan Amendment Project would consist of the following components, which are described in greater detail below. The land use concept for the proposed project is shown in Figure 3.

- 125 to 135-room, three-story boutique hotel with off-site valet parking;
- 130 multi-family housing units including private and public open space;

- Approximately 20,000 square feet of retail/restaurant uses;
- An approximately 20,000-square-foot Science and Society Center;
- An approximately 15,000-square-foot black box theater;
- Public and private parking spaces, including a surface parking lot, and structured parking ranging up to four levels/55 feet in height, with allowances for additional height for certain architectural features, containing 450 to 785 parking stalls;
- Up to 3.4 acres of public open space;
- A new east-west road (Veterans Way) connecting South Livermore Avenue and South L Street;
- A new emergency vehicle access and pedestrian paseo connecting Railroad Avenue with Veterans Way;
- A service alley to the south of the L Street parking garage;
- New pedestrian paseos connecting the service alley and surface parking to First Street;
- A new road, and surface parking around the east and south sides of the hotel;
- Roadway improvements to Railroad Avenue, including widening and lane reconfiguration;
- Additional street improvements such as curbs, gutters, sidewalks, landscape medians, utilities, and lighting; and
- Shared trash collection facilities adjacent to the L Street garage and adjacent to the Bankhead Theater.

The proposed project is consistent with the intent of the Downtown Area designation and would provide a unique, locally-oriented, pedestrian-friendly shopping environment. No changes in General Plan or Zoning Code designations would be required for the proposed project. However, the 2000-seat theater is no longer part of the Downtown development plan. The Downtown Specific Plan will be revised to remove the theater from the plan..

The 2009 Subsequent EIR evaluated amendments to the Specific Plan that increased the total amount of development allowable in the Downtown Specific Plan area. Table A identifies the maximum development analyzed in the previous EIR documents, the amount of development that has been approved, and the remaining allowable development. As shown in Table A, the development associated with the proposed project is within the amount of growth evaluated and cleared within the 2004 Final EIR and 2009 Subsequent EIR for the Downtown Specific Plan.

Hotel

The proposed project would include a three-story boutique hotel located on the southeast corner of the intersection of South Livermore Avenue and Railroad Avenue. The proposed hotel would contain between 125 and 135 rooms and would provide valet parking to guests. Curbside passenger loading for up to six cars would be provided along the northbound lane on Livermore Avenue would be provided, and passenger loading for up to three cars would be provided on-site.

Table A: Existing and Proposed Development Within the Downtown Area

Land Use	Evaluated Within the 2004 Final EIR and 2009 Subsequent EIR [a]	Approved [b]	Remaining Development Available	Proposed Project	Remaining Development Available after Proposed Project
Commercial	1,000,000 sf	31,165 sf	968,835 sf	20,000 sf	948,835 sf
Office Space	356,000 sf	26,972 sf	329,028 sf	0	329,028 sf
Entertainment	2,500 performance arts seats; and up to 15 movie theater screens	500 seats; 13 screens	2,000 seats	150 seats	1,850 seats
Lodging	300 rooms	0	300	135	165
Housing	3,600 units	721	2,879	130	2,749

Source: City of Livermore (July 2018).

[a] LSA Associates, Inc., 2009. Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent Environmental Impact Report.

[b] Net new square feet (sf)

Housing

The proposed project would include 130 multi-family housing units located at the northwest corner of the project site at the intersection of South L Street and Railroad Avenue. The housing units would range in size from studio apartments to two-bedroom units, averaging 650 square feet.

Retail and Restaurant Uses

Approximately 20,000 square feet of retail and restaurant uses (a net increase of approximately 14,500 square feet over existing floor area demolished onsite) would be located adjacent to Stockmen's Park and Blacksmith Square on the eastern side of the project site. The retail and restaurant uses would be single-story buildings anticipated to accommodate restaurants and small specialty shops. The proposed commercial spaces would have visibility from Railroad Avenue and South Livermore Avenue and would integrate with existing businesses within the project site. These buildings would be constructed on the site where two buildings, totaling approximately 5,500 square feet, were recently demolished.

Science and Society Center

An approximately 20,000-square-foot Science and Society Center would be located on the north side of the project site and would allow patrons the opportunity to explore science and learn how science influences decisions that affect daily lives, both as individuals and in society. Each year, a new theme would be explored, including local agriculture, transportation systems, climate and

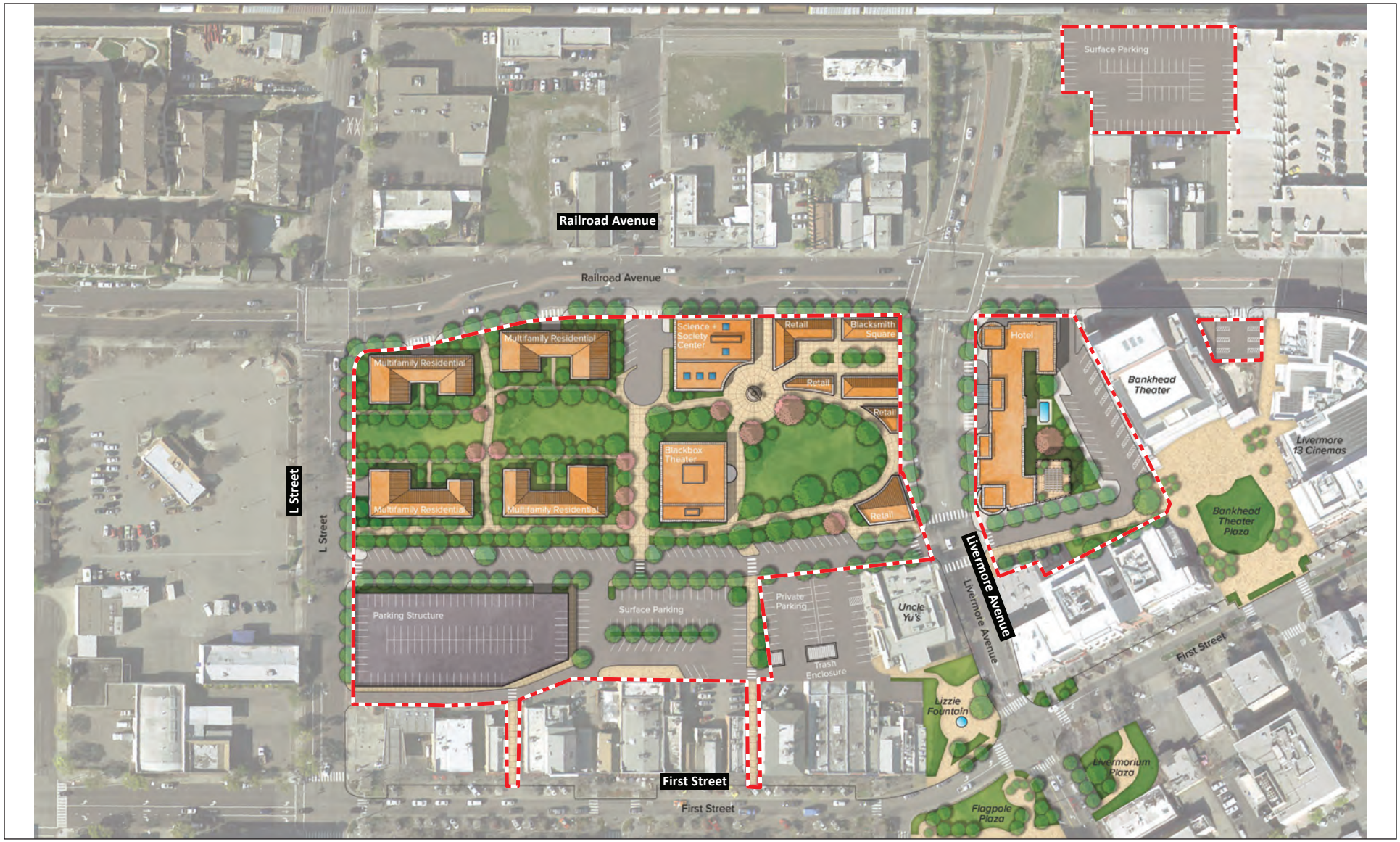

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FIGURE 3

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Downtown Core Concept Area

Downtown Specific Plan Amendment

Downtown Specific Plan Amendment Land Use Concept

SOURCE: CITY OF LIVERMORE, MARCH 2018.

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weather, through interactive and static displays, speakers, discussion groups, and children's activities.

Black Box Theater

An approximately 15,000-square-foot black box theater building would be located in the center of the project site. The theater would feature a flexible space with seating for small and mid-sized groups of approximately 150 patrons. The proposed building would also support cultural and wine country events, outdoor concerts, and speakers presented by the proposed Science and Society Center.

Parking

Parking would be provided throughout the project site in parking structures, surface parking lots, and diagonal parking spaces located on new streets, as described below:

- 450 to 505 parking spaces located in a parking structure up to four floors/55 feet in height, with allowances for additional height for certain architectural features, at the southwest corner of the project site along South L Street;
- Approximately 280 new parking spaces located in an addition to the Livermore Valley Center Parking Garage;
- Surface parking area behind existing commercial uses along First Street;
- Diagonal parking spaces located along the proposed east/west street connecting South L Street and South Livermore Avenue;
- ADA-accessible parking spaces on the east side of the Bankhead Theater;
- 70 to 150 parking spaces (including approximately 100 valet spaces) located in a new public or private parking facility located between Railroad Avenue and the railroad tracks, and accessed from K Street (the specific location of the this parking lot has not been identified because the a site has not been acquired by the City); and
- Additional public and private parking spaces to meet Downtown Specific Plan requirements for the proposed new uses.

As discussed in Attachment B, Environmental Checklist, several mitigation measures included in the 2009 Subsequent EIR have been implemented since the EIR was certified in 2009 do not apply to the proposed project, or would be satisfied by the proposed project. Measures included in Mitigation Measure TRANS-10a are satisfied by the proposed project or are not applicable. Mitigation Measure TRANS-10b is not applicable to the proposed project. Refinements have been made to Mitigation Measures TRANS-10c and TRANS-10d, and Mitigation Measure TRANS-10e would be satisfied by the proposed project. Please refer to the Applicable Mitigation subsection of the Transportation/Traffic section of the Environmental Checklist, beginning on page B-73 of Attachment B.

Public Open Space

The proposed project would include approximately 3.4 acres of public open space within the project site until construction of the black box theater. The centrally-located Stockmen's Park would include softscape, hardscape paths, and space for a monument. Other tree-lined pedestrian walkways would provide east/west and north/south connections throughout the project site.

Private Open Space

The project would provide approximately 0.62-acre of private open space for the 130 multi-family housing units at the corner of South L Street and Railroad Avenue.

On-Site Pedestrian and Vehicle Circulation

The proposed project would include several new access points, including on-site roadways and pedestrian and bicycle connections. A new east/west access road would bisect the site by connecting South L Street with South Livermore Avenue, which would allow access to on-street parking, a surface parking lot, and the South L Street parking structure. A service alley south of the L Street parking structure would allow deliveries to the businesses located on First Street.

A new road connecting South Livermore Avenue to Railroad Avenue would be located on the hotel site and would provide surface parking, including accessible parking spaces.

Pedestrian and bicycle connections would include east/west and north/south paths throughout the project site and pedestrian-only connections from First Street. In addition, the flashing pedestrian features of the existing midblock crosswalk on Livermore Avenue would be upgraded to meet current guidance for Rectangular Rapid Flashing Beacons.

The project would include an emergency vehicle access point and pedestrian paseo connecting Railroad Avenue to Veterans Way. This access point would allow emergency vehicle and pedestrian access to the east/west pathway and street and could serve as delivery and drop-off access for the Science & Society Center and the Black Box Theater.

As discussed in Attachment B, Environmental Checklist, several mitigation measures included in the 2009 Subsequent EIR have been implemented since the EIR was certified in 2009 do not apply to the proposed project, or would be satisfied by the proposed project. Mitigation Measures TRANS-3c has been refined to address the proposed project as it relates to pedestrian crossings. Please refer to the Applicable Mitigation subsection of the Transportation/Traffic section of the Environmental Checklist, beginning on page B-73 of Attachment B.

AMENDMENTS AND PERMITS

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

- Certificate of Appropriateness for demolition of the Bireley property
- Demolition Permit

- Downtown Design Review
- Parcel Maps
- Building Permit

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ATTACHMENT B

ENVIRONMENTAL CHECKLIST
PURSUANT TO CEQA GUIDELINES SECTION 15168

CEQA Guidelines 15168(c)(4) recommends using a written checklist or similar device to confirm whether the environmental effects of a subsequent activity were adequately covered in a program EIR. This checklist confirms that the Downtown Specific Plan Amendment Project (proposed project) described in Attachment A is within the scope of the Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent EIR[1] (2009 Subsequent EIR), which was certified by the City of Livermore in March 2009. The 2009 EIR was prepared subsequent to the certified 2004 EIR that evaluated the effects of the Downtown Specific Plan (2004 Final EIR).[2] The proposed project would not result in new or substantially more severe significant effects, and no new mitigation measures are required for the proposed project.

In accordance with CEQA Section 21093(b) and CEQA Guidelines Section 15152(a), this Addendum tiers off the 2009 Subsequent EIR and 2004 Final EIR, which are hereby incorporated by reference.

This environmental checklist is used to: (1) compare the environmental impacts of the proposed project with impacts expected to result from development approved in the Downtown Specific Plan and evaluated in the 2004 Final EIR and 2009 Subsequent EIR; (2) to identify whether the proposed project would result in new or more severe significant environmental impacts; (3) to identify if new or revised mitigation measures would be required by the project sponsor; and (4) to identity if substantial changes with respect to the circumstances under which the project would be undertaken since the 2004 Final EIR or 2009 Subsequent EIR were certified would result in new or more severe significant environmental effects.

In summary, no new or more severe significant impacts were identified for the proposed project that were not identified and mitigated in the 2004 Final EIR and 2009 Subsequent EIR, and no new mitigation measures would be required for the proposed project. For all environmental topics addressed in the following checklist, there have been no substantial changes in environmental circumstances that would result in new or more severe significant environmental effects than were identified and evaluated in the 2004 Final EIR and 2009 Subsequent EIR. Therefore, no subsequent EIR or CEQA evaluation is required for the Downtown Specific Plan Amendment project.

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1 LSA Associates, Inc. 2009. *Downtown Specific Plan Amendments and Regional Performing Arts Theater Subsequent Environmental Impact Report*. March.

2 LSA Associates, Inc. 2004. *Livermore Draft General Plan and Downtown Specific Plan Environmental Impact Report*. June.

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1. AESTHETICS

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

Discussion

Scenic Vistas

Scenic vistas within the City are generally located along the periphery of the City's boundaries and are associated with the surrounding hills and other natural features. Views of the hills from the project site are intermittent depending on the surrounding development at a particular site or roadway. Implementation of the proposed project would alter, but not eliminate views towards the hillsides from roadways. The proposed project would be required to comply with General Plan policies related to scenic vistas. Therefore, impacts associated with the proposed project would not result in new impacts to scenic vistas or substantially increase the severity of impacts identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Scenic Resources

There are no State-designated scenic highways within the City. The General Plan identifies a number of roadways that are considered scenic routes; however, none of these routes are located within the Downtown area or the project site. Therefore, impacts associated with the proposed project would not result in new impacts to scenic resources or substantially increase the severity of impacts identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Visual Character

The Downtown Specific Plan aims to revitalize and improve the historic Downtown area. The proposed project would include development on vacant lots within the project site, which could result in a beneficial impact to the visual character of the Downtown area. The proposed project would be required to comply with General Plan policies related to urban design and design review of new development, and would not require changes to General Plan land use designations or zoning

districts. Therefore, the proposed project would not degrade the visual character of the project site or result in a potential impact to the visual character or quality of public views of the site or the surroundings that would be more severe than the impacts identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Light and Glare

Development within the Downtown area would result in the introduction of new sources of light and glare on the project site. As discussed in the 2009 Subsequent EIR, the Downtown area is an urban area with a significant amount of nighttime lighting to create a vibrant pedestrian-friendly activity area and to protect public safety. Additionally, General Plan policies require views of the nighttime sky to be unimpaired by inappropriate intensities of light and glare. Design Review of the proposed project would ensure that lighting within the project site is sufficient to protect public safety but does not excessively illuminate the surrounding area. Therefore, the proposed project would not create impacts related to light and glare more severe than impacts identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Applicable Policies

General Plan Policies

- *Policy CC-1.1.P8: New development shall be designed to preserve views from existing neighborhoods to the greatest extent feasible.*
- *Policy CC-1.3.P1: The importance of views of the nighttime sky unimpaired by inappropriate intensities of light and glare shall be acknowledged as a significant scenic resource in Livermore.*
- *Policy CC-2.1.P1: All new development and redevelopment shall be subject to design review.*
- *Policy CC-2.1.P2: High-quality design shall be provided in the areas of community design, site design, building design, and landscape design to ensure that compatibility exists between new and existing development.*
- *Policy CC-2.1.P3: The architectural design and site layout of new development and redevelopment should consider the context and character created by existing land uses.*
- *Policy CC-2.1.P8: Buildings with large, blank exterior walls lacking architectural details shall be prohibited.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the aesthetic impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

2. AGRICULTURE AND FORESTRY RESOURCES

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

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

The 2004 Final EIR and 2009 Subsequent EIR concluded that there are no agricultural uses located in or near the project site, and the area has not been used for agriculture purposes since the 1860s.

The project site is classified as "Urban and Built-Up Land" by the State Department of Conservation.[3] Therefore, the proposed project would have no impacts on agriculture or forestry resources.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the agriculture and forestry impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

3. AIR QUALITY

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

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d. Result in other emissions (such as those leading to odors) affecting a substantial number of people?	☐	☐	☐	☒

Discussion

The project site is located with the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the regional government agency that monitors and regulates air pollution within the air basin. The Federal Clean Air Act and the California Clean Air Act mandate the control and reduction of specific air pollutants. Under these Acts, the U.S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for

[3] California, State of, 2016. Department of Conservation. California Importation Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff (accessed March 6, 2019).

specific "criteria" pollutants, designed to protect public health and welfare. Primary criteria pollutants include carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), particulate matter (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). Secondary criteria pollutants include ozone (O_3), and fine particulate matter ($PM_{2.5}$).

Based on the BAAQMD attainment status and ambient air quality monitoring data, ambient air quality in the vicinity of the project site has basically remained unchanged since approval of the 2004 Final EIR and the 2009 Subsequent EIR. However, the BAAQMD has made two key regulatory changes since the 2004 Final EIR and the 2009 Subsequent EIR were certified. The updated Clean Air Plan was adopted in April 2017 and revised BAAQMD CEQA Guidelines were adopted in May 2017. These changes in the project circumstances as well as changes to the proposed project itself are discussed and evaluated in the following section.

Clean Air Plan Consistency

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

The 2009 Subsequent EIR referenced the BAAQMD Bay Area 2000 Clean Air Plan and 2005 Bay Area Ozone Strategy to determine if the 2009 project would conflict with or obstruct implementation of an applicable air quality plan. The 2009 Subsequent EIR found that the 2009 project would not conflict with regional projections of population growth or the rate of growth in vehicle miles traveled in the region that were used to develop the Bay Area 2000 Clean Air Plan and 2005 Bay Area Ozone Strategy; therefore, it was determined that the 2009 project would be consistent with the BAAQMD Clean Air Plan. As such, potential conflicts with the applicable air quality plan were considered to be less than significant.

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

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

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

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

As shown in Table A of the Project Description (Attachment A), the development associated with the proposed project is within the amount of growth evaluated within the 2004 Final EIR and 2009 Subsequent EIR. The proposed project would also have a substantially lower trip generation rate as previously assumed for the 2009 project in the 2009 Subsequent EIR. Therefore, the changes to the 2009 project would not substantially change the rate of increase in vehicle miles traveled (VMT). Refer to Section 16 of this Environmental Checklist, Transportation/Traffic, for further discussion. The proposed project is also consistent with the Downtown Area designation of the General Plan, and no changes in General Plan or Zoning Code designations would be required for the proposed project. Therefore, implementation of the proposed project would not substantially increase population, vehicle trips, or VMT. As such, the proposed project would not hinder the goals or implementation of any of the control measures from the Clean Air Plan.

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

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

Transportation Control Measures. The BAAQMD identifies control measures as part of the Clean Air Plan to reduce ozone precursor emissions from stationary, area, mobile, and transportation sources. The Transportation Control Measures are designed to reduce emissions from motor vehicles by reducing vehicle trips and VMT in addition to vehicle idling and traffic congestion. The proposed project is a mixed-use project that would locate residences and lodging near employment, commercial, and public transportation facilities. In addition, the proposed project is consistent with the Downtown Area designation of the General Plan, and would provide a unique, locally-oriented, pedestrian-friendly shopping environment. In addition, the proposed project would include new pedestrian paseos and pedestrian and bicycle connections. Therefore, the proposed project would support the ability to use alternative modes of transportation, would promote initiatives to reduce vehicle trips and vehicle miles traveled, and would increase the use of alternate means of transportation. Therefore, the proposed project would not conflict with the identified Transportation and Mobile Source Control Measures of the Clean Air Plan.

Energy Control Measures. The Clean Air Plan also includes Energy and Climate Control Measures, which are designed to reduce ambient concentrations of criteria pollutants and to reduce emissions of CO_2. Implementation of these measures is intended to promote energy conservation and efficiency in buildings throughout the community, promote renewable forms of energy production,

reduce the "urban heat island" effect by increasing reflectivity of roofs and parking lots, and promote the planting of (low-volatile organic compound [VOC]-emitting) trees to reduce biogenic emissions, lower air temperatures, provide shade, and absorb air pollutants. The measures include voluntary approaches to reduce the heat island effect by increasing shading in urban and suburban areas through the planting of trees. Implementation of the proposed project would include paved areas that could result in a heating effect. The proposed project would include approximately 3.4 acres of public open space within the project site and would include tree-lined pedestrian walkways that would provide connections throughout the project site. In addition, the proposed project would be required to comply with the latest CALGreen standard building measures and Title 24 standards. Therefore the proposed project would not conflict with the Energy and Climate Control Measures.

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

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

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

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

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

Super GHG Control Measures. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. As identified above, the proposed project would be required to comply with the latest

CALGreen standard building measures and Title 24 standards reducing GHG emissions. In addition, as discussed in Section 7 of this Environmental Checklist, Greenhouse Gas Emissions, the proposed project would be consistent with the City's Climate Action Plan. Therefore, the proposed project would not conflict with the Super-GHG Control Measures.

As discussed above, implementation of the proposed project would not disrupt or hinder implementation of the applicable measures outlined in the Clean Air Plan, including Transportation and Mobile Source Control Measures, Land Use and Local Impact Measures, and Energy Measures. Therefore, the proposed project supports the goals of the Clean Air Plan and would not conflict with any of the control measures identified in the plan or designed to bring the region into attainment. The proposed project would not result in new or more significant population growth impacts than were analyzed and described in the 2009 Subsequent EIR. Therefore, similar to the conclusions of the 2009 Subsequent EIR for the 2009 project, the proposed project's potential conflicts with the applicable air quality plan would be less than significant and no new or more severe impacts would result due to the changes in the proposed project or changes in the applicable clean air plan.

Regional Air Pollutant Emissions

The proposed project would develop the site with new housing, retail/restaurant, entertainment, hotel, and open space uses. The new land uses would result in mobile air quality emissions from increased vehicle trips to the project site and area source air quality impacts such as emissions generated from the use of landscaping equipment and water heating. The 2009 Subsequent EIR determined that emissions associated with the 2009 project would not exceed the BAAQMD significance thresholds and, therefore, would result in a less-than-significant impact. Development of the proposed project would result in similar regional and local air quality emissions as identified in the 2009 Subsequent EIR, including long-term project-related emissions associated with the ozone precursors ROG and particulate matter.

Emission estimates for operation of the proposed project were calculated using the current California Emissions Estimator Model version 2016.3.2 (CalEEMod), consistent with BAAQMD recommendations. The daily emissions associated with project operational trip generation, energy, and area sources are identified in Table A below for CO, ROG, NO_x, PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix 1.

The results shown in Table A indicate that the proposed project would not exceed the significance criteria for daily ROG, NO_2, PM_{10} or $PM_{2.5}$ emissions; therefore, the proposed project would not have a significant effect on regional air quality and mitigation would not be required. In addition, these emissions would be lower than the emissions previously assumed for the 2009 project as evaluated in the 2009 Subsequent EIR, which were calculated in pounds per day as follows: CO (505); ROG (43); NO_x (69); PM_{10} (78); and $PM_{2.5}$ (14). Emissions of criteria air pollutants would be reduced with the proposed project. This reduction is primarily attributable to the ongoing implementation of more stringent air quality standards and regulations. Therefore, the proposed project would not result in the new or more significant operation-related air quality impacts, and these impacts would remain less than significant.

Table A: Project Operational Emissions

	CO	ROG	NO_x	PM_{10}	$PM_{2.5}$
Emissions in Pounds Per Day					
Area Source Emissions	10.8	9.9	0.1	0.1	0.1
Energy Source Emissions	3.1	0.4	3.9	0.3	0.3
Mobile Source Emissions	96.4	11.2	43.0	23.0	6.3
Total Emissions	**110.4**	**21.5**	**47.0**	**23.4**	**6.7**
BAAQMD Threshold	N/A	54.0	54.0	82.0	54.0
Exceed?	**N/A**	**No**	**No**	**No**	**No**
Emissions in Tons Per Year					
Area Source Emissions	1.0	1.8	0.0	0.0	0.0
Energy Source Emissions	0.6	0.1	0.7	0.1	0.1
Mobile Source Emissions	14.4	1.5	6.7	3.5	1.0
Total Emissions	**15.9**	**3.4**	**7.5**	**3.6**	**1.1**
BAAQMD Threshold	N/A	10.0	10.0	15.0	10.0
Exceed?	**N/A**	**No**	**No**	**No**	**No**

Source: LSA (March 2019).

Construction-Related Impacts

Similar to the 2009 project, construction activities associated with the proposed project would temporarily affect local air quality. Construction-period activities such as earthmoving and construction vehicle traffic would generate exhaust emissions and fugitive particulate matter emissions that would affect local and regional air quality. Construction activities are also a source of organic gas emissions. Solvents in adhesives, non-water-based paints, thinners, some insulating materials, and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application. Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when, and if, underlying materials are exposed to the atmosphere. The effects of construction activities would be increased dustfall and locally elevated levels of particulate matter downwind of construction activity.

The 2009 Subsequent EIR did not quantify construction emissions; however the 2009 Subsequent EIR determined that construction of the 2009 project could generate significant dust, exhaust, and organic emissions, and therefore would result in a significant impact. The 2009 Subsequent EIR identified Mitigation Measures AIR-1a and AIR-1b to reduce construction emissions to a less-than-significant level.

Construction emissions were estimated for the proposed project using CalEEMod. Specific construction details are not yet known; therefore, default assumptions (e.g., construction duration and fleet activities) from CalEEMod were used. For purposes of this CalEEMod modeling analysis, the construction schedule for all improvements was assumed to be approximately 15 months. Construction-related emissions are presented in Table B. CalEEMod output sheets are included in Appendix 1.

Table B: Project Construction Emissions in Pounds Per Day

	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Average Daily Emissions	12.9	23.2	0.8	0.8
BAAQMD Threshold	54.0	54.0	82.0	54.0
Exceed?	**No**	**No**	**No**	**No**

Source: LSA (March 2019).

As shown in Table B, construction emissions associated with the proposed project would be less than significant for ROG, NO_x, $PM_{2.5}$, and PM_{10} emissions. As identified above, the 2009 Subsequent EIR required the implementation of Mitigation Measures AIR-1a and AIR-1b to reduce construction emissions to a less-than-significant level. In order to reduce construction emissions to the maximum extent feasible, Mitigation Measures AIR-1a and AIR-1b would also be applicable to the proposed project. With implementation of Mitigation Measures AIR-1a and AIR-1-b, the proposed project would not result in new significant impacts beyond those identified in the 2009 Subsequent EIR and no new mitigation measures are required.

Local CO Impacts

As discussed in the 2009 Subsequent EIR, because CO does not readily disperse, areas of vehicle congestion can create pockets of high CO concentrations, called “hot spots.” The 2009 Subsequent EIR used the CALINE-4 computer simulation model to evaluate 17 intersections within and adjacent to the Downtown Specific Plan area and determined that with implementation of the 2009 project, CO concentrations would remain well below the applicable standards, and the impact of the 2009 project on local CO concentrations would be considered less than significant.

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

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

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

- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

Implementation of the proposed project would not conflict with the Alameda County Transportation Commission (ACTC) for designated roads or highways, a regional transportation plan, or other

agency plans. Additionally, the intersection with the highest traffic volume near the site has peak hour traffic of 2,057 vehicles per hour and the proposed project is expected to generate approximately 388 AM peak hour trips and approximately 580 PM peak hour trips (a decrease of 350 PM peak hour trips compared to the 2009 project). Therefore, the proposed project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. The project site is not located in an area where mixing of air is limited. Therefore, because the project does not exceed the screening criteria, the project would not result in localized CO concentrations that would exceed State or federal standards and this potential impact would remain less than significant.

Cumulatively Considerable Impact

As indicated in Table A above, the proposed project individually would not result in significant regional emissions for criteria pollutants. According to the BAAQMD, a project that would result in less-than-significant emissions at the individual project level would also result in less-than-significant cumulative emissions. As noted above, the proposed project would also be consistent with the region's Clean Air Plan. Therefore, as with the 2009 project, the proposed project would not 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors), and the changes to the project would not result in new or more severe significant impacts.

Local Community Risk and Hazard Impacts to Sensitive Receptors

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

As discussed in the 2009 Subsequent EIR, the BAAQMD identified the following types of facilities as sources for high levels of diesel exhaust: truck stop; warehouse distribution center; large retail or industry facility; high volume transit center; school with high volume bus or traffic; high volume highway; and high volume arterial/ roadway with high level of diesel traffic. High volume freeways, stationary diesel engines and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as having the highest associated risk.

Health risks from toxic air contaminants are a function of both concentration and duration of exposure. The 2009 Subsequent EIR determined that the closest major source of potential toxic air contaminants is the Livermore Transit Center. The Livermore Transit Center serves as the major transfer point for the local routes in Livermore and a connection point for the Altamont Commuter Express train, Amtrak motor coach buses, and Greyhound buses. The 2009 project did not propose any additional residential units to the Downtown area; therefore the 2009 Subsequent EIR determined this impact would be less than significant. In addition, the 2009 Subsequent EIR determined that commercial, office, and theater development associated with implementation of the project would not be considered sensitive receptors that would be affected by the TACs created

by diesel emissions because the duration of their exposure would be much less than for a residential use.

The proposed project would include new residential uses; however, the Livermore Transit Center would be located over 1,230 feet northeast of the proposed residences. Due to the substantial distance from the Transit Center, there would be no significant health risks from TACs at the proposed residences. With natural air dispersion of pollutants from the Transit Center, the concentrations of TACs at the proposed residences would not be noticeably higher than the existing ambient concentrations.

In addition, as discussed in the 2009 Subsequent EIR, construction activities are a source of organic gas emissions. During construction various diesel powered vehicles and equipment would be in use. Unlike the above types of sources, construction diesel emissions are temporary, affecting an area for a period of days or perhaps weeks. Additionally, construction-related sources are mobile and transient in nature, and the bulk of the emission occurs within the project site at a distance from nearby receptors. Because of its short duration, health risks from construction emissions of diesel particulate would be considered a less-than-significant impact.

In addition, similar to the 2009 project, truck deliveries associated with equipment, food and other items related to operation of the commercial uses would occur. However, truck deliveries would occur intermittently and not on a regular daily basis. Truck deliveries would be subject to State anti-idling regulations adopted by CARB in 2005, as defined in the 2009 Subsequent EIR. Therefore, truck deliveries would not be a significant source of TACs resulting from diesel-fueled engines.

Therefore, implementation of the proposed project would not result in new sources of TACs or be located near existing major sources of TACs. The project would not expose sensitive receptors or the general public to substantial levels of TACs and would remain a less-than-significant impact. The proposed project would not result in new or more significant air quality-related impacts to sensitive receptors.

Objectionable Odors

As discussed in the 2009 Subsequent EIR, some objectionable odors may be generated from the operation of diesel-powered construction equipment and/or asphalt paving during the project construction period. However, these odors would be short term in nature and would not result in permanent impacts to surrounding land uses, including sensitive receptors within and adjacent to the project site.

In addition, while it is unknown at this point what types of specific uses would be developed under implementation of the proposed project; it is possible that some uses (e.g., restaurants) could have the potential to produce odors. However, as stated in the 2009 Subsequent EIR, potential odor generating uses would be regulated through the City's Standard Conditions of Approval for specific use types. Therefore, similar to the 2009 project, the proposed project would not create objectionable odors affecting a substantial number of people, and no mitigation is required.

Applicable Mitigation

- Mitigation Measure AIR-1a: Consistent with guidance from the BAAQMD, the following actions shall be required of all construction contracts and specifications for the project:

  Demolition. The following controls shall be implemented during demolition:

  - Water during demolition work, including the break-up of pavement and infrastructure, to control dust generation;
  - Cover all trucks hauling demolition debris from the site; and
  - Use dust-proof chutes to load debris into trucks whenever feasible.

  Construction. The following controls shall be implemented at all construction sites:

  - Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non toxic stabilizers to control dust;
  - Cover all trucks hauling soil, sand, and other loose materials;
  - Pave, apply water three times daily, or apply (non toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
  - Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff related impacts to water quality;
  - Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
  - Apply non toxic soil stabilizers to inactive construction areas;
  - Enclose, cover, water twice daily, or apply non toxic soil binders to exposed stockpiles (dirt, sand, etc.);
  - Diesel equipment standing idle for more than 5 minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks may keep their engines running continuously as long as they are on a construction site;
  - Properly tune and maintain equipment to reduce emissions;
  - Avoid staging equipment within 200 feet of residences;
  - Limit traffic speeds on unpaved roads to 15 mph;

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Any temporary haul roads to soil stockpile areas shall be routed way from existing neighboring land uses;
- Water sprays shall be utilized to control dust when material is being added or removed from stockpiles. When stockpiles are undisturbed for more than one week, storage piles shall be treated with a dust suppressant or crusting agent to eliminate wind-blown dust generation;
- Install base rock at entryways for all exiting trucks, and wash off the tires or tracks of all trucks and equipment in designated areas before leaving the site; and
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.

- Mitigation Measure AIR-1b: Development applicants shall provide a construction dust control coordinator as part of a construction-period air pollution control plan (required under General Plan Policy OSC-6.1P1). All neighboring properties located within 500 feet of property lines of a construction site shall be provided with the name and phone number of a designated construction dust control coordinator who will respond to complaints within 24 hours by suspending dust-producing activities or providing additional personnel or equipment for dust control as deemed necessary. The phone number of the BAAQMD pollution complaints contact shall also be provided. The dust control coordinator shall be on call during construction hours. The coordinator shall keep a log of complaints received and remedial actions taken in response. This log shall be made available to City staff upon its request.

Applicable Policies

General Plan Policies

- *OSC-6.1.P1: The City shall require project developers to develop and implement a construction-period air pollution control plan, consistent with dust and emission-abatement actions outlined in the CEQA handbook of the Bay Area Air Quality Management District.*
- *OSC-61.P5: The City shall attempt to increase the employment to population ratio to reduce commuting rates and associated vehicle-related pollution emissions. The City shall approve only those development proposals, which are designed and located to minimize energy consumption and adverse impacts on air, land and water resources. High-density, transit-oriented developments shall be strongly encouraged and promoted through the use of specific planning, density transfer, the planned development concept, and zoning designations.*
- *OSC-6.1.A2: Provide incentives to reduce vehicle trips and increase ridesharing so as to reduce pollutants generated by vehicular combustion engines.*

- *LU-4.2.P.3: Encourage all additions and new development to follow green building practices for design, construction, and operation and to incorporate as many LEED prerequisites and credits as feasible.*

- *CIR-7.1.A3: Support regional air quality objectives through effective management of the City's transportation system.*

- *PS-4.1.P5: When reviewing applications for new development in areas historically used for commercial or industrial uses, the City shall require environmental investigation as necessary to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future property owners or users.*

Conclusion

As previously discussed, based on the BAAQMD attainment status and ambient air quality monitoring data, ambient air quality in the vicinity of the project site has remained unchanged since approval of the 2009 Subsequent EIR; therefore, baseline conditions related to air quality remain essentially unchanged. In addition, based on the above discussion, although the BAAQMD made two key regulatory changes since the 2009 Subsequent EIR was certified, no new or more severe significant impacts would result from development of the proposed project as compared to the 2009 project in light of these regulatory changes. The 2009 Subsequent EIR adequately evaluated the air quality impacts of the proposed project and with implementation of Mitigation Measures AIR-1a and AIR-1b, there would be no new impacts related to air quality associated with the proposed project.

4. BIOLOGICAL RESOURCES

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

Discussion

The 2004 Final EIR and 2009 Subsequent EIR concluded that the project site has been developed with urban uses since the 1860s. The Livermore General Plan identifies the project site as developed area. The project site is an urban area that would not generally provide habitat for native plants and is likely to have low wildlife habitat value. While some native wildlife species do utilize urban areas for foraging, roosting, and/or nesting, these species are expected to be common species that adapt to urban conditions and would not be adversely affected by implementation of the proposed project.

The City's Tree Preservation Ordinance requires a tree permit to remove potential protected trees, and would require compliance with the procedures outlined as a part of the permit.[5] Therefore, the proposed project would have no impacts on biological resources.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the biological resources impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

5. CULTURAL RESOURCES

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

Discussion

Historic Resources

As described in the 2009 Subsequent EIR, new development within the project site could directly or indirectly adversely affect the historical integrity of historical resources. New construction that is incongruous in scale, design, and form could have a significant impact on the historical setting, feeling, and association of historical resource within the project site. Inappropriate additions or modifications to historical architectural resource to accommodate an increase in allowed office or commercial space would have a significant impact on historical resources. General Plan policies require that a qualified professional evaluate potential impacts of a proposed project if a historical resource is known to exist in or near the project site. Additionally, new construction must also conform to the Design Standards and Guidelines of the Downtown Specific Plan, which would ensure that new commercial, mixed-use, and residential buildings incorporate the styles of the area.

[5] Livermore, City of. Municipal Code Section 12.20: Street Trees and Tree Preservation.

Prehistoric and Historical Archaeological Resources

No archaeological resources have been identified on the project site. However, as noted in the 2009 Subsequent EIR, project-specific environmental review would be necessary for specific development activities. Implementation of Mitigation Measure CULT-1 from the 2009 Subsequent EIR would ensure that potential impacts to previously unidentified archaeological resources would remain at a less-than-significant level. Therefore, the proposed project would not lead to new or more severe impacts to archaeological resources beyond those identified in the 2004 Final EIR and the 2009 Subsequent EIR.

Disturbance of Human Remains

In the Livermore-Amador region, human burials are often associated with prehistoric archaeological sites. Such remains have cultural and social value to descendent groups and may qualify as historical or archaeological resources as defined in Public Resources Code (PRC) sections 21084.1 and 21083.2(g). Although human remains have not been identified in the project area, nor are such remains anticipated, the possibility of encountering such remains cannot be ruled out. Ground-disturbing activities necessary to achieve project objectives, (e.g., site grading), have the potential to disturb or destroy human remains. The disturbance or destruction of human remains would result in a significant impact to cultural resources. Implementation of Mitigation Measure CULT-5 from the 2009 Subsequent EIR would ensure that potential impacts related to human remains would be less than significant.

Applicable Mitigation

- Mitigation Measure CULT-1: A qualified cultural resources professional shall review additional project developments allowed under the Downtown Specific Plan Amendments once project-specific plans are available. At a minimum, these reviews shall include a records search to determine the presence of recorded cultural resources within a proposed project development site, a project site survey to identify cultural resources, and the determination if a qualified archaeologist is required to monitor ground disturbing activities associated with the project. The results of the assessment shall be presented in a report submitted to the City of Livermore Community Development Department Planning Division and include recommendations for mitigation of project impacts to significant cultural resources, as appropriate. The City shall ensure that mitigation measures proposed as part of the cultural resources assessments are implemented as a condition to site development.

- Mitigation Measure CULT-5: If human remains are encountered, these remains shall be treated in accordance with Health and Safety Code Section 7050.5 and CEQA Guidelines Section 15064.5(e). The project applicant shall inform its contractor(s) of the appropriate protocols in the event that human remains are unearthed by including the following directive in contract documents:

  If human remains are encountered during project activities, work within 25 feet of the discovery shall be redirected and the Alameda County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate.

Project personnel shall not collect or move human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

The City shall verify that the language has been included in the contract documents before issuing a grading permit.

Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report should be submitted to the City of Livermore Planning Division and the Northwest Information Center.

Applicable Policies

General Plan Policies

- *Policy CC-3.1.P3: Whenever a historical resource is known to exist in or near a proposed project area, the City shall require an evaluation by qualified professionals as a part of the environmental assessment process.*

- *Policy CC-3.4.P2: Whenever there is evidence of an archaeological or paleontological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential cultural resources impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

6. ENERGY

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion

Energy usage was evaluated in the 2009 Subsequent EIR in Chapter IV.I, Utilities, and the topic of energy consumption during project construction and operation was evaluated in Chapter IV.E, Global Climate Change, as it relates to the project's contribution to the release of greenhouse gas emissions (GHGs).

The proposed project includes redeveloping a portion of an urbanized, downtown area of a City to increase the amount of office, commercial, parking, cultural facility, public park, residential, and hotel space. The Amendments would represent infill development in an urban environment already served by electricity and natural gas. In addition, the area is served by transit hubs located in the Downtown Specific Plan area, such as the ACE train station, Wheels bus station, and other Wheels bus stops. These transit options would offer alternative modes of transportation, which allow for a decreased dependence on nonrenewable energy resources.

The expected energy consumption during construction and operation of the proposed project would be consistent with typical usage rates for office, commercial, parking, cultural facility, public park, residential, and hotel uses; however, energy consumption is largely a function of personal choice and the physical structure and layout of buildings. Since only land use concept plans are currently available, it is difficult to quantify the additional energy demand that would ultimately be generated. It can be assumed that implementation of the proposed project would result in additional energy demand in the Downtown Specific Plan area; however, since the proposed project would be located in a developed urban area, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As discussed in Section 3 of this Environmental Checklist, Air Quality, there are several energy control measures that would be required to reduce energy usage. Although construction activities require a commitment of energy resources, these control measures conserve energy in the context of project development. In addition, as an infill development, the proposed project inherently furthers energy conservation by focusing activities in areas of existing infrastructure and services thereby potentially reducing energy consumption related to construction of infrastructure. Additionally, Mitigation Measure GCC-1 would be applicable to the proposed project because it would require the implementation of measures to reduce energy consumption. Therefore, the proposed project would not result in new or more severe impacts related to energy than were identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Applicable Mitigation

Below is the applicable mitigation measure that was included in the 2009 Subsequent EIR. The language of the mitigation measure has been updated to reflect the current regulatory requirement. Double-underlined text represents language that has been added to the mitigation measure, and text with ~~strikethrough~~ represents language that has been deleted from the mitigation measure.

- Mitigation Measure GCC-1: To the extent feasible and to the satisfaction of the City, the following measures shall be incorporated into the design and construction of the projects seeking City approval and developed as part of the Amendments:

Construction and Building Materials

- Use locally produced and/or manufactured building materials for construction of the project;
- Recycle/reuse demolished construction material; and
- Use "green building materials," such as those materials which are resource efficient, and recycled and manufactured in an environmentally friendly way, including low volatile organic compound (VOC) materials.

Energy Efficiency Measures

- Design all new buildings to be consistent with the ~~City's Green Building Ordinance~~State's CALGreen Code, as currently written or as amended in the future. Encourage energy efficient building techniques including:
  - Increase insulation such that heat transfer and thermal bridging is minimized;
  - Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption; and
  - Incorporate ENERGY STAR or better rated windows, space heating and cooling equipment, light fixtures, appliances or other applicable electrical equipment.
- Design, construct and operate all newly constructed and renovated buildings and facilities to meet the ~~City's Green Building Ordinance~~State's CALGreen Code requirements as currently written or as amended in the future;
- Provide a landscape and development plan for the project that takes advantage of shade, prevailing winds, and landscaping;
- Use combined heat and power in appropriate applications;
- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings;
- Install light colored "cool" roofs and cool pavements;
- Install energy efficient heating and cooling systems, appliances and equipment, and control systems; and
- Install light emitting diodes (LEDs) for outdoor lighting.

Water Conservation and Efficiency Measures

- Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include the following, plus other innovative measures that might be appropriate:

- Create water-efficient landscapes within the development;
- Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls;
- Design buildings to be water-efficient. Install water-efficient fixtures and appliances, including low-flow faucets, dual-flush toilets and waterless urinals; and
- Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.

Transportation and Motor Vehicle Measures

- Commercial trucks, including construction and delivery vehicles, shall limit idling time and will be subject to state anti-idling regulations adopted by ARB in 2005;
- Provide bicycle lanes and/or paths, incorporated into the proposed street systems and connected to a community-wide network;
- Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.
- Provide sidewalks and/or paths, connected to adjacent land uses, transit stops, and/or community-wide network;
- Size parking capacity to not exceed the City's zoning requirements AND provide infrastructure and support programs to facilitate shared vehicle usage such as carpool drop-off areas, designated parking for vanpools, or car-share services, ride boards, and shuttle service to mass transit.

Applicable Policies

General Plan Objectives

- *Objective CLI-1.1: Adopt a Climate Action Plan by 2010 that will help the City address climate change.*
- *Objective CLI-1.2: Encourage and provide greater support for infill, mixed use, and higher density development in order to reduce GHG emissions associated with vehicle traffic.*
- *Objective CLI-1.3: Support measures that encourage alternative modes of transportation and alternative fuels in order to reduce emissions associated with vehicle traffic.*
- *Objective CLI-1.4: Enhance existing water efficiency and conservation measures and adopt new programs that encourage recycled water use and water efficiency in order to reduce energy and GHGs associated with water use.*

- *Objective CLI-1.5: Expand and adopt new policies and programs that will help to provide energy efficiency alternatives to fossil fuel use and reduce consumption in order to reduce greenhouse gas emissions.*
- *Objective CLI-1.6: Expand the number of trees in Livermore in order to provide a larger carbon sink or area containing natural sources that retain more carbon that what those sources emit.*
- *Objective CLI-1.7: Expand methods to increase waste diversion and recycling goals in order to reduce GHGs associated with waste disposal.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the energy impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

7. GEOLOGY AND SOILS

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

Discussion

Information for this section was obtained from maps and publications published from the United States Geological Survey (USGS), the California Geological Survey (CGS), the Association of Bay Area Governments (ABAG), the City of Livermore General Plan, and the 2009 Subsequent EIR.

Seismicity and Seismic Hazards

Fault Rupture. The Alquist-Priolo Earthquake Fault Zoning Act regulates development in California near active faults due to hazards associated with surface fault rupture. The project site is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone.[6] The potential for impacts associated with fault rupture is therefore less than significant.

Strong Seismic Ground Shaking. There are multiple active faults that have the potential to generate strong to very strong ground shaking at the project site. These faults include the Hayward Fault, located about 17 miles west; the Calaveras Fault, located about 8 miles west; the Mount Diablo Fault, located about 4 miles north, and the Greenville Fault, located about 4.5 miles east.[7,8]

The Working Group on California Earthquake Probabilities and the USGS have predicted a 14.3 percent probability of a 6.7 magnitude (Mw, or Moment Magnitude) or greater earthquake on the Hayward Fault, a 7.4 percent chance on the Calaveras Fault, and a total probability of 72 percent that an earthquake of that magnitude will occur on one of the regional San Francisco Bay Area faults during that time. The USGS estimates a 6 percent probability of a 6.7 magnitude or greater earthquake on the Greenville fault during the period 2000 to 2030.[9] The risk of ground shaking impacts is reduced through adherence to the design and materials standards set forth in building codes.

The City requires projects to comply with the 2016 California Building Code (Title 24, California Code of Regulations),[10] which provides for stringent construction requirements on projects in areas of high seismic risk based on numerous inter-related factors. It is acknowledged that seismic hazards cannot be completely eliminated, even with implementation of advanced building practices. However, the seismic design standards of the 2016 California Building Code (CBC) are intended to prevent catastrophic building failure in the most severe earthquakes currently anticipated.

A site-specific geotechnical investigation would be performed for the proposed project as required by General Plan policies, State regulations, and Mitigation Measures GEO-1 and GEO-2 of the 2009 Subsequent EIR, as presented below.

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6 California Geological Survey, 2008a. Earthquake Zones of Required Investigation, Livermore Quadrangle, August 27.

7 California Geological Survey, 2010. Fault Activity Map of California. Website: maps.conservation.ca.gov/cgs/fam (accessed March 14, 2019).

8 Association of Bay Area Governments, 2019. Alameda County Earthquake Hazards, Shaking Scenarios. Website: resilience.abag.ca.gov/earthquakes/Alameda (accessed March 14, 2019).

9 Livermore, City of, 2013. *General Plan*, Chapter 10, Public Safety Element.

10 Livermore, City of. Municipal Code, Title 15.

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

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

Liquefaction Potential. Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. These soils lose strength during ground shaking. Due to the loss of strength, the soil may move both horizontally and vertically. In areas where sloping ground or open slope faces are present, this mobility can result in lateral spreading. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that are relatively close to the ground surface. However, loose sands that contain a significant amount of fines (silt and clay) may also liquefy.

The project site is located in an area that has been identified by the CGS as being susceptible to seismically-induced liquefaction.[11] The intent of the CGS mapping of areas susceptible to earthquake-induced liquefaction is to ensure that geotechnical consultants consider possible liquefaction hazards and perform appropriate site-specific characterization and mitigation of liquefaction hazards as outlined in the State's guiding document for seismic hazard analysis, Special Publication 117A (SP117A).[12] The geotechnical investigation that would be prepared for the project, as required by the Seismic Hazard Mapping Act, CBC, and Mitigation Measures GEO-1 and GEO-2 of the 2009 Subsequent EIR, would address potential liquefaction related hazards and provide site preparation (e.g., grading and fill placement) and foundation design recommendations that account for potential liquefaction-induced settlement. During the design review process, the City would ensure that geotechnical recommendations are incorporated into the project design, which would reduce potential impacts related to liquefaction to a less-than-significant level.

Lateral Spreading. Lateral spreading, the horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face, is typically associated with liquefaction of subsurface layer(s) near the bottom of an exposed slope. There are no free faces or slopes on or adjacent to the project site, therefore the potential for impacts related to lateral spreading would be less than significant.

Seismic Settlement. Seismic settlement (also referred to as cyclic densification) can occur when non-saturated, cohesionless sand or gravel soil is densified by earthquake vibrations. The soil beneath the project site is potentially susceptible to cyclic densification. The geotechnical investigation that would be prepared for the project, as required by the Seismic Hazard Mapping Act, CBC, and Mitigation Measures GEO-1 and GEO-2 of the 2009 Subsequent EIR, would

11 California Geological Survey, 2008a, op. cit.

12 California Geological Survey, 2008b. *Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California*. Revised and Re-adopted September 11.

address potential seismic settlement related hazards and provide site preparation (e.g., grading and fill placement) and foundation design recommendations that account for potential seismic settlement. During the design review process, the City would ensure that geotechnical recommendations are incorporated into the project design, which would reduce potential impacts related to seismic settlement to a less-than-significant level.

Landslides. Slope failure can occur as either rapid movement of large masses of soil or imperceptibly slow movement of soils on slopes. The topography of the project site is relatively flat. Based on the absence of sloped terrain in the vicinity, the risk of landslides is considered to be unlikely and would have no impact.

Erosion/Loss of Top Soil

The redevelopment of the project site would involve construction activities such as grading and excavation, which could result in temporary soil erosion when the disturbed soils are exposed to wind or rainfall. Because the proposed project would involve over one acre of land disturbance, it would be required to comply with the State Water Resources Control Board's Construction General Permit, which requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would include erosion control best management practices that would minimize erosion during construction. Policy PS-1.2-P3 of the General Plan also requires that the City control site preparation procedures and construction phasing to reduce erosion and exposure of soils to the maximum extent possible. Upon completion of construction, the project site would be covered with structures, pavement, and landscaping and would not include areas of exposed soil. Therefore, the proposed project would result in less-than-significant impacts related to soil erosion or loss of top soil.

Unstable and Expansive Soils

Unstable Soil. As previously discussed above, the project site would not be subject to lateral spreading or landslides, but does have the potential for liquefaction-induced settlement. The design and construction of the project in accordance with geotechnical recommendations would reduce potential impacts related to liquefaction to a less-than-significant level.

Subsidence/Soil Collapse. Subsidence can result from the removal of subsurface water resulting in either gradual depression or catastrophic collapse of the ground surface. The proposed project would not utilize groundwater at the project site. Dewatering may be required in isolated areas of the project site during construction. Construction-related dewatering would not be expected to result in subsidence or soil collapse as the dewatering would be temporary, localized, and affect only the uppermost water-bearing zone. Therefore, potential impacts related to subsidence/soil collapse would be less than significant.

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

Soil at the project site is classified as Livermore very gravelly coarse sandy loam.[13] Due to the coarse grained nature of this soil, it would be expected to have a relatively low shrink-swell potential, which indicates that damage to buildings, roads, and other structures from expansive soils is unlikely. Therefore, potential impacts related to expansive soils would be less than significant.

Septic Tanks/Wastewater Disposal

Development of the proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore the proposed project would have no impact related to septic tanks or alternative waste water disposal systems.

Paleontological Resources

Although no paleontological resources have been recorded within the project site, the geologic units in the vicinity could contain significant paleontological resources. Adverse impacts on paleontological resource could occur when earthwork activities such as mass excavation cut into geological formations, or depths below the soil layer. Implementation of Mitigation Measure CULT-4 from the 2009 Subsequent EIR would ensure that potential impacts to paleontological resources would remain at a less-than-significant level.

Applicable Mitigation

- Mitigation Measure GEO-1: A site-specific design-level geotechnical investigation for the Theater project shall be prepared be a licensed professional and shall provide design criteria for construction in response to the moderately high ground shaking potential. In addition, the design criteria for construction of a development project shall comply with the current BC standards and local regulations. All final design and engineering plans for either the project or project alternatives shall be reviewed and approved by the City of Livermore prior to issuance of a grading permit.

- Mitigation Measure GEO-2: A site-specific design-level geotechnical investigation report prepared by a licensed professional is required for the project by the City of Livermore prior to issuance of a grading permit. The report shall identify potential liquefiable sediments and include recommendations to minimize the potential for damage from liquefiable sediments. The applicant shall implement design elements as recommended in the investigation report to reduce the potential impact from liquefaction.

- Mitigation Measure CULT-4: The project applicant shall inform its contractor(s) of the sensitivity of the project area for paleontological resources by including the following directive in contract documents:

  The subsurface at the construction site may be sensitive for paleontological resources. If paleontological resources are encountered during project subsurface construction, all ground-

[13] United States Department of Agriculture, 2019. Natural Resources Conservation Service. Web Soil Survey, Website: websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed March 14, 2019).

disturbing activities within 25 feet shall be redirected and a qualified paleontologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move paleontological materials. Paleontological resources include fossil plants and animals, and such trace fossil evidence of past life as tracks. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges, and protozoa; and vertebrate fossils such as fish, whale, and sea lion bones. Vertebrate land mammals may include bones of mammoth, camel, saber tooth cat, horse, and bison. Paleontological resources also include plant imprints, petrified wood, and animal tracks.

The City shall verify that the language has been included in the contract documents before issuing a grading permit.

Adverse effects to such deposits shall be avoided by project activities. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, project activities shall avoid disturbing the deposits, or the adverse effects of disturbance shall be mitigated. Upon completion of the paleontological assessment, a report shall be prepared documenting the methods, results, and recommendations of the assessment. The report shall be submitted to the City of Livermore Planning Division and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology.

Applicable Policies

General Plan Policies

- *Policy PS-1.1-P2: The City shall rely on the most current and comprehensive geologic hazard mapping available to assist in the evaluation of potential seismic hazards associated with proposed new development. Projects proposed in areas identified as being subject to moderate or high geologic hazard shall be required to conduct site-specific geotechnical investigation.*

- *PS-1.1-P4: Geologic and engineering studies shall be required for all proposed building projects, per State law, and all critical facilities (schools, hospitals, fire and police stations) within the City so that these facilities can be constructed in a manner that mitigates site-specific geotechnical challenges and will minimize the risk to the public from seismic hazards.*

- *PS-1.1-A1: Retain a geologist registered in the State of California to evaluate the geologic reports required under Policies P2 and P3 (above) and advise the City regarding them.*

- *PS-1.2-P3: The City shall control site preparation procedures and construction phasing to reduce erosion and exposure of soils to the maximum extent possible.*

Conclusion

The 2009 Subsequent EIR adequately evaluated the geology and soils impacts of the 2009 project and with implementation of Mitigation Measures GEO-1, GEO-2, and CULT-4, there would be no new impacts related to geology and soils associated with the proposed project.

8. GREENHOUSE GAS EMISSIONS

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

Discussion

Greenhouse gas emissions (GHGs) associated with the proposed 2009 project are evaluated in Chapter IV.E, Global Climate Change, of the 2009 Subsequent EIR. The following includes a discussion of the potential impacts related to GHG emissions associated with the 2009 project as compared to the proposed project.

As described in the 2009 Subsequent EIR, GHGs are present in the atmosphere naturally, and are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. However, over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global climate change. The gases that are widely seen as the principal contributors to human-induced global climate change are:

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

While GHGs produced by human activities include naturally-occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere compared to those GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this analysis, the term “GHGs” will refer collectively to the six gases identified in the bulleted list provided above.

Construction Greenhouse Gas Emissions

Similar to the 2009 project, construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that the proposed project would generate approximately 1,151.6 metric tons of CO_2e during construction of the project. Implementation of Mitigation Measures AIR-1a and AIR-1b as identified in the 2009 Subsequent EIR would reduce construction-related GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, with implementation of Mitigation Measures AIR-1a and AIR-1b, construction of the proposed project would not result in new or more severe impacts related to construction-period GHG emissions than identified in the 2009 Subsequent EIR.

Operational Greenhouse Gas Emissions

The 2009 Subsequent EIR found that the 2009 project would exceed the BAAQMD threshold of 1,100 metric tons per year and 4.6 metric tons per service population per year. The project would generate GHGs, directly and indirectly, and may have a significant impact on the environment. Development of the proposed project would contribute to the significant GHG impacts identified in the 2009 Subsequent EIR. As with the 2009 project, long-term operation of the proposed project would generate GHG emissions from area and mobile sources, and indirect emissions from sources associated with energy consumption. Mobile-source emitters of GHGs would include project-generated vehicle trips associated with visitor trips to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site, and other sources.

Following guidance from the BAAQMD, GHG emissions were estimated for the proposed project using CalEEMod. Table C shows the calculated GHG emissions for the proposed project. Motor vehicle emissions are the largest source of GHG emissions for the project at approximately 71 percent of the total. Energy use is the next largest category at 24 percent of CO_2e emissions. Solid waste and water use are about 4 percent and 1 percent of the total emissions, respectively. CalEEMod output sheets are included in Appendix 1.

Table C: Operational GHG Emissions

Emissions Source Category	Operational Emissions (Metric Tons per Year)				
	CO_2	CH_4	N_2O	CO_2e	Percent of Total Project Emissions
Area	1.6	0.0	0.0	1.6	0
Energy	1,312.0	0.1	0.0	1,320.7	24
Mobile	3,991.6	0.2	0.0	3,995.9	71
Waste	97.1	5.7	0.0	240.7	4
Water	35.0	0.8	0.0	61.8	1
Total Operational	**5,437.3**	**6.8**	**0.0**	**5,620.7**	**100**
BAAQMD Threshold				**1,100**	**-**
Exceed?				**Yes**	**-**

Source: LSA (March 2019).

As discussed above, according to the BAAQMD, a project would have less-than-significant GHG emissions if it would meet one or more of the following criteria: result in operational-related GHG emissions of less than 1,100 metric tons of CO_2e a year, or result in operational-related GHG emissions of less than 4.6 metric tons of CO_2e per service population (residents plus employees). Based on the analysis results, the proposed project would generate approximately 5,620.7 metric tons of CO_2e which would exceed the BAAQMD's numeric threshold of 1,100 metric tons CO_2e. Although the total project emissions are lower than the 2009 project, the total project emissions would continue to exceed the BAAQMD numeric threshold of 1,100 metric tons CO_2e. Current plans for the project do not provide sufficient detail to determine the amount of employees at the project site. Therefore, it is assumed that the project would also exceed the service population threshold of significance of 4.6 metric tons CO_2e.

The 2009 Subsequent EIR determined that buildout of the 2009 project would result in approximately 10,832 metric tons of CO_2e per year and identified Mitigation Measure GCC-1 to reduce GHG emissions to the extent feasible. The 2009 Subsequent EIR determined that with implementation of Mitigation Measure GCC-1, impacts would be reduced to a less-than-significant level. Although the proposed project would generate fewer GHG emissions than the 2009 project, primarily due to the reduction in vehicle emissions generated by the project due to lower vehicle emissions per trip due to more stringent vehicle emission standards, the proposed project would still exceed established thresholds. Therefore, Mitigation Measure GCC-1 would be applicable to the proposed project. Similar to the 2009 project, impacts would be reduced to a less-than-significant level and the proposed project would not result in new or more severe impacts related to operation-period GHG emissions than identified in the 2009 Subsequent EIR.

Consistency with Greenhouse Gas Reduction Plans

The City of Livermore's Climate Action Plan (CAP), adopted November 2012, addresses local climate change and includes GHG reduction targets to comply with Assembly Bill 32 (AB 32), the California

Global Warming Solutions Act of 2006.[14] The City's CAP includes existing State and proposed local measures that would result in GHG emission reductions within the City. To supplement statewide initiatives, the City has identified a series of local reduction measures that can be grouped into eight broad emission sectors, including programs that improve building energy efficiency beyond statewide mandates, increase transit and alternatives to vehicular travel, increase use of renewable energy, reduce water conveyance and waste, and other measures. The GHG reduction measures identified in the City's CAP would enable the City to reduce its community GHG emissions by an estimated 139,654 metric tons of CO_2e, which exceeds the emission reduction target of 15 percent below 2008 level of 135,051 metric tons of CO_2e.

The City's CAP was not adopted at the time the 2009 Subsequent EIR was prepared. However, the 2009 Subsequent EIR indicated that the 2009 project would be subject to all applicable regulatory requirements, which would reduce the GHG emissions of the project. The 2009 Subsequent EIR also found that after implementation of Mitigation Measure GCC-1 and application of regulatory requirements, the 2009 project would implement appropriate GHG reduction strategies and not conflict with or impede implementation of reduction goals identified in AB 32, the Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. Similarly, with implementation of Mitigation Measure GCC-1, the proposed project would implement appropriate GHG reduction strategies and would not conflict with applicable plan, policy, or regulation pertaining to GHGs. Therefore, the proposed project would not result in new significant impacts beyond those identified in the 2009 Subsequent EIR. No new mitigation measures are required.

Applicable Mitigation

Below are applicable mitigation measures that were included in the 2009 Subsequent EIR. In some cases, the language of the mitigation measures has been updated or modified as a result of the project, or because specific mitigation measures have already been implemented. Double-underlined text represents language that has been added to the mitigation measure, and text with ~~strikethrough~~ represents language that has been deleted from the mitigation measure.

- Mitigation Measure AIR-1a: Consistent with guidance from the BAAQMD, the following actions shall be required of all construction contracts and specifications for the project:

  Demolition. The following controls shall be implemented during demolition:

  - Water during demolition work, including the break-up of pavement and infrastructure, to control dust generation;
  - Cover all trucks hauling demolition debris from the site; and
  - Use dust-proof chutes to load debris into trucks whenever feasible.

[14] Livermore, City of, 2012. *Livermore Climate Action Plan*. November.

Construction. The following controls shall be implemented at all construction sites:

- Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non toxic stabilizers to control dust;
- Cover all trucks hauling soil, sand, and other loose materials;
- Pave, apply water three times daily, or apply (non toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff related impacts to water quality;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
- Apply non toxic soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily, or apply non toxic soil binders to exposed stockpiles (dirt, sand, etc.);
- Diesel equipment standing idle for more than 5 minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks may keep their engines running continuously as long as they are on a construction site;
- Properly tune and maintain equipment to reduce emissions;
- Avoid staging equipment within 200 feet of residences, or to the greatest extent possible;
- Limit traffic speeds on unpaved roads to 15 mph;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Any temporary haul roads to soil stockpile areas shall be routed way from existing neighboring land uses;
- Water sprays shall be utilized to control dust when material is being added or removed from stockpiles. When stockpiles are undisturbed for more than one week, storage piles shall be treated with a dust suppressant or crusting agent to eliminate wind-blown dust generation;

- Install base rock at unpaved entryways for all exiting trucks, and wash off the tires or tracks of all trucks and equipment in designated areas before leaving the site; and
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.

- Mitigation Measure AIR-1b: Development applicants shall provide a construction dust control coordinator as part of a construction-period air pollution control plan (required under General Plan Policy OSC-6.1P1). All neighboring properties located within 500 feet of property lines of a construction site shall be provided with the name and phone number of a designated construction dust control coordinator who will respond to complaints within 24 hours by suspending dust-producing activities or providing additional personnel or equipment for dust control as deemed necessary. The phone number of the BAAQMD pollution complaints contact shall also be provided. The dust control coordinator shall be on call during construction hours. The coordinator shall keep a log of complaints received and remedial actions taken in response. This log shall be made available to City staff upon its request.

- Mitigation Measure GCC-1: To the extent feasible and to the satisfaction of the City, the following measures shall be incorporated into the design and construction of the projects seeking City approval and developed as part of the Amendments:

  Construction and Building Materials

  - Use locally produced and/or manufactured building materials for construction of the project;
  - Recycle/reuse demolished construction material; and
  - Use "green building materials," such as those materials which are resource efficient, and recycled and manufactured in an environmentally friendly way, including low volatile organic compound (VOC) materials.

  Energy Efficiency Measures

  - Design all new buildings to be consistent with the ~~City's Green Building Ordinance~~State's CALGReen Code, as currently written or as amended in the future. Encourage energy efficient building techniques including:
    - Increase insulation such that heat transfer and thermal bridging is minimized;
    - Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption; and
    - Incorporate ENERGY STAR or better rated windows, space heating and cooling equipment, light fixtures, appliances or other applicable electrical equipment.

- Design, construct and operate all newly constructed and renovated buildings and facilities to meet the ~~City's Green Building Ordinance~~State's CALGreen Code requirements as currently written or as amended in the future;

- Provide a landscape and development plan for the project that takes advantage of shade, prevailing winds, and landscaping;

- Use combined heat and power in appropriate applications;

- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings;

- Install light colored "cool" roofs and cool pavements;

- Install energy efficient heating and cooling systems, appliances and equipment, and control systems; and

- Install light emitting diodes (LEDs) for outdoor lighting.

Water Conservation and Efficiency Measures

- Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include the following, plus other innovative measures that might be appropriate:

    - Create water-efficient landscapes within the development;

    - Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls;

    - Design buildings to be water-efficient. Install water-efficient fixtures and appliances, including low-flow faucets, dual-flush toilets and waterless urinals; and

    - Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.

Transportation and Motor Vehicle Measures

- Commercial trucks, including construction and delivery vehicles, shall limit idling time and will be subject to state anti-idling regulations adopted by ARB in 2005;

- Provide bicycle lanes and/or paths, incorporated into the proposed street systems and connected to a community-wide network;

- Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.
- Provide sidewalks and/or paths, connected to adjacent land uses, transit stops, and/or community-wide network;
- Size parking capacity to not exceed the City's zoning requirements AND provide infrastructure and support programs to facilitate shared vehicle usage such as carpool drop-off areas, designated parking for vanpools, or car-share services, ride boards, and shuttle service to mass transit.

Applicable Policies

General Plan Objectives

- *Objective CLI-1.1: Adopt a Climate Action Plan by 2010 that will help the City address climate change.*
- *Objective CLI-1.2: Encourage and provide greater support for infill, mixed use, and higher density development in order to reduce GHG emissions associated with vehicle traffic.*
- *Objective CLI-1.3: Support measures that encourage alternative modes of transportation and alternative fuels in order to reduce emissions associated with vehicle traffic.*
- *Objective CLI-1.4: Enhance existing water efficiency and conservation measures and adopt new programs that encourage recycled water use and water efficiency in order to reduce energy and GHGs associated with water use.*
- *Objective CLI-1.5: Expand and adopt new policies and programs that will help to provide energy efficiency alternatives to fossil fuel use and reduce consumption in order to reduce greenhouse gas emissions.*
- *Objective CLI-1.6: Expand the number of trees in Livermore in order to provide a larger carbon sink or area containing natural sources that retain more carbon that what those sources emit.*
- *Objective CLI-1.7: Expand methods to increase waste diversion and recycling goals in order to reduce GHGs associated with waste disposal.*

Conclusion

The 2009 Subsequent EIR adequately evaluated the GHG emissions related impacts of the 2009 project and with implementation of Mitigation Measures AIR-1a, AIR-1b, and GCC-1, there would be no new impacts related to GHG emissions associated with the proposed project.

9. HAZARDS AND HAZARDOUS MATERIALS

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Discussion

Transport, Use, Storage, and Disposal of Hazardous Materials

The project proposes the demolition of the existing structures on the project site and construction of new structures for uses including multi-family housing, retail/restaurant, a hotel, a theater, and a Science and Society Center. The proposed land uses would not involve transport, use, or disposal of significant quantities of hazardous materials. Generally, small quantities of hazardous materials such as paints and cleaning products would be used for routine maintenance. Therefore, a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials would not occur and potential impacts related to operational use of hazardous materials would be less than significant.

During project construction, hazardous materials such as fuel, lubricants, paint, sealants, and adhesives would be transported and used at the project site. The proposed project would be required to comply with federal, State, and local regulations regarding the transportation, use, and

disposal of hazardous materials, including preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) which requires implementation of control measures for hazardous material storage and soil stockpiles, inspections, maintenance, and training, and containment of releases to prevent runoff into existing storm collection systems or waterways. In Addition, Policy PS-4.1.P3 of the City's General Plan indicates that the City shall promote the safe transport of hazardous materials through Livermore by maintaining formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas, and prohibiting the parking of vehicles transporting hazardous materials on City streets. Compliance with existing regulations and implementation of the SWPPP during construction would ensure that potential impacts associated with hazardous material use, transport, and disposal are considered less than significant.

Release of Hazardous Materials and Risk of Upset

As described in the 2009 Subsequent EIR, soil and groundwater in portions of the Downtown Specific Plan area may be contaminated with heavy metals, petroleum hydrocarbons, chlorinated solvents, and pesticides due to historical land uses, and structures to be demolished on the project site may contain hazardous building materials such as lead paint and asbestos. Historic land uses that may have impacted soil and groundwater quality at the project site were identified as the former Southern Pacific Railroad in the northern portion of the project site, the former Desert Petroleum BP site that may have impacted groundwater in the southwest portion of the project site, and historical dry cleaning operations that were located at Quality Cleaners adjacent to the project site. The review of information available on the State Water Resource Control Board's Geotracker Database[15] and the Department of Toxic Substances Control's Envirostor Database[16] did not identify other hazardous materials release site which could impact the project site.

The public and/or the environment could be affected by the release of hazardous materials from the project site into the environment, by: (1) exposing workers and/or the public to potentially contaminated soil, groundwater, and vapors during construction and/or operation of the project; or (2) exposing workers and/or the public to hazardous building materials during demolition of the existing structure.

Implementation of Mitigation Measure HAZ-1 from the 2009 Subsequent EIR would require environmental investigations to be performed prior to development of the project site, and would require remediation of the project site to be performed under the oversight of a regulatory agency, if required, based on the findings of the environmental investigations. Implementation of Mitigation Measure HAZ-2 of the 2009 Subsequent EIR would require a Soil Management Plan (SMP) to be prepared prior to the issuance of a grading permit for the theater site, which would address potential hazardous material issues during construction. Implementation of Mitigation Measure HAZ-4 of the 2009 Subsequent EIR would require a soil and/or groundwater investigation work plan

[15] State Water Resource Control Board, 2019. Geotracker Database, Available at: geotracker.waterboards.ca.gov (accessed March 14, 2019).

[16] Department of Toxic Substances Control, 2019. Envirostor Database, Available at: www.envirostor.dtsc.ca.gov/public (accessed March 14, 2019).

to be prepared and implemented to evaluate potential hazardous material impacts from operation of the Southern Pacific Railroad at the Livermore Village site and Quality Cleaners adjacent to the Livermore Village site. Implementation of Mitigation Measures HAZ-1, HAZ-2 and, HAZ-4 from the 2009 Subsequent EIR would reduce potential impacts involving the possible past release of hazardous materials to the subsurface of the project site to a less-than-significant level.

Additionally, Policy PS-4.1.P5 of the City's General Plan indicates that when the City is reviewing applications for new development in areas historically used for commercial or industrial uses, the City shall require environmental investigations as necessary to ensure that soils, groundwater, and buildings affected by hazardous materials releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future property owners or users. The removal of hazardous building materials prior to demolition of structures is governed by federal and State laws and regulations. Federal regulations require that lead-based paint be removed prior to demolition if the paint is loose and peeling. Loose and peeling paint must be disposed of as a State and/or federal hazardous waste if the concentration of lead exceeds applicable waste thresholds. State and federal construction worker health and safety regulations require air monitoring and other protective measures during demolition activities where lead-based paint is present, and notification to the California Division of Occupational Safety and Health (DOSH) for abatement activities. Workers who conduct hazardous materials abatement and demolition activities must be trained in accordance with Occupational Health and Safety Administration (OSHA) and California OSHA requirements. Hazardous building materials removed during construction must be transported in accordance with U.S. Department of Transportation regulations and disposed of in accordance with the federal Resource Conservation and Recovery Act (RCRA), the California Code of Regulations, and/or the California Universal Waste Rule at a facility permitted to accept the wastes. Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. If asbestos is identified, the BAAQMD Regulation 11-2-401.3 requires notification to be made to BAAQMD prior to demolition activities. Other hazardous building materials, such as electrical equipment and fluorescent light ballasts containing polychlorinated biphenyls (PCBs), and fluorescent tubes or thermostats containing mercury, must be removed from buildings prior to demolition and disposed of in accordance with the California Universal Waste Rule and other federal and State regulations. In addition, implementation of Mitigation Measure HAZ-3 from the 2009 Subsequent EIR would require hazardous building materials surveys and abatement of hazardous building materials to be performed in accordance with local, State, and federal requirements prior to demolition of structures on the project site, which would reduce potential impacts related to the accidental release of hazardous building materials during demolition to a less-than-significant level.

Emission of Hazardous Materials within 0.25 miles of a School

Del Valle Continuation High School, located at 2253 5th Street, is approximately 1,200 feet south-southeast of the project site. No other schools were identified within a quarter-mile of the project site.[17,18] As discussed above, the potential for a hazardous materials releases during construction and operation activities would be less than significant following required compliance with existing regulations and implementation of Mitigation Measures HAZ-1 through HAZ-4 from the 2009 Subsequent EIR. Therefore, the proposed project would result in a less-than-significant impact to existing or proposed school facilities from the emission of hazardous materials.

Hazardous Materials Site Pursuant to Government Code Section 65962.5

The project site is not included on a list of hazardous materials release sites compiled pursuant to Government Code Section 65962.5. Implementation of Mitigation Measures HAZ-1, HAZ-2 and, HAZ-4 from the 2009 Subsequent EIR would reduce potential impacts involving the possible past release of hazardous materials to the subsurface of the project site to a less-than-significant level.

Aviation Hazards

The project site is located approximately 2 miles southeast of the Livermore Municipal Airport. The project site is not located within the Airport Influence Area (AIA) of the Livermore Municipal Airport, where Alameda County Airport Land Use Commission (ALUC) is authorized to review local land use actions affecting the area, or within the airport protection area (APA), which was established to prevent the encroachment of incompatible land uses near the airport.[19] As discussed in Section 13 of this Environmental Checklist, Noise, due to the Downtown's distance from the standard airport flight paths, implementation of the proposed project would not expose persons to aircraft noise levels in excess of established standards. Potential aviation hazards associated with the proposed project are therefore considered less than significant.

Emergency Response or Evacuation Plan

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

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17 California Department of Education, 2019. California School Directory. Website: www.cde.ca.gov/schooldirectory (accessed March 14, 2019).

18 Livermore Valley Joint unified School District, 2019. School Locations Map, Website: https://www.livermoreschools.org/Page/5858 (accessed March 14, 2019).

19 Alameda County Community Development Agency, 2012. *Livermore Municipal Airport Land Use Compatibility Plan*. August.

Wild Fire

The project site is located in a highly developed urban area and is not located adjacent to wildland areas, and therefore the project is not expected to directly or indirectly expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Applicable Mitigation

Below are applicable mitigation measures that were included in the 2009 Subsequent EIR. In some cases, the language of the mitigation measures has been updated or modified as a result of the project, or because specific mitigation measures have already been implemented. Double-underlined text represents language that has been added to the mitigation measure, and text with ~~strikethrough~~ represents language that has been deleted from the mitigation measure.

- Mitigation Measure HAZ-1: Prior to development within the Downtown Specific Plan area, a Phase I investigation shall be conducted in accordance with ASTM standards (E1527-05) to determine whether past land uses could potentially have affected the subsurface. If potential effects are identified, a licensed professional shall provide recommendations for a subsurface investigation (Phase II). The results of the Phase II investigation shall be evaluated by a licensed professional and recommendations provided regarding remediation of soil and/or groundwater in consultation with a local or state regulatory agency. Depending on the results of the subsurface investigation, regulatory agency oversight shall be requested.

- Mitigation Measure HAZ-2: Prior to the issuance of grading permits for ~~any of the three Theater sites and realignment of Railroad Avenue~~redevelopment of the Livermore Village and hotel sites, a Soil Management Plan (SMP) shall be prepared to address potential hazardous material issues during construction of the project. The SMP shall include any available environmental data from sampling at the specific site, a worker health and safety plan, and requirements for soil management and off-site disposal. The applicant shall ensure that appropriate response measures are included in the SMP to protect human health and the environment if evidence (e.g., odors or visual staining) of previously unknown contaminated soil and/or groundwater or buried debris are encountered during project construction. A contingency plan for sampling and analysis of previously unknown hazardous materials and reporting of the results shall be prepared by the applicant as part of the SMP. ~~In addition, site development shall be coordinated with ACEHS regarding potential effects to site development from the currently active sites, i.e. the Chevron/Mills Square Park and the Desert Petroleum BP sites.~~

- Mitigation Measure HAZ-3: A hazardous building materials survey shall be conducted by a qualified professional for structures proposed for demolition during ~~development at any of the three Theater sites and realignment of Railroad Avenue~~redevelopment of the Livermore Village and hotel sites. All loose and peeling lead-based paint and asbestos-containing material shall be abated by a certified contractor(s) in accordance with local, state, and federal requirements. All other hazardous materials must be removed from buildings prior to demolition in accordance with DOSH regulations. The findings of the abatement activities shall be documented by a qualified environmental professional(s) and submitted to the City of Livermore prior to the issuance of construction and demolition permits.

- Mitigation Measure HAZ-4: A soil and/or groundwater investigation workplan shall be prepared and implemented by a licensed professional to evaluate potential hazardous material impacts from operation of the Southern Pacific Railroad at the Livermore Village site and Quality Cleaners adjacent to the Livermore Village site. The workplan shall include representative sampling and analysis of soil and/or groundwater samples for heavy metals, petroleum hydrocarbons, pesticides, and chlorinated solvents. Depending on the results of the subsurface investigation, regulatory agency oversight shall be requested, if contamination is identified that could affect public health and the environment. Future remedies for identified contamination could include removal of contaminated materials, on-site treatment and/or institutional or engineering controls (i.e., deed restrictions on certain land uses or capping of development sites).

Applicable Policies

General Plan Policies

- *Policy PS-4.1.P3: The City shall promote the safe transport of hazardous materials through Livermore through implementation of the following measures: (a) Maintain formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas; (b) Prohibit the parking of vehicles transporting hazardous materials on City Streets; (c) Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the greatest extent possible.*

- *Policy PS-4.1.P5: When reviewing applications for new development in areas historically used for commercial or industrial uses, the City shall require environmental investigation as necessary to ensure that soils, groundwater, and buildings affected by hazardous materials releases from prior land uses, and lead and asbestos potentially present in building materials, would not have the potential to affect the environment or the health and safety of future property owners or users.*

Conclusion

The 2009 Subsequent EIR adequately evaluated the impacts of the 2009 project and with implementation of Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4, there would be no new impacts related to hazards and hazardous materials associated with the proposed project.

10. HYDROLOGY AND WATER QUALITY

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater?	☐	☐	☐	☒
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv. impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Discussion

Water Quality Standards

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

The proposed project would disturb greater than 1 acre of land, and therefore would be required to obtain coverage under the Construction General Permit (State Water Board Order 2009-0009-DW).[20] On-site construction activities subject to the Construction General Permit include clearing, grading, excavation, and soil stockpiling. As state above, State Water Resources Control Board's Construction General Permit also requires the development of a SWPPP by a Qualified SWPPP Developer. A SWPPP identifies all potential pollutants and their sources, including erosion, sediments, and constructions materials and must include a list of Best Management Practices (BMPs) to reduce the discharge of construction-related stormwater pollutants. A SWPPP must include a detailed description of controls to reduce pollutants and outline maintenance and inspection procedures. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits and perimeter controls to avoid tracking sediment off-site onto adjacent roadways. A SWPPP also defines proper building material staging and storage areas, paint and concrete washout areas, describes proper equipment/vehicle fueling and maintenance practices, measures to control equipment/vehicle washing and allowable non-stormwater discharges, and includes a spill prevention and response plan.

Temporary dewatering may be required during construction activities involving excavation. Dewatering effluent may have high turbidity and could contain contaminants. Turbid and/or contaminated groundwater could cause degradation of the receiving water quality if discharged directly to storm drains or surface water without treatment. The discharge of dewatering effluent would be subject to permits from the City of Livermore Water Resources Division or the Regional Water Board, depending if the discharge were to the sanitary sewer or storm drain system, respectively. The Construction General Permit allows the discharge of dewatering effluent if the water is properly filtered or treated, using appropriate technology. If the dewatering activity is deemed by the Regional Water Board not to be covered by the Construction General Permit, then the discharger could potentially prepare a Report of Waste Discharge, and if approved by the Regional Water Board, be issued site-specific Waste Discharge Requirements (WDRs) under National Pollutant Discharge Elimination System (NPDES) regulations. If it is infeasible to meet the requirements of the Construction General Permit, acquire site-specific WDRs, or meet the City of Livermore's sewer discharge requirements, the construction contractor would be required to transport the dewatering effluent off-site for treatment and disposal.

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

[20] State Water Resources Control Board Division of Water Quality, 2009. Construction General Permit Fact Sheet. 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ.

Operation. Because the project would replace over 10,000 square feet of existing impervious surface area, the project would be required to comply with Provision C.3 requirements of the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP).[21] The project would result in alteration of over 50 percent of the existing impervious surface of the project site, and therefore all new and replaced impervious surfaces would require treatment under the MRP. Provision C.3 of the MRP requires implementation of low impact development (LID) source control, site design, and stormwater treatment for regulated projects. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. Additionally, Policy OSC-2.1-P2 of the City's General Plan requires the City to take all necessary measures to regulate runoff from urban uses to protect the quality of surface and ground water; and Policy OSC-2.1-A1 of the City's General Plan requires implementation of a program for integrated pest management (IPM) for City-managed landscaping areas that minimizes the use of pesticides and herbicides, and strives toward an organic pest-management approach.

Provision C.3.g of the MRP pertains to hydromodification management.[22] The MRP requires that regulated projects which create and/or replace over 1 acre of impervious surface and increase the amount of impervious surface compared to the existing condition include measures to address hydromodification to ensure that stormwater discharges do not cause an increase in the erosion potential of the receiving stream. Increases in runoff flow and volume must be managed so that the post-project runoff does not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force. The proposed project would be subject to hydromodification management requirements because the proposed project would replace over one acre of existing impervious surface and would increase the amount of impervious surface compared to the existing condition by approximately 31,000 square feet, and stormwater runoff from the project site is eventually discharged into natural creeks which are susceptible to erosion. Hydromodification management controls may include the installation of retention/detention systems (e.g., swales, basins, ponds, or cisterns) which would reduce runoff rates and volumes.

Additionally, Policy OSC-2.1-P1 of the City's General Plan requires the implementation of BMPs to minimize erosion, sedimentation, and water quality degradation resulting from the construction of new impervious surfaces; and Policy PS-2.1-P3 of the City's General Plan requires new development

[21] San Francisco Bay Regional Water Quality Control Board, 2015. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2015-0049, NPDES Permit No. CAS612008, November 19.

[22] Hydromodification or hydrograph modification causes streambank erosion, channelization, increased flood flows, and other physical modifications that can adversely impact aquatic ecosystems due to increased sedimentation and reduced water quality (e.g., higher water temperatures, lower dissolved oxygen concentrations).

and significant redevelopment projects to prepare drainage studies to assess storm runoff impacts on the local and regional storm drain and flood control system, and to develop recommended detention and drainage facilities to ensure that increased risks of flooding do not result from development and to prevent increased erosion and siltation of creek beds and banks.

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

Deplete Groundwater Supplies

Dewatering may be performed during construction activities involving excavation. If performed, construction-related dewatering would be temporary and limited to areas of excavation on the project site and would not substantially contribute to depletion of groundwater supplies.

Operation of the proposed project would not involve dewatering or the use of groundwater as potable water, because potable water is supplied to the project site by the California Water Service. The proposed project would result in an increase of impervious surfaces, which could decrease the recharge of the local groundwater supplies. In accordance with the requirements of Provision C.3 of the MRP, site design and treatment measures must be implemented at the project site to encourage infiltration of storm water runoff. Site design and treatment measures may include detention and retention basins, stormwater harvesting, vegetated swales and planters, and pervious pavements. A Storm Water Control Plan that specifies the types of infiltration-based site design and treatment measures to be incorporated into the project would be required by the City prior to construction. Implementation of infiltration-based site design and treatment measures, as required by the MRP and the City, would reduce potential impacts to groundwater supplies to a less-than-significant level.

Drainage Pattern and Surface Run-off

The proposed project would not alter the course of a stream or river. The project would alter drainage patterns by creating new landscaped areas and impermeable pavement surfaces. As discussed above, the proposed project would be required to comply with the hydromodification requirements of the MRP and Policy PS-2.1-P3 of the City's General Plan and prepare a drainage study to ensure that the changes in drainage patterns resulting from the project would not adversely impact storm drain and flood control systems or cause erosion and siltation of creek beds and banks.

Required compliance with applicable regulations and implementation of City policies, as described above, would reduce potential impacts of the project related to changes in drainage patterns to a less-than-significant level.

Flood Hazard, Tsunami, Seiche Zones

The project site is not located within a 100-year flood hazard zone or an area protected from flooding by levees, as mapped by the Federal Emergency Management Agency (FEMA).[23] The project site is also not located within a dam failure inundation area.[24] The project site is not located near enclosed or partially enclosed bodies of water; therefore impacts associated with seiches would not occur. Based on the distance of the project site to the San Francisco Bay, coastal hazards such as tsunamis would not affect the project. The project site and surrounding topography is relatively flat and therefore the project would not result in impacts related to mudflows (a type of landslide that occurs on slopes). Therefore, the project would not result in impacts related to flooding, inundation by tsunami, or seiche.

Conflict with Water Quality Control Plan or Sustainable Groundwater Management Plan

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

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Applicable Policies

General Plan Policies and Actions

- *OSC-2.1-P1: Require the implementation of Best Management Practices (BMPs) to minimize erosion, sedimentation, and water quality degradation resulting from the construction of new impervious surfaces.*

- *OSC-2.1-P2: The City shall take all necessary measures to regulate runoff from urban uses to protect the quality of surface and ground water.*

- *OSC-2.1-A1: Implement a program for integrated pest management (IPM) for City-managed landscaping areas that minimizes the use of pesticides and herbicides, and strives toward an organic pest-management approach. Provide incentives for the adoption of IPM practices on private land.*

[23] Federal Emergency Management Agency, 2009. Flood Insurance Rate Map, Map Number 06001C0342G, effective August 3.

[24] Livermore, City of, 2013, op. cit.

- *PS-2.1-P3: The City shall require new development and significant redevelopment projects to prepare drainage studies to assess storm runoff impacts on the local and regional storm drain and flood control system, and to develop recommended detention and drainage facilities to ensure that increased risks of flooding do not result from development. The drainage study shall include an analysis and recommended mitigations for projects that would increase peak runoff flows and increase runoff volume and for all projects where such increased flow and/or volume is likely to cause increased erosion of creek beds and banks, silt pollutant generation, or other impacts to beneficial uses.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the hydrology and water quality impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

11. LAND USE AND PLANNING

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

Discussion

Divide an Established Community

Projects that have the potential to physically divide an established community include projects such as new freeways and highways, major arterials, streets, and railroad lines. The proposed project would result in the development of vacant parcels and redevelopment of under-utilized parcels within the project site. The proposed project would not remove any public access, including pedestrian and bicycle access. The proposed project would not result in a barrier within the project site that would impede access, nor would it result in a removal of a major means of access. Therefore, the proposed project would not inhibit public connectivity, and would not physically divide an established community. Therefore, this impact would not result in new or more significant impacts beyond those analyzed in the 2004 Final EIR or the 2009 Subsequent EIR.

Conformance with Land Use Plans

The proposed project is consistent with the type and intensity of development allowed within the Downtown Area General Plan Land Use Designation. Additionally, the proposed project would comply with General Plan policies which encourage the combination of uses within the project site and strengthening the economic base of the City by focusing on development within the project site.

The proposed project would also comply with the development standards outlined in the Downtown Specific Plan, and would not require changes to General Plan land use designations or zoning districts. Therefore, the proposed project would not result in new or more severe impacts related to conformity with land use plans beyond those already analyzed in the 2004 Final EIR and the 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Applicable Policies

- *Policy LU-1.4.P2: The City shall encourage a combination of specialty retail, office, entertainment (e.g., movie and performing art theaters), and other retail uses that serve a daily and occasional need in the Downtown. Such uses are those in neighborhood service retail centers, as well as stores selling specialty goods, quality goods, and quality and specialty restaurants.*

- *Policy ED-1.1.P1: To strengthen the economic base and to develop a central focus for the City, the Downtown Area (DA) shall be the exclusive location within the City for the development of all retail and commercial stores and services except those specifically allowed in neighborhood shopping centers, industrial, highway, service commercial, and community commercial areas.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential land use impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

12. MINERAL RESOURCES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

According to the City of Livermore General Plan and the California Geological Survey, there are high value sand and gravel deposits in the vicinity of Livermore. Most of the valley floor south of Interstate 580 (I-580) is classified as an area of significant mineral resources. However, the areas designated as "areas of regional significance" by the State Mining and Geology Board are located in the west and southern portions of the City, and are not within the project site. As such, implementation of the proposed project would have no impacts on mineral resources.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the mineral resources impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

13. NOISE

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c. For a project located within the vicinity of a private airstrip an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

The ambient noise conditions have not changed substantially since the preparation of the 2009 Subsequent EIR. Table IV.F-7 of the 2009 Subsequent EIR shows the results of short-term ambient noise monitoring that was conducted on the project site to document the existing noise environment and capture the noise levels associated with current operations and activities in the project vicinity, such as traffic noise on adjacent roadways and parking lot and loading and

unloading activities at nearby land uses. The noise monitoring results indicate that existing daytime ambient noise levels on the project site range from 63.3 dBA to 68.1 dBA L_{eq} (refer to Table IV.F-1 in the 2009 Subsequent EIR for a definition of all acoustical terms used in this section). Traffic on surrounding roadways is the primary noise source affecting the existing ambient noise levels in the project vicinity. Other noise in the project vicinity includes railroad noise and rail transit activity on the Union Pacific rail lines. Regulatory requirements and standards that govern the generation of and exposure to noise within the community have not changed since certification of the 2009 Subsequent EIR. Potential impacts of the proposed project as compared to the 2009 project with respect to noise are discussed below.

Construction-Period Impacts

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

As with the 2009 project, the transport of workers and construction equipment and materials to the project site within the Downtown Specific Plan area would incrementally increase noise levels on access roads leading to the site. Because workers and construction equipment would use existing routes, noise from passing trucks (87 dBA L_{max} at 50 feet) would be similar to existing truck-generated noise and would be spread over many sites in the Downtown. The 2009 Subsequent EIR found that the effect on the longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker and equipment transport to the proposed project site within the Downtown Specific Plan area would result in a less-than-significant impact on sensitive receptors along the access routes leading to the project site. These conditions would be similar with the proposed project and no new or more significant impacts related to construction traffic would occur.

In addition, as discussed in the 2009 Subsequent EIR, construction activities would be performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. The site preparation and grading phase of construction tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery, such as bulldozers and loaders, and compacting equipment, including 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 to 4 minutes at lower power settings. Similar to the 2009 project, construction of the proposed project is expected to require the use of earthmovers such as bulldozers and scrapers, loaders and graders, water trucks, and pickup trucks. The 2009 Subsequent EIR found that the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area.

The 2009 Subsequent EIR also found that in addition to earthmoving equipment, construction activities may require the use of pile driving or other high impact construction techniques. Noise associated with pile driving is a very loud and impulsive sound, resulting from a large hammer that

drops on steel or reinforced concrete piles. Individual noise impacts are of short duration (under one second), but the noise is repetitive, occurring about once every two seconds. The maximum noise level generated by pile driving is approximately 93 dBA L_{max} at 50 feet from the operating equipment.

The closest existing sensitive receptors to the project site include the multi-family residential uses located near the intersection of Railroad Avenue and L Street, approximately 190 feet from the site boundary. At this distance, these residences would be potentially exposed to construction noise levels of up to 79 dBA L_{max} during the site preparation phase of construction, and up to 81 dBA L_{max} if pile driving is used. Other land uses adjacent to the project site include commercial and office uses. Such land uses would potentially be exposed to construction noise levels above 91 dBA L_{max} when construction occurs along the site's boundaries and above 93 dBA L_{max} if pile driving is used. Similar to the 2009 project, these construction noise levels could result in potential short-term noise impacts on the existing residential land uses and other sensitive land uses in the vicinity of the project site. Mitigation Measure NOISE-1, as required in the 2009 Subsequent EIR would be required to be implemented for the proposed project. Therefore, with implementation of Mitigation Measure NOISE-1, the proposed project would not result in new or more severe construction-related noise impacts beyond those identified in the 2009 Subsequent EIR.

Aircraft Noise Source Impacts

As discussed in the 2009 Subsequent EIR, the Downtown Specific Plan area is located approximately 2 miles southeast of the Livermore Municipal Airport. This distance is well beyond the projected 60 dBA CNEL noise contour of the airport for the year 2020 as shown in Figure 9-2 of the City's Noise Element of the General Plan. Due to the Downtown's distance from the standard airport flight paths, implementation of the proposed project would not expose persons to aircraft noise levels in excess of established standards. As discussed in the 2009 Subsequent EIR, no significant aircraft-related noise impact, in terms of 24-hour averaged noise level such as CNEL or L_{dn}, would occur and the same would occur for the proposed project.

Traffic Noise Impacts

As identified in the 2009 Subsequent EIR, traffic is a major source of noise in the project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the receiver. A characteristic of sound is that a doubling of a noise source is required in order to result in a perceptible (3 dBA or greater) increase in the resulting noise level.

The 2009 Subsequent EIR found that under cumulative conditions, project-related traffic would generate combined long-term exterior noise exceeding the City's normally acceptable interior noise levels for proposed residential land uses within the Downtown Specific Plan area. Table IV.F-14 of the 2009 Subsequent EIR identifies that the roadway segments that would experience the greatest increase in the traffic noise levels under the cumulative conditions with the 2009 project would be along First Street between S Street and P Street (0.8 dBA increase) and between P Street to L Street (0.6 dBA increase). The increases in noise levels associated with project-related traffic would not be perceptible by the human ear in an outdoor environment and are well below the significance

threshold of a greater than 4 dBA increase. As the 2009 project would not result in a significant increase in project-related traffic noise, no mitigation was required to address traffic noise impacts.

To assess traffic noise impacts associated with the proposed project, the traffic noise levels along major roadway segments within the project vicinity were projected using the Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) to predict traffic noise level conditions with and without the proposed project. FHWA modeling results are summarized in Table D. The table includes projected traffic noise levels measured at 50 feet from the centerline of the outermost traveled lane along the modeled roadway segments. The model does not account for existing sound walls or terrain features that could reduce traffic noise levels at adjacent land uses, but rather assumes a worst-case direct line-of-sight over hard surface to the modeled traffic noise sources. Appendix 2 provides the specific assumptions used in developing these noise levels and model printouts.

As shown in Table D below, the roadway segments that would experience the greatest increase in traffic noise levels under the cumulative conditions with the proposed project would be Railroad Avenue east of Livermore Avenue (0.6 dBA increase). The next largest increase in traffic noise levels under the cumulative conditions with the proposed project would be Livermore Avenue south of Railroad Avenue and L Street south of Railroad Avenue (0.4 dBA increase). These noise level increases would be lower than assumed in the 2009 Subsequent EIR. In addition, these increases in noise levels associated with project-related traffic would not be perceptible by the human ear in an outdoor environment and are well below the significance threshold of a greater than 4 dBA increase. Therefore, the proposed project would not result in a significant increase in project-related traffic noise and would not result in new significant impacts beyond those identified in the 2009 Subsequent EIR.

According to the City's Land Use Compatibility Standards (shown in Table IV.F-6 of the 2009 Subsequent EIR), environments with ambient noise levels up to 65 dBA CNEL are normally acceptable for multi-family residential and hotel land uses and noise levels between 60 dBA and 70 dBA CNEL are conditionally acceptable for new multi-family residential and hotel land uses. In addition, noise levels up to 70 dBA CNEL are normally acceptable for office buildings and commercial land use development, and are considered conditionally acceptable for development of new auditorium land uses. A conditionally acceptable land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Additionally, General Plan Policy N-1.2.P2 requires applicants for new development in areas subject to noise levels greater than 65 dBA CNEL to obtain the services of a professional acoustical engineer to provide a technical analysis and to design mitigation measures to attenuate noise to acceptable levels.

Additionally, the City's policy for the Downtown Core District states that between 7:00 a.m. and 12:00 a.m., exterior noise levels of up to 75 dBA CNEL would be considered normally acceptable for all uses; and, between 12:00 a.m. and 7:00 a.m., exterior noise levels up to 65 dBA CNEL would be considered normally acceptable for all uses.

The proposed project would include the development of multi-family residential land uses near the intersection of Railroad Avenue and L Street and hotel land uses near the intersection of Railroad Avenue and Livermore Avenue. The project would also include the development of commercial and theater land uses. As shown in Table D, traffic noise levels along Railroad Avenue east of L Street would range up to 61.4 dBA CNEL at 50 feet from the outermost travel lane under cumulative plus project conditions. The proposed residences and hotel would be located within 30 feet from the outermost travel lane; therefore they would be subject to a traffic noise level of up to 65.4 dBA CNEL. Based on the City's noise and land use compatibility standards, this noise level is considered conditionally acceptable for multi-residential, hotel, and theater land uses and considered normally acceptable for commercial land uses. According to the City, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Therefore, the land use may be permitted only after detailed analysis of the noise reduction features proposed to be incorporated in the building design. A detailed interior and exterior noise analysis is provided below.

Based on the EPA's Protective Noise Levels,[25] with a combination of walls, doors, and windows, standard construction for Northern California buildings (STC-24 to STC-28) would provide more than 25 dBA in exterior-to-interior noise reduction with windows closed and 15 dBA or more with windows open. With windows open, the buildings would not meet the City's normally acceptable interior noise standard of 45 dBA CNEL (i.e., 65.4 dBA – 15 dBA = 50.4 dBA). Therefore, an alternate form of ventilation, such as an air-conditioning system, would be required to ensure that windows can remain closed for a prolonged period of time. A ventilation system would reduce noise levels for residents and guests with windows closed and would meet the City's normally acceptable interior noise level criterion of 45 dBA (i.e., 65.4 dBA – 25 dBA = 40.4 dBA). Therefore, the City should verify that buildings include fresh air ventilation. Implementation of the HVAC system would allow windows to remain closed in order to reduce interior noise levels by 25 dBA, resulting in interior noise levels of 40.4 dBA CNEL, which would meet the City's interior noise standard of 45 dBA CNEL. Mitigation Measure NOISE-2a and NOISE-2c would require an alternative form of ventilation to ensure that buildings would comply with the City's noise and land use compatibility standards.

In addition, the existing on-site noise level would meet the City's exterior noise level standards if noise reduction requirements and noise insulation features are included in the design to meet the interior noise standard. As discussed above, interior noise levels would meet the City's standards with implementation of Mitigation Measure NOISE-2a and NOISE-2c. Therefore, since interior noise levels would meet City's standards, the proposed project would meet the City's exterior land use compatibility standards, resulting in a less-than-significant impact, with mitigation.

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

Table D: Existing and Cumulative Traffic Noise Levels Without and With Proposed Project

Roadway Segment	Existing Traffic Volumes					Cumulative Traffic Volumes				
	Without Project		With Project			Without Project		With Project		
	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	ADT	CNEL (dBA) 50 feet from Centerline of Outermost Lane	Increase from Baseline Conditions
Livermore Avenue - south of Railroad Avenue	6,630	58.9	7,560	59.5	0.6	9,560	60.5	16,530	60.9	0.4
Railroad Avenue - east of Livermore Avenue	10,530	59.4	12,520	60.2	0.8	12,820	60.3	14,810	60.9	0.6
Maple Street - north of First Street	10,130	59.3	13,760	59.5	0.2	11,560	59.9	12,190	60.1	0.2
First Street - west of Maple Street	5,400	58.0	5,830	58.4	0.4	6,140	59.8	6,570	58.9	0.3
Livermore Avenue - north of First Street	6,740	59.0	7,440	59.4	0.4	8,020	59.8	8,300	59.9	0.1
L Street - north of First Street	5,220	56.8	5,430	57.0	0.2	8,090	58.7	8,300	58.8	0.1
First Street - east of L Street	4,770	57.5	4,840	57.6	0.1	6,530	58.9	6,600	58.9	0.0
Maple Street – east of First Street	13,290	62.0	13,670	62.1	0.1	14,810	62.4	15,190	62.5	0.1
Railroad Avenue - east of L Street	12,620	60.2	13,30	60.2	0.3	15,810	61.2	16,490	61.4	0.2
L Street - south of Railroad Avenue	4,470	56.2	5,070	57.7	0.5	6,280	57.6	6,880	58.0	0.4
Livermore Avenue - north of Eastside Parking/Westside Parking	6,860	59.1	7,660	59.6	0.5	9,280	60.4	9,390	60.5	0.1
L Street - north of Westside Parking	5,280	56.9	4,830	56.5	-0.4	6,790	58.0	6,400	57.7	-0.3

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

Stationary Noise Impacts

Similar to the 2009 project, stationary noise sources that would be associated with implementation of the proposed project include additional parking lot activities (such as slamming car doors and talking), additional mechanical ventilation systems, and occasional delivery truck idling and unloading noise.

Commercial, retail, and hotel land uses would generate noise from occasional truck delivery, loading/unloading activities, HVAC system condensers and fans, and typical parking lot activities. These are all potential point sources of noise that could affect noise-sensitive receptors in the Downtown area. Of these noise sources, noise generated by delivery truck activity would generate the highest maximum noise levels. Representative parking activities, such as people conversing or doors slamming, would generate approximately 60 dBA to 70 dBA L_{max} at 50 feet. Delivery truck loading and unloading activities can result in maximum noise levels from 75 dBA to 85 dBA L_{max} at 50 feet.

Preliminary conceptual designs do not show the future location of loading and delivery docks; therefore, for purposes of this analysis, it is assumed that the closest sensitive receptors to the loading docks at the commercial, retail, and hotel land uses would be located at the intersection of Second Street and McLeod Street, approximately 400 feet from the proposed buildings. At this distance, noise from delivery activities would attenuate to approximately 57 to 67 dBA L_{max}. Therefore, noise levels from the proposed project would result in a less-than-significant impact on off-site sensitive receptors, due to their greater distance from the proposed project site than what was evaluated in the 2009 Subsequent EIR.

Similar to the 2009 project, delivery noise would be intermittent and short term in nature and when averaged over a one hour or longer time period, it is expected these stationary noise levels would be reduced by the mostly lower ambient noise levels to below the Downtown Core District's normally acceptable exterior noise level threshold of 75 dBA CNEL for activities occurring between 7:00 a.m. and 12:00 a.m., or the threshold of 65 dBA CNEL for activities occurring between 12:00 a.m. and 7:00 a.m. Furthermore, as with the 2009 project, it is expected that such stationary noise levels would not expose persons to or generate noise levels in excess of standards established in the City's Noise Ordinance, or applicable standards of other agencies, nor would they substantially increase permanent, temporary, or periodic ambient noise levels by over 4 dBA in the site vicinity above levels existing without the project. However, as the conceptual designs are only preliminary, the necessary level of construction detail is not yet available to determine for certain whether impacts from stationary noise sources would occur or what mitigation measures would be required to reduce impacts to less-than-significant levels. Therefore, as identified in the 2009 Subsequent EIR, a stationary noise impact study would be required when final design details are determined.

Implementation of multi-part Mitigation Measure NOISE-3 as identified in the 2009 Subsequent EIR would require project-specific stationary noise impact studies to sufficiently reduce project-related stationary noise impacts to a less-than-significant level to comply with the City's General Plan and Municipal Code requirements. Therefore, with implementation of Mitigation Measure NOISE-3, the proposed project would not result in new significant impacts beyond those identified in the 2009 Subsequent EIR and no new mitigation measures are required.

Vibration Impacts

Construction activities associated with implementation of the proposed project could temporarily expose persons in the vicinity of construction site to excessive groundborne vibration or groundborne noise levels. Pile driving is a potential source of groundborne vibration. The 2009 Subsequent EIR identified pile driving as a potential source of groundborne vibration, and it can generate vibration levels of up to 112 VdB at 25 feet. Groundborne vibration due to pile driving can be perceptible at distances of up to 100 feet. Construction activities associated with the proposed project may include construction techniques such as pile driving.

In addition, as discussed in the 2009 Subsequent EIR, other groundborne vibration sources include earthmoving equipment. Typical groundborne vibration levels measured at a distance of 25 feet from heavy construction equipment in full operation, such as vibratory rollers, range up to approximately 94 VdB. This level is below the damage threshold for historic or fragile buildings. However, groundborne vibration-producing construction activities would occur immediately adjacent to existing commercial buildings located along First Street. As required by the 2009 Subsequent EIR, a detailed vibration impact assessment would be required to reduce these potential groundborne vibration impacts on sensitive receptors in the vicinity. However, the necessary level of construction detail is not yet available to conduct this analysis so implementation of the project may result in a significant vibration impact. Therefore, implementation of Mitigation Measure NOISE-4, as identified in the 2009 Subsequent EIR, would be required to reduce construction-related groundborne vibration impacts to a less-than-significant level.

In addition to construction activities, railroad activities are a common source of groundborne vibration. According to the Federal Transit Administration (FTA)[26] the screening distance for vibration impact assessment from conventional commuter rail line sources is 200 feet for sensitive land uses such as residential development, and 120 feet for land uses such as institutions or offices that do not use vibration-sensitive equipment but still have potential for activity interference. Implementation of the proposed project would result in development as close as 400 feet to the Union Pacific rail line. This distance is well beyond the screening distance for even sensitive (such as residential) land use development near rail lines according to the FTA. Therefore, groundborne vibration from railroad sources would remain less than significant.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2009 Subsequent EIR was certified leading to new or more severe significant impacts. Mitigation Measures NOISE-1, NOISE-2a, NOISE-2c, NOISE-3a, NOISE-3b, and NOISE-4 as identified in the 2009 Subsequent EIR would remain applicable to the proposed project.

[26] Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*, May.

- Mitigation Measure NOISE-1: Construction activities associated with implementation of the Amendments and the Theater shall comply with the following noise reduction measures:

    - General construction noise shall be limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, 9:00 a.m. to 6:00 p.m. on weekends, and no noise producing construction activities shall be allowed on City-observed holidays in conformance with the Noise Ordinance.

    - All heavy construction equipment that is used shall be maintained in good operating condition, with all internal combustion, engine-driven equipment equipped with intake and exhaust mufflers that are in good condition. All stationary noise-generating equipment shall be located as far away as possible from neighboring property lines, especially residential uses.

    - The construction contractor shall locate equipment staging in areas that would create the greatest distance feasible between construction-related noise sources and noise-sensitive receptors nearest the development sites during all project construction.

- Mitigation Measure NOISE-2a: All residential land use development on the Livermore Village site located within 390 feet of the centerline of Railroad Avenue or within 105 feet of the centerline of South Livermore Avenue shall include an alternate form of ventilation, such as an air conditioning system, in order to ensure that windows can remain closed for a prolonged period of time.

- Mitigation Measure NOISE-2c: Project-specific acoustical studies shall be performed for all proposed residential development projects at any other location within the Downtown Specific Plan area. The impact assessment shall be submitted to the Community Development Department for review and approval prior to issuance of grading permits. Measures shall be identified and implemented that would reduce exterior noise level impacts to meet the City's interior noise level criteria of 45 dBA CNEL for residential land uses within the Downtown Area.

- Mitigation Measure NOISE-3a: Project-specific stationary noise impact studies shall be performed for all proposed noise-sensitive development within the Downtown Specific Plan area. The noise impact studies shall describe how the City's Downtown exterior and interior acceptable noise level standards will be achieved for the proposed development. For any proposed multi-family residential, motel, or hotel development projects, the acoustical study must also satisfy the requirements set forth in Title 24, Part 2, of the California Administrative Code, Noise Insulation Standards, for multiple-family attached residential units, hotels and motels. These studies must be performed and submitted to the Community Development Department for review prior to issuance of any permits.

- Mitigation Measure NOISE-3b: Project-specific stationary noise impact studies shall be performed for all proposed development projects within the Downtown Specific Plan area which include any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device, or delivery docks, that would generate noise levels in excess of the City's exterior noise

standards. These noise impact studies shall include mitigation measures that would reduce project-related stationary noise impacts to comply with the City's Downtown exterior and interior acceptable noise level standards. These studies must be performed and submitted to the Community Development Department for review and approval prior to issuance of any permits.

- Mitigation Measure NOISE-4: For all proposed development constructed as part of the proposed project, the project applicants shall prepare a vibration impact assessment to determine potential construction-related groundborne vibration impacts for any structure located within 50 feet of proposed earthmoving or pile driving activities. The vibration impact assessment shall be submitted to the Community Development Department for review and approval prior to issuance of grading permits. Measures shall be identified and implemented that would reduce groundborne vibration impacts from extreme noise generators (such as heavy construction equipment or pile driving) and to prescribe methods of construction to be utilized so as not to exceed the identified thresholds. Such measures may include restrictions on the number or types of construction equipment that may operate at a time within 100 feet of structures, restrictions on equipment hours of operation, or requirements to use alternative construction techniques such as auger cast piles in lieu of driven piles.

Applicable Policies

General Plan Policies

- *Policy N-1.1.P1: The City shall emphasize noise considerations when making land use planning decisions.*

- *Policy N-1.1.P3: The City shall maintain a pattern of land uses that separates noise-sensitive land uses from major noise sources to the extent possible.*

- *Policy N-1.1.P4: The City shall use the Land Use Compatibility Guidelines for Exterior Noise (measured in dBA CNEL or L_{dn}) contained in Table 9-7 in the Noise Element (of the General Plan) to direct the siting, design, and insulation of new development to reduce exposure to excessive noise. Where warranted, the City shall employ discretionary review of new development to ensure that the community will be protected from excessive noise levels. The City shall evaluate potential noise impacts and recommend mitigation measures through discretionary review procedures such as environmental review, design review, and evaluation of use permits.*

- *Policy N-1.1.P5: Review development proposals with respect to the Land Use Compatibility Guidelines for Exterior Noise in Table 9-7 as follows:*
    - *(a) Normally Acceptable: If the noise level is within the "normally acceptable" level, noise exposure would be acceptable for the intended land use. Development may occur without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.*
    - *(b) Conditionally Acceptable: If the noise level is within the "conditionally acceptable" level, noise exposure would be conditionally acceptable; a specified land use may be permitted*

only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools, or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

- *(c) Normally Unacceptable: If the noise level is within the "normally unacceptable" level, analysis and mitigation are required. Development should generally not be undertaken unless adequate noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce the exposure of people to unacceptable noise levels.*
- *(d) Clearly Unacceptable: If the noise level is within the "clearly unacceptable" level, 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 to unacceptable noise levels.*

- *Policy N-1.1.P6: In an effort to support active uses in the Downtown Area, the Downtown Area shall be subject to a different noise standard than the rest of the City, as follows:*
  - *Downtown Core District: Between 7 a.m. and 12 a.m., exterior noise levels of up to 75 dBA would be considered Normally Acceptable for all uses; and, between 12 a.m. and 7 a.m., exterior noise levels up to 65 dBA would be considered Normally Acceptable for all uses.*
  - *Boulevard and Transit Gateway Districts: Between 7 a.m. and 12 a.m., exterior noise levels up to 70 dBA would be considered Normally Acceptable for all uses; and, between 12 a.m. and 7 a.m., exterior noise levels up to 60 dBA would be considered Normally Acceptable for all uses.*
  - *North and South Side Neighborhood Districts: Between 7 a.m. and 12 a.m., exterior noise levels of up to 65 dBA would be considered Normally Acceptable for all uses; and between 12 a.m. and 7 a.m., exterior noise levels up to 60 dBA would be considered Normally Acceptable for all uses.*

    For all residential development in the Downtown Area, interior noise levels of up to 45 dBA with windows closed would be considered Normally Acceptable.
- *Policy N-1.2.P1: When crafting mitigation programs for adverse noise exposure from new development, the City shall encourage the use of noise attenuation programs that avoid constructing sound walls.*
- *Policy N-1.2.P2: The City shall require applicants for new noise-sensitive development, such as private schools, residences, and private hospitals, in areas subject to noise levels greater than 65 dBA CNEL to obtain the services of a professional acoustical engineer to provide a technical analysis and to design mitigation measures to attenuate noise to acceptable levels.*

- *Policy N-1.2.P3: The City shall require the control of noise at the source for new development deemed to be noise generators through site design, building design, landscaping, hours of operation, and other techniques.*

- *Policy N-1.2.P4: The City shall require operational limitations and feasible noise buffering for new uses that generate significant noise impacts near sensitive uses.*

- *Policy N-1.2.P5: During all phases of construction, the City shall take measures to minimize the exposure of neighboring properties to excessive noise levels from construction related activity.*

- *Policy N-1.2.P6: The City shall require mitigation measures to minimize noise impacts on surrounding areas as part of the permit review process for land uses of a temporary nature, such as fairs or exhibits. The noise level from the temporary use should be in conformance with the noise level guidelines for nearby land uses.*

- *Policy N-1.2.P8: It shall be the responsibility of new development or new land uses to be consistent with noise standards appropriate and sensitive to adjacent land uses.*

- *Policy N-1.5.P1: The City shall require that industrial and commercial uses be designed and operated so as to avoid the generation of noise effects on surrounding sensitive land uses (e.g., residential, churches, schools, hospitals) from exceeding the following noise levels for exterior environments:*
    - *(a) 55 dBA L50 (7:00 a.m. to 10:00 p.m.)*
    - *(b) 45 dBA L50 (10:00 p.m. to 7:00 a.m.)*

- *Policy N-1.5P2: In order to allow for temporary construction, demolition or maintenance noise and other necessary short-term noise events, the stationary source noise standards in Policy N-1.5.P1, above, may be exceeded within the receiving land use by:*
    - *(a) 5 dBA for a cumulative period of no more than fifteen (15) minutes in any hour.*
    - *(b) 10 dBA for a cumulative period of no more than five (5) minutes in any hour.*

- *(c) 15 dBA for a cumulative period of no more than one (1) minute in any hour.*

Conclusion

The 2009 Subsequent EIR adequately evaluated the potential noise impacts of the proposed project and, with implementation of Mitigation Measures NOISE-1, NOISE-2a, NOISE-2c, NOISE-3a, NOISE-3b, and NOISE-4 as identified in the 2009 Subsequent EIR and Mitigation Measure NOISE-2 as refined in this Addendum, there would be no new impacts related to noise associated with the proposed project.

14. POPULATION AND HOUSING

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

The 2004 Final EIR and 2009 Subsequent EIR evaluated potential environmental impacts associated with approximately 3,600 residential units within the Downtown Specific Plan area. The proposed project would include 130 multi-family housing units located at the northwest corner of the project site at the intersection of South L Street and Railroad Avenue. The proposed project would directly generate a permanent population increase in the area. The proposed project would not displace a residential population or existing housing, as the site for the proposed housing is currently vacant or used for surface parking. Similarly, the proposed project would not result in an expansion of urban services, nor would it open additional undeveloped land for future growth. The proposed project would facilitate the reuse of underutilized land in an existing urban setting. In addition, the population and housing units included in the proposed project would fall within the total development anticipated by the 2004 Final EIR and 2009 Subsequent EIR. Therefore, the proposed project would not result in new or more significant population growth and/or housing impacts than were analyzed and described in the 2004 Final EIR and 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential population and housing impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

15. PUBLIC SERVICES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☐	☒

Discussion

Fire and Police Protection

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

As discussed in the 2004 Final EIR, full buildout of the General Plan, which includes development allowed by the Downtown Specific Plan, would require the hiring of a minimum of 35 additional police officers. Additionally, it was also anticipated that the Livermore-Pleasanton Fire Department (LPFD) would require additional staff. General Plan policies ensure that the City reviews LPD and LPFD staffing levels to ensure the availability of adequate police and fire manpower and service facilities. Additionally, General Plan policies would prevent future growth that exceeds the community capability to provide service, including fire and police services. The implementation of these policies would ensure that adequate capital improvements are made to accommodate the increased demand for police and fire protection services. Therefore, because development associated with the proposed project is within the amount analyzed by the 2004 Final EIR and 2009 Subsequent EIR, potential impacts associated with an increase in demand for police and fire protection services are considered less-than-significant and need no further mitigation.

Schools

The 2004 Final EIR concluded that full buildout of the Draft General Plan and Downtown Specific Plan would result in the need for new school facilities to accommodate anticipated increase in student enrollment. New residential projects in Livermore are subject to statutory fees established by the State, which in turn would be used to fund new school facilities. General Plan policies would

require the City to ensure that schools are available to serve new development, to the extent allowed by State law. The implementation of these policies would ensure the planning of new school facilities to accommodate projected increases in student enrollment. The payment by developers of statutory fees would provide funding for planned school projects. Therefore, because the level of development and project population growth associated with the proposed project is consistent with that analyzed in the 2004 Final EIR and 2009 Subsequent EIR, implementation of the proposed project would not result in demand for school services beyond existing or planned capacity of the Livermore Valley Joint Unified School District.

Parks

The 2004 Final EIR concluded that the additional 7,400 persons projected to live in the Downtown Specific Plan area would be under-served by park space. Mitigation Measure PUB-SP-1 in the 2004 Final EIR required the City to work with the Livermore Area Recreation and Park District (LARPD) to develop a neighborhood park in or adjacent to the Downtown Specific Plan area that would serve the existing and future residents living Downtown. The proposed project would include 3.1 to 3.4 acres of public open space and 0.62 acres of private open space. Therefore, because the proposed project would contribute to the total open space within the Downtown Specific Plan area and would not result in an increase in population above what was already analyzed in the 2004 Final EIR and 2009 Subsequent EIR, the proposed project would result in a reduced impact related to the provision of parks.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Applicable Policies

General Plan Policies

- *Policy INF-5.1.P3: It is the policy of the City to review annual LPD staffing levels and development trends to determine whether additional police staffing or facilities are needed.*
- *Policy INF-6.1.P5: It is the policy of the City to review annual LPFD staffing levels and development trends to determine whether additional fire staffing or facilities are needed.*
- *Policy INF-7.1.P1: To the extent allowed by State law, the City shall ensure that school facilities to serve new development are available concurrently with need.*
- *Policy INF-7.1.P3: The City shall support efforts to expand State funding of the public school system, as long as it is not to the detriment of municipal funding.*

- *Policy LU-2.1.P3: Future growth shall not exceed the community's capability to provide services. School classroom facilities, sewage treatment capacity, treated domestic water, public parks and recreation, and public safety services shall be the principal factors considered.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential public services impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

16. RECREATION

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

As discussed in Section 14 of this Environmental Checklist, Public Services, the proposed project would include 3.1 to 3.4 acres of public open space, which would include a public park and tree-lined pedestrian walkways, and 0.62 acres of private open space, which would consist of private rooftop open space for the 130 multi-family housing units. Therefore, the proposed project would result in reduced impacts to existing neighborhood and regional park facilities compared to those identified in the 2004 Final EIR and 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential recreation impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

17. TRANSPORTATION

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

Discussion

This section summarizes the findings of the transportation analysis completed for the proposed project. The following section describes the analysis included in the 2009 Subsequent EIR related to transportation and circulation impacts. The sections that follow include:

1. A comparison of the proposed project's potential impacts to the impacts analyzed in the 2009 Subsequent EIR.

2. A discussion and additional analysis of specific project study intersections in the Downtown area to supplement the analysis in the 2009 Subsequent EIR.

3. A discussion of impacts and mitigation measures identified in the 2009 Subsequent EIR that would be triggered by the proposed project.

2009 Subsequent EIR

The 2009 Subsequent EIR analyzed transportation and circulation conditions in and around the Downtown Specific Plan area under four different scenarios, which represent two time periods (existing conditions and Year 2030) with and without the 2,000-seat performing arts theater (Theater). For the purposes of this analysis, these scenarios are referred to as: 1) existing conditions; 2) existing plus Theater conditions; 3) future (Year 2030) without Theater conditions; and 4) future (Year 2030) with Theater conditions. The Route 84/I-580 Interchange project was considered in the future conditions.

As noted in the 2009 Subsequent EIR, the development program represents buildout of the adopted Downtown Specific Plan through 2030. The Downtown Specific Plan intends to provide flexibility in the location, amount, and type of development. Therefore, the traffic impact analysis in the 2009 Subsequent EIR does not assign land uses to individual parcels; rather, land uses are distributed within the Downtown Specific Plan area. The exception was the Theater which was assumed to be

located within the project site. Thus, as long as the trip generation for the project site remains below the levels estimated in the 2009 Subsequent EIR, the traffic impact analysis presented in the 2009 Subsequent EIR continues to remain valid.

The 2009 Subsequent EIR identified one significant impact on level of service (LOS) at the intersection of Stanley Boulevard and Murrieta Boulevard under existing plus Theater conditions. Mitigation Measure TRANS-1 for this impact was consistent with the City General Plan and the City's Traffic Impact Fee (TIF) program, and was identified in the Capital Improvement Program. However, the General Plan states that the intersection of Stanley Boulevard and Murietta Boulevard may exceed established LOS standards, and as a result, this mitigation measure is not applicable to the proposed project.

The 2009 Subsequent EIR identified two study intersections (Portola Avenue and Livermore Avenue as well as Stanley Boulevard and Murrieta Boulevard) in Year 2030 that would operate below the City's General Plan target, but added Theater traffic would not cause a significant impact.

The 2009 Subsequent EIR identified one significant impact on operations at the Eastbound I-580 Off-Ramp at Portola Avenue under existing plus Theater conditions. The impact was considered temporary until the Route 84/I-580 Interchange project was constructed.

As noted in the 2009 Subsequent EIR, the Downtown intersections and intersections near freeway interchanges are exempted from LOS standards per the City General Plan, Objective CIR-4.1, Policy 1 and Policy 3, respectively. In addition, select intersections identified in the General Plan, Objective CIR-4.1 Policy 4, carrying a high percentage of regional cut-through traffic may also exceed the LOS standards.

The 2009 Subsequent EIR identified one significant impact each on pedestrian operations, passenger loading, truck deliveries, parking, and construction. No significant impacts were identified for bicycle operations with the Theater located at the project site, and no significant impacts were identified on the Metropolitan Transportation System (MTS) roadways identified by the Alameda County Transportation Commission (Alameda CTC).

Project Intersection and Roadway Analysis

As shown in Table E, the proposed project would generate about 388 vehicle trips during the AM peak hour and 580 vehicle trips during the PM peak hour. While the Theater identified in the 2009 Subsequent EIR would generate no AM peak hour traffic, it would generate about 930 PM peak hour vehicle trips. Given the project location, some patrons would choose to walk, bike, or take transit. However, due to the unique nature of the proposed uses no credit for walking, biking, and transit use was applied to the 2018 vehicle trip generation for the proposed project as shown in Table E.

Table E: Project Vehicle Trip Generation

Land Use	ITE Code	Weekday AM Peak Hour			Weekday PM Peak Hour		
2019 Proposed Project							
I Street Parking	n/a	89	48	137	133	70	203
K Street Parking		30	42	72	48	48	96
Retail	826	12	8	20	24	31	55
Museum (Science & Society Center)	n/a	15	6	21	10	10	20
Hotel	310	42	30	72	47	48	95
Theater (Black Box Theater)	n/a	0	0	0	50	0	50
Multi-Family Residential	220	13	53	66	53	28	81
Total Project Vehicle Trips		**201**	**187**	**388**	**365**	**235**	**580**
2009 Proposed Project							
2,000 Seat Theater	n/a	0	0	0	930	0	930
Total Project Vehicle Trips		**0**	**0**	**0**	**930**	**0**	**930**

Source: Fehr & Peers (2019).
n/a = not available

The trips generated by the proposed project are substantially less than the 2009 Subsequent EIR estimates for the PM peak hour, and as a result, no further intersection analysis is required because the proposed project's impacts would be equal to or less than those described in the 2009 Subsequent EIR. The proposed project would generate about 388 more vehicle trips than the Theater during the AM peak hour because the Theater was assumed to generate no AM peak hour vehicle trips and no supplemental intersection analysis was conducted to understand the current project's impact on AM peak hour intersection operations.

The results of the eight intersections analyzed for the AM peak hour are presented in Table F. The table identifies the existing conditions and the future 2030 conditions without and with the project.

Table F: AM Peak Hour Intersection Level of Service

	Existing Conditions				Cumulative 2030 Conditions			
	No Project		With Project		No Project		With Project	
Intersection	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
Signalized Intersections								
Livermore Avenue/Railroad Avenue	68	E	71	E	107	F	114	F
Maple Street/First Street	56	E	58	E	77	E	80	E
Livermore Avenue/First Street	15	B	17	B	18	B	20	B
L Street/Railroad Avenue	34	C	34	C	35	C	36	D
L Street/First Street	23	C	23	C	30	C	30	C
Unsignalized Intersections								
Livermore Avenue/Hotel Driveway	1 (13)	A (B)	2 (12)	A (B)	2 (14)	A (B)	3 (14)	A (B)
L Street/East-West Street	1 (11)	A (B)	1 (10)	A (B)	1 (11)	A (B)	1 (11)	A (B)
L Street/Residential Driveway	-	-	1 (32)	A (A)	-	-	1 (2)	A (A)

Source: Fehr & Peers (2019).

In the existing condition, both without and with the project, the intersection of Livermore Avenue and Railroad Avenue intersection and the intersection of Maple Street and First Street would operate at LOS E in the AM peak hour with 2 to 3 seconds increase in delay. Downtown intersections are exempted from LOS standards per the City General Plan, Objective CIR-4.1, Policy 1. Therefore, the proposed project would have a less-than-significant impact.

In 2030 during the AM peak hour, the intersection of Livermore Avenue and Railroad Avenue would operate at LOS F, and the intersection of Maple Street and First Street would operate at LOS E. Like the existing conditions, the total intersection delay would increase by 7 seconds and 3 seconds, respectively. These intersections are exempt from LOS standards and therefore this impact would be less than significant.

The 2009 Subsequent EIR identified one project impact and mitigation under existing plus Theater conditions. The intersection of Stanley Boulevard and Murrieta Boulevard was found to operate below the City's target of LOS D with 45 seconds of delay, and because the intersection is located outside the Downtown area, this delay was determined to result in a significant impact.

The proposed project would contribute traffic to the Stanley Boulevard and Murrieta Boulevard intersection albeit at a lesser level than the Theater, but since this intersection operates below the City's target LOS D with 45 seconds of delay, the impact could still be considered significant. The proposed project would contribute its fair share to mitigate this impact with contributions to the City's Traffic Impact Fee program. The City's Traffic Impact Fee program funds the Capital Improvement Program where this mitigation measure is listed. However, the impact would still be considered significant and unavoidable because the mitigation measure is likely to be constructed after the proposed project is completed. As stated in the 2009 Subsequent EIR, during the interim period until the mitigation measure is constructed, this impact would remain significant and unavoidable.

Under 2030 conditions plus Theater two intersections were identified as operating below the City's target LOS D with 45 seconds of delay. The two study intersections (the Portola Avenue and Livermore Avenue intersection, and the Stanley Boulevard and Murrieta Boulevard intersection) would operate below the City's General Plan target, but the added Theater traffic would not result in a significant impact at either intersection. The proposed project would generate less traffic than the Theater. Therefore, the proposed project would result in a less-than-significant impact. Additionally, with buildout of the Downtown Specific Plan, traffic would be redistributed and intersection operations would generally improve.

The 2009 Subsequent EIR identified one freeway-related impact (Impact TRANS-2) under existing plus Theater conditions. All I-580 mainline and ramp junction operations were determined to be LOS E or better, except the Eastbound I-580 Off-Ramp at Portola Avenue ramp. This ramp junction operated at LOS E, but would deteriorate to LOS F with the Theater traffic. The mitigation measure, to complete the Isabel and Portola Interchange Project, has since been completed. The Year 2030 analysis determined that all I-580 mainline and ramp junction operations would operate at LOS E. Therefore, the proposed project would have a less-than-significant impact.

Air Traffic Patterns

The project site is not located within an airport land use plan or in the vicinity of a private airstrip. Livermore Municipal Airport, located about 2 miles from the project site, is the closest airport. Therefore, the proposed project would result in a less-than-significant impact.

Design Features

The proposed project layout is generally similar to the uses and site plan evaluated in the 2009 Subsequent EIR. For example, the proposed project would also include an east/west street connecting Livermore Avenue and L Street through the project site. The hotel and residential parcels are also generally configured similarly to the 2009 Subsequent EIR, although the land uses and densities differ.

There is an existing walking path from the Bankhead Theater area to Livermore Avenue that connects with a midblock pedestrian crosswalk. The hotel driveway and the east/west street would intersect Livermore Avenue at the north side of this existing midblock crosswalk. The proposed project would include the construction of a walking path along the north side of the east/west street connecting Livermore Avenue and L Street so that, once completed, there would be a continuous walking path between L Street and the Bankhead Theater area. The completed walking path is expected to have significant pedestrian flows as people walk to and from the various destinations in the Downtown area including shops, restaurants, hotel, entertainment, parking and residences. Today the path experiences significant pedestrian flows, even with the path only connecting Livermore Avenue and the Bankhead Theater area.

The existing midblock crosswalk on Livermore Avenue has high visibility striping and bulb-outs, but the pedestrian flashing features do not meet current guidance for Rectangular Rapid Flashing Beacons. Drivers on Livermore Avenue generally yield to pedestrians crossing Livermore Avenue and driving speeds are moderate due to the nearby adjacent traffic signals. The hotel driveway would be located north of the midblock crosswalk and drivers exiting the hotel driveway to turn left must consider the vehicle traffic on Livermore Avenue, the pedestrian crossing traffic, and drivers turning right and left across Livermore Avenue at the east/west street. Mitigation Measures TRANS-3c of the 2009 Subsequent EIR (with minor refinements) would still be applicable. In addition, the flashing pedestrian features of this crosswalk would be updated as part of the hotel project to meet current guidance for Rectangular Rapid Flashing Beacons.

As noted in the 2009 Subsequent EIR, the City plans to maintain existing and planned bicycle facilities throughout the Downtown area as redevelopment occurs. Therefore, the proposed project would have a less-than-significant effect on bicycle facilities.

As noted in the 2009 Subsequent EIR, the buildout of the Downtown area is not anticipated to generate transit ridership that would exceed the available capacity of the transit system. Therefore, the proposed project would have a less-than-significant effect on transit ridership.

The passenger loading and truck deliveries needed for the Theater and described in the 2009 Subsequent EIR differ from those needed for the proposed project. Therefore, Mitigation Measure TRANS-5 and Mitigation Measure TRANS-8 in the 2009 Subsequent EIR are no longer applicable.

The hotel included in the proposed project would provide curbside passenger loading for up to six cars along the northbound lane on Livermore Avenue. In addition, passenger loading for up to three cars would be provided on-site. Up to eight valet parking spaces are needed to serve the hotel valet system assuming adequate valet staffing levels are provided. The hotel driveway and on-site circulation would be designed to provide enough width for trucks to make deliveries to the hotel and the existing businesses fronting First Street that currently use the existing surface parking lot to deliver goods to the back of the First Street fronting businesses. The hotel project would result in a less-than-significant impact on passenger loading and truck deliveries.

Some commercial businesses along First Street between Livermore Avenue and L Street also use existing surface parking lots behind their businesses for truck deliveries. The east/west street would be designed to accommodate truck delivery access to these businesses. The east/west street would result in a less-than-significant impact on passenger loading and truck deliveries.

The remaining residential and commercial buildings within the project site have not been designed and so passenger loading and truck delivery locations have not yet been identified. Given the site orientation and lack of on-street parking on both L Street and Railroad Avenue, the passenger loading and truck deliveries would likely occur within the proposed cul-de-sac opposite K Street. Other alternatives to consider would be within pull outs designed into the proposed project on either L Street or Railroad Avenue, which could impact the building footprints. There is sufficient width on Livermore Avenue for either on-street parking along the project site frontage or on-street commercial (or passenger) loading. As the project site land uses evolve these design issues would be addressed through the design review process of the individual land uses on the project site. Therefore, the proposed project would have a less-than-significant impact related to passenger loading.

The parking characteristics of the Theater in the 2009 Subsequent EIR differ from the parking characteristics for the proposed project. While the parking characteristics of the two projects differ, the overall parking strategy described in Mitigation Measure TRANS-10 of the 2009 Subsequent EIR is still mostly applicable with some refinements, although some measures would be satisfied by the proposed project, and some would be no longer applicable. As shown in the Applicable Mitigation subsection below, the first two measures under Mitigation Measure TRANS-10a would be satisfied by the proposed project, while the following four measures would not be applicable. Mitigation Measure TRANS-10e would be satisfied by the proposed project.

The following describes the general parking characteristics for Downtown and then presents the project's parking requirements per City code.

According to a 2014 study commissioned by the City, there are 5,297 parking spaces in the Downtown area including 2,422 privately owned spaces and 2,875 public on- and off-street spaces. The 2014 study determined that the peak parking demand occurs on weekdays between 12:00 p.m.

and 1:00 p.m. when about 61 percent of the public parking spaces (and 47 percent of the private spaces) were occupied and on Saturdays between 7:00 p.m. and 8:00 p.m. when 78 percent of the public spaces (and 35 percent of the private spaces) were occupied. The study noted that public parking on First Street, Livermore Village parking and parking adjacent to the Bankhead Theater were near capacity while on-street parking on Third and Fourth Street and private parking were considerably under-utilized. The study also noted that the preferred parking spaces were being used by employees.

Development of the proposed project would displace about 565 parking spaces including 502 spaces on the project site and 63 paved spaces on the east side of Livermore Avenue where the hotel is proposed to be located. The private parking lot at 39 South Livermore Avenue would remain. In total, the proposed project would construct approximately 1,160 parking spaces while the associated development would require 1,070 parking spaces based on replacing existing parking displaced by the project plus parking required for new uses. The project provides enough parking. Therefore, this displacement of parking is considered a less-than-significant impact.

Emergency Access

General Plan Policies CIR-1.1.P1, P2, P3, and P4 would require the management and development of the local roadway system to support the Land Use Element, which would mitigate impacts to the emergency access system. Additionally, the City has implemented, and will continue to implement, traffic signal system upgrades that help to facilitate more efficient emergency vehicle access and give priority to emergency vehicles. In addition, through design review emergency services would review proposed plans to ensure that emergency vehicle access and circulation is adequate. Therefore, the proposed project would not result in new or more severe impacts beyond those already analyzed in the 2004 Final EIR or 2009 Subsequent EIR.

Consistency with Adopted Policies

The Circulation Element of the City's General Plan provides the policy framework for the regulation and development of transportation systems, balancing demands for moving people and goods through the City while revitalizing the Downtown and limiting non-local, cut-through traffic on the roadway network. The General Plan contains goals and specific recommendations for facilitating traffic circulation, maintaining an acceptable level of service at signalized intersections, traffic demand management programs, parking management, and improving transit service and facilities for non-motorized transportation.

Policy CIR-4.1.P1 established that the lowest acceptable LOS at a signalized intersection is midlevel LOS D (delay per vehicle greater than 45 seconds), except in the Downtown area and on specified intersections near freeway interchanges. Additionally, Policy CIR-4.1.P3 allows for LOS E at identified signalized intersections located near freeway interchanges. The General Plan also accepts the need to balance competing objectives; as stated in Policy CIR-4.1.P4, some signalized intersections may exceed the established LOS standard due to right-of-way constraints and regional roadway network needs. Livermore does not have an LOS standard for unsignalized intersections. The proposed project would be required to abide by these and all other applicable goals and policies in the adopted General Plan.

The City adopted a TIF program in 1988 and updated it most recently in 2004 to charge new development a portion of the cost of transportation improvements (identified in the General Plan) necessary to mitigate the impacts of new development. The Livermore TIF program fee on new developments, along with the contribution of identified outside funding sources such as Measure B, Measure BB, and federal earmarks, would fully fund the improvements identified. This fee applies to all new developments in Livermore including development in Downtown area. Therefore, the proposed project would not conflict with adopted policies.

Applicable Mitigation

Below are mitigation measures that were included in the 2009 Subsequent EIR. In some cases, the language of the mitigation measures has been updated or modified as a result of the project, or because specific mitigation measures have already been implemented. Double-underlined text represents language that has been added to the mitigation measure, and text with ~~strikethrough~~ represents language that has been deleted from the mitigation measure.

- Mitigation Measure TRANS-3c: ~~For construction of the Theater at the Livermore Village site or prior~~Prior to buildout of the Livermore Village site, install enhanced pedestrian crossing features on South L Street between First Street and Railroad Avenue.

- Mitigation Measure TRANS-10a: Monitor parking supply and demand over time and provide the following or equivalent parking facilities to meet identified demands:

  - ~~Depending on the location of the Performing Arts Theater, construct~~Construct a 500 space parking garage (rather than 350 spaces) at the Livermore Village site, adding 150 more parking spaces to the Downtown, or construct a 200 space parking garage east of the Downtown; and

  - Increase on-street parking within the Livermore Village site, adding about 40 parking spaces to the Downtown~~;~~

  - ~~Implement angled parking on First Street between South L Street and South P Street. Optimize the parking by limiting parcel access to and from First Street, adding about 50 parking spaces to the Downtown;~~

  - ~~Implement angled parking on Maple Street between First Street and Railroad Avenue, after realignment, adding about 10 spaces to the supply;~~

  - ~~Implement phase II of the Livermore Valley Center parking garage, adding up to 300 more parking spaces to the Downtown supply; and~~

  - ~~Implement additional parking facilities south of the core area by purchasing property or partnering with private development to provide additional public parking.~~

- ~~Mitigation Measure TRANS-10b: Pursue partnerships with businesses to ensure that the private parking supply is open to the public after daytime business hours. A substantial number of off-~~

~~street parking spaces are privately owned and operated. As the Downtown becomes more popular these off-street parking supplies will become more attractive to people looking for a limited number of public parking spaces. The initial response from business owners might be to close their parking lots after hours. As parking demands increase property owners will begin to realize that their parking supply is an asset that has value, especially if the City pursues pay parking strategies.~~

- Mitigation Measure TRANS-10c: Promote valet parking operations in Downtown. The large number of restaurants, cultural facilities, and hotel ~~and the two performing arts Theaters~~ are excellent candidates for valet parking. As the Downtown parking supplies are more fully utilized, visitors will self-select valet parking to minimize their time to search for an available parking space. Valet parking operators may enter into agreements with businesses or the City to use their privately owned or public parking areas. Valet parked facilities can accommodate about 10 percent more vehicles than a self-park facility. For example, valet operators may be able to add an additional 30 parked vehicles on the top floor of the Livermore Valley Center garage.

- Mitigation Measure TRANS-10d: Consider utilizing time-limited and pay parking strategies to manage employee parking behavior, increasing available parking spaces for customers. As Livermore's Downtown transforms into a more vibrant community with a diverse mix of land uses, there will be more pressure to actively manage the parking resources in the area. Employees tend to use the most convenient on-street parking spaces which forces customers to park further from their ultimate destination. Time-limited parking can alter employee parking behavior, but requires diligent enforcement. As Downtowns mature, pay parking strategies (or a Business Improvement District (BID) to secure a location(s) solely for employee use) become a more effective tool to manage employee parking behavior. Employees are expected to utilize 15 percent to 20 percent of the Downtown parking spaces, so shifting employee parking away from the Downtown core has the net effect of increasing parking supply near destinations by 15 percent to 20 percent for customers. The revenue generated by pay parking strategies can be re-invested into the Downtown. For example, the revenue could be used to provide employee parking or operate a valet parking program.

- Mitigation Measure TRANS-10e: Provide handicap accessible on-street parking spaces in the Downtown and particularly within the project. Handicap accessible parking in Downtown environments is challenging. Parking spaces are dispersed and some individual land uses do not have associated parking on site, but rely on public parking nearby. The Institute of Transportation Engineers publication Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations (July 2007) provides good design parameters for on-street handicap accessible parking spaces.

~~While there is currently no requirement for number and location of on-street accessible parking spaces, the~~The City currently provides on-street accessible parking spaces at the corners of blocks. Each accessible on-street parking space could then serve two block faces; whereas, a mid-block parking space only serves one block face. Thus, two accessible parking spaces could serve the four block faces of a typical block. The City should continue to look for opportunities to provide handicap accessible parking spaces with a consistent design.

Applicable Policies

- *Policy CIR-1.1.P1: The City shall consider and balance the needs of all users when implementing Complete Streets, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, emergency responders, seniors, children, youth, and families.*

- *Policy CIR-1.1.P2: The City shall cooperate and coordinate with all other transportation providers when implementing Complete Streets to ensure integration of facilities for all abilities.*

- *Policy CIR-1.1.P3: The City shall evaluate the most efficient, effective, and sustainable way of providing mobility for all users.*

- *Policy CIR-1.1.P4: The City shall consider all types of Complete Streets elements but will not necessarily include exclusive elements for all modes on every street.*

- *Policy CIR-4.1.P1: The City shall maximize the carrying capacity of major streets by providing a well-coordinated traffic/signal control system, controlling the number of intersections and driveways, limiting residential access points, and requiring sufficient off-street parking.*

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the transportation impacts of the proposed project. The proposed project would be required to comply with General Plan policies related to transportation including the traffic impact fees and City of Livermore 2004 TIF. Therefore, the proposed project would not create new transportation impacts and additional mitigation is not required.

18. TRIBAL CULTURAL RESOURCES

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or	☐	☐	☐	☒
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Discussion

As previously discussed in Section 5 of this Environmental Checklist, Cultural Resources, the 2004 Final EIR and 2009 Subsequent EIR determined that impacts to cultural and historic resources would be reduced to less-than-significant levels with implementation of General Plan policies and mitigation measures. This finding applies to tribal cultural resources. Therefore, the proposed project would not result in new or more severe impacts to tribal cultural resources than were identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Applicable Policies

General Plan Policies

- *Policy CC-3.1.P3: Whenever a historical resource is known to exist in or near a proposed project area, the City shall require an evaluation by qualified professionals as a part of the environmental assessment process.*

- *Policy CC-3.4.P2: Whenever there is evidence of an archaeological or paleontological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process.*

Conclusion

The 2004 Finale EIR and the 2009 Subsequent EIR adequately evaluated the potential tribal cultural resources impacts for the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

19. UTILITIES AND SERVICE SYSTEMS

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

Discussion

Construction of New or Expanded Utility Facilities

As discussed in Section IV.I, Utilities and Infrastructure, of the 2009 Subsequent EIR, the City's Water Reclamation Plant (WRP) has a dry weather capacity of 8.5 million gallons per day (mgd). As described in the 2009 Subsequent EIR, at full buildout the Downtown Specific Plan would generate approximately 501,030 gpd of wastewater flow, which would be an increase of approximately 18,030 gpd above projected levels without the Downtown Specific Plan. Therefore, the Downtown Specific Plan would account for approximately 0.2 percent of the total dry weather capacity of the WRP. Therefore, because the proposed project is consistent with the type and intensity of development in the Downtown Specific plan, impacts related to wastewater treatment

requirements would be not be more severe than those analyzed in the 2004 Final EIR or 2009 Subsequent EIR.

As discussed in the 2009 Subsequent EIR, the project site is served by existing water and wastewater lines, and construction of new or expansion of existing wastewater lines would not be required as long as the sewer laterals are sized appropriately for the development and are connected to the new 24-inch sewer line in Railroad Avenue. Site-specific plans would be reviewed and approved by the City at the time when each project is proposed. Implementation of the proposed Amendments would not result in a significant environmental impact related to the extension of water or wastewater lines.

The project site is currently served by stormwater infrastructure. The 2009 Subsequent EIR concluded that the Downtown Specific Plan is not expected to generate significant amounts of additional storm water runoff, since most surfaces are already developed and impervious.

The 2009 Subsequent EIR concluded that the Downtown Specific Plan would not conflict with the use, operation, or maintenance of existing utility lines. In addition, as projects are proposed, each applicant will be required to submit site plans that show existing utility lines and proposed changes to the site and follow local construction regulations, thus reducing the risk of accidental damage to existing lines.

As a result, the proposed project would not result in new or more severe impacts related to expanded water, wastewater, stormwater, electric power natural gas, or telecommunication facilities beyond those analyzed in the 2004 Final EIR and the 2009 Subsequent EIR.

Water Supply

The 2009 Subsequent EIR concluded that the Downtown Specific Plan would generate approximately 33,010 gpd of water demand, which would account for less than 0.05 percent of the projected sustainable long-term water supply for all of Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7). The 2009 Subsequent EIR determined that no new or expanded entitlement or enhanced water storage capacity would be required and the proposed Amendments to the Downtown Specific Plan would have a less-than-significant impact on water supplies. Therefore, because the proposed project would include development consistent with the type and intensity of development evaluated in the 2004 Final EIR and 2009 Subsequent EIR, the proposed project would not result in greater impacts than those already identified by the 2004 Final EIR and 2009 Subsequent EIR.

Solid Waste

The 2009 Subsequent EIR concluded that the Downtown Specific Plan would generate approximately 9.75 tons of solid waste per day at full buildout, which represents approximately 0.4 percent of the permitted daily throughput of the Vasco Road Landfill. Additionally, the Downtown Specific Plan's solid waste contribution would be minimized by the provision of recycling and green waste collection service. Therefore, because the proposed project would include development consistent with the type and intensity of development evaluated in the 2004 Final EIR and 2009 Subsequent

EIR, the proposed project would not result in greater impacts than those already identified by the 2004 Final EIR and 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential utilities impacts for the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

20. WILDFIRE

	New Potentially Significant Impact	New Mitigation Required	Reduced Impact	No New Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion

As previously discussed in Section 9 of this Environmental Checklist, Hazards and Hazardous Materials, the proposed project would be located in a highly developed urban area and is not located adjacent to wildland areas, and therefore the project is not expected to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, the proposed project would not result in new or more severe impacts related to wildfire than were identified in the 2004 Final EIR or the 2009 Subsequent EIR.

Applicable Mitigation

No substantial changes in environmental circumstances have occurred for this topic, nor revisions to the project, nor new information that could not have been known at the time the 2004 Final EIR or the 2009 Subsequent EIR was certified leading to new or more severe significant impacts, and no new mitigation measures are required.

Conclusion

The 2004 Final EIR and 2009 Subsequent EIR adequately evaluated the potential wildfire impacts of the proposed project. Therefore, potential impacts would be less-than-significant and additional mitigation is not required.

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APPENDIX 1

AIR QUALITY AND GREENHOUSE GAS EMISSIONS DATA

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Livermore Downtown Specific Plan Amendment

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking with Elevator	770.00	Space	1.00	308,000.00	0
City Park	4.02	Acre	4.02	175,111.20	0
High Turnover (Sit Down Restaurant)	20.00	1000sqft	0.50	20,000.00	0
Hotel	135.00	Room	1.00	196,020.00	0
Movie Theater (No Matinee)	15.00	1000sqft	0.28	15,000.00	0
Apartments Mid Rise	130.00	Dwelling Unit	1.00	130,000.00	372
Strip Mall	20.00	1000sqft	0.50	20,000.00	0
Parking Lot	150.00	Space	1.00	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (2016-2020), PG&E, 2015

Land Use - Total project acreage is approximately 9.3 acres.

Construction Phase - Default construction period

Demolition - Project would include the demolition of existing onsite buildings

Vehicle Trips - Default

Mobile Land Use Mitigation - Project is mixed-use

Area Mitigation - No hearth

Energy Use -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	6.93	1.00
tblLandUse	LotAcreage	0.46	0.50
tblLandUse	LotAcreage	4.50	1.00
tblLandUse	LotAcreage	0.34	0.28
tblLandUse	LotAcreage	3.42	1.00
tblLandUse	LotAcreage	0.46	0.50
tblLandUse	LotAcreage	1.35	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.5064	4.6663	3.7854	0.0113	0.6173	0.1679	0.7853	0.2075	0.1573	0.3648	0.0000	1,025.8239	1,025.8239	0.1105	0.0000	1,028.5853
2021	2.3584	0.4970	0.5007	1.3500e-003	0.0531	0.0184	0.0715	0.0144	0.0172	0.0316	0.0000	122.6004	122.6004	0.0153	0.0000	122.9820
Maximum	**2.3584**	**4.6663**	**3.7854**	**0.0113**	**0.6173**	**0.1679**	**0.7853**	**0.2075**	**0.1573**	**0.3648**	**0.0000**	**1,025.8239**	**1,025.8239**	**0.1105**	**0.0000**	**1,028.5853**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.5064	4.6663	3.7854	0.0113	0.6173	0.1679	0.7853	0.2075	0.1573	0.3648	0.0000	1,025.8236	1,025.8236	0.1105	0.0000	1,028.5849
2021	2.3584	0.4970	0.5007	1.3500e-003	0.0531	0.0184	0.0715	0.0144	0.0172	0.0316	0.0000	122.6004	122.6004	0.0153	0.0000	122.9820
Maximum	**2.3584**	**4.6663**	**3.7854**	**0.0113**	**0.6173**	**0.1679**	**0.7853**	**0.2075**	**0.1573**	**0.3648**	**0.0000**	**1,025.8236**	**1,025.8236**	**0.1105**	**0.0000**	**1,028.5849**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-6-2020	4-5-2020	1.2096	1.2096
2	4-6-2020	7-5-2020	1.3206	1.3206
3	7-6-2020	10-5-2020	1.3360	1.3360
4	10-6-2020	1-5-2021	1.3449	1.3449
5	1-6-2021	4-5-2021	2.7863	2.7863
		Highest	2.7863	2.7863

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0738	0.0182	1.3907	8.7000e-004		0.0644	0.0644		0.0644	0.0644	5.9267	4.0310	9.9577	0.0111	3.9000e-004	10.3512
Energy	0.0777	0.7030	0.5691	4.2400e-003		0.0537	0.0537		0.0537	0.0537	0.0000	1,311.9642	1,311.9642	0.0626	0.0240	1,320.6839
Mobile	1.5776	7.1250	15.5731	0.0487	3.9646	0.0463	4.0109	1.0642	0.0433	1.1076	0.0000	4,465.2597	4,465.2597	0.1865	0.0000	4,469.9228
Waste						0.0000	0.0000		0.0000	0.0000	97.1434	0.0000	97.1434	5.7410	0.0000	240.6686
Water						0.0000	0.0000		0.0000	0.0000	8.0807	26.9180	34.9987	0.8323	0.0201	61.7935
Total	**3.7291**	**7.8462**	**17.5329**	**0.0538**	**3.9646**	**0.1644**	**4.1290**	**1.0642**	**0.1614**	**1.2257**	**111.1507**	**5,808.1730**	**5,919.3237**	**6.8336**	**0.0445**	**6,103.4199**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7739	0.0113	0.9776	5.0000e-005		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	1.5967	1.5967	1.5800e-003	0.0000	1.6362
Energy	0.0777	0.7030	0.5691	4.2400e-003		0.0537	0.0537		0.0537	0.0537	0.0000	1,311.9642	1,311.9642	0.0626	0.0240	1,320.6839
Mobile	1.5261	6.7409	14.3872	0.0435	3.4968	0.0417	3.5385	0.9386	0.0390	0.9777	0.0000	3,991.6246	3,991.6246	0.1730	0.0000	3,995.9489
Waste						0.0000	0.0000		0.0000	0.0000	97.1434	0.0000	97.1434	5.7410	0.0000	240.6686
Water						0.0000	0.0000		0.0000	0.0000	8.0807	26.9180	34.9987	0.8323	0.0201	61.7935
Total	**3.3776**	**7.4552**	**15.9340**	**0.0478**	**3.4968**	**0.1007**	**3.5975**	**0.9386**	**0.0981**	**1.0367**	**105.2240**	**5,332.1034**	**5,437.3275**	**6.8105**	**0.0441**	**5,620.7310**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**9.42**	**4.98**	**9.12**	**11.14**	**11.80**	**38.71**	**12.87**	**11.80**	**39.24**	**15.41**	**5.33**	**8.20**	**8.14**	**0.34**	**0.88**	**7.91**

3.0 Construction Detail

Construction Phase

Livermore Downtown Specific Plan Amendment - Bay Area AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/6/2020	1/31/2020	5	20	
2	Site Preparation	Site Preparation	2/1/2020	2/14/2020	5	10	
3	Grading	Grading	2/15/2020	3/13/2020	5	20	
4	Building Construction	Building Construction	3/14/2020	1/29/2021	5	230	
5	Paving	Paving	1/30/2021	2/26/2021	5	20	
6	Architectural Coating	Architectural Coating	2/27/2021	3/26/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2

Residential Indoor: 263,250; Residential Outdoor: 87,750; Non-Residential Indoor: 376,530; Non-Residential Outdoor: 125,510; Striped Parking Area: 22,080 (Architectural Coating – sqft)

OffRoad Equipment

Livermore Downtown Specific Plan Amendment - Bay Area AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	75.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	425.00	144.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1400e-003	0.0000	8.1400e-003	1.2300e-003	0.0000	1.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**8.1400e-003**	**0.0166**	**0.0247**	**1.2300e-003**	**0.0154**	**0.0167**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1000e-004	0.0110	2.2000e-003	3.0000e-005	6.3000e-004	4.0000e-005	6.7000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.8739	2.8739	1.5000e-004	0.0000	2.8776
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**8.1000e-004**	**0.0113**	**5.8800e-003**	**4.0000e-005**	**1.8200e-003**	**5.0000e-005**	**1.8600e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**3.9123**	**3.9123**	**1.8000e-004**	**0.0000**	**3.9167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1400e-003	0.0000	8.1400e-003	1.2300e-003	0.0000	1.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**8.1400e-003**	**0.0166**	**0.0247**	**1.2300e-003**	**0.0154**	**0.0167**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1000e-004	0.0110	2.2000e-003	3.0000e-005	6.3000e-004	4.0000e-005	6.7000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.8739	2.8739	1.5000e-004	0.0000	2.8776
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**8.1000e-004**	**0.0113**	**5.8800e-003**	**4.0000e-005**	**1.8200e-003**	**5.0000e-005**	**1.8600e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**3.9123**	**3.9123**	**1.8000e-004**	**0.0000**	**3.9167**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.2100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6231	0.6231	2.0000e-005	0.0000	0.6234
Total	**3.0000e-004**	**2.1000e-004**	**2.2100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6231**	**0.6231**	**2.0000e-005**	**0.0000**	**0.6234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.2100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6231	0.6231	2.0000e-005	0.0000	0.6234
Total	**3.0000e-004**	**2.1000e-004**	**2.2100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6231**	**0.6231**	**2.0000e-005**	**0.0000**	**0.6234**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0655**	**0.0127**	**0.0783**	**0.0337**	**0.0117**	**0.0454**	**0.0000**	**26.0588**	**26.0588**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**5.0000e-004**	**3.6000e-004**	**3.6800e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0384**	**1.0384**	**3.0000e-005**	**0.0000**	**1.0391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0655**	**0.0127**	**0.0783**	**0.0337**	**0.0117**	**0.0454**	**0.0000**	**26.0587**	**26.0587**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**5.0000e-004**	**3.6000e-004**	**3.6800e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0384**	**1.0384**	**3.0000e-005**	**0.0000**	**1.0391**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2215	2.0049	1.7607	2.8100e-003		0.1167	0.1167		0.1098	0.1098	0.0000	242.0324	242.0324	0.0591	0.0000	243.5086
Total	**0.2215**	**2.0049**	**1.7607**	**2.8100e-003**		**0.1167**	**0.1167**		**0.1098**	**0.1098**	**0.0000**	**242.0324**	**242.0324**	**0.0591**	**0.0000**	**243.5086**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0582	1.7362	0.4365	4.1000e-003	0.0987	8.4700e-003	0.1071	0.0285	8.1000e-003	0.0366	0.0000	393.9859	393.9859	0.0203	0.0000	394.4939
Worker	0.1472	0.1053	1.0908	3.4000e-003	0.3509	2.3600e-003	0.3533	0.0934	2.1800e-003	0.0955	0.0000	307.4591	307.4591	7.4400e-003	0.0000	307.6452
Total	**0.2054**	**1.8416**	**1.5273**	**7.5000e-003**	**0.4496**	**0.0108**	**0.4604**	**0.1219**	**0.0103**	**0.1322**	**0.0000**	**701.4450**	**701.4450**	**0.0278**	**0.0000**	**702.1391**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2215	2.0049	1.7607	2.8100e-003		0.1167	0.1167		0.1098	0.1098	0.0000	242.0322	242.0322	0.0591	0.0000	243.5083
Total	**0.2215**	**2.0049**	**1.7607**	**2.8100e-003**		**0.1167**	**0.1167**		**0.1098**	**0.1098**	**0.0000**	**242.0322**	**242.0322**	**0.0591**	**0.0000**	**243.5083**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0582	1.7362	0.4365	4.1000e-003	0.0987	8.4700e-003	0.1071	0.0285	8.1000e-003	0.0366	0.0000	393.9859	393.9859	0.0203	0.0000	394.4939
Worker	0.1472	0.1053	1.0908	3.4000e-003	0.3509	2.3600e-003	0.3533	0.0934	2.1800e-003	0.0955	0.0000	307.4591	307.4591	7.4400e-003	0.0000	307.6452
Total	**0.2054**	**1.8416**	**1.5273**	**7.5000e-003**	**0.4496**	**0.0108**	**0.4604**	**0.1219**	**0.0103**	**0.1322**	**0.0000**	**701.4450**	**701.4450**	**0.0278**	**0.0000**	**702.1391**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0200	0.1830	0.1740	2.8000e-004		0.0101	0.0101		9.4600e-003	9.4600e-003	0.0000	24.3219	24.3219	5.8700e-003	0.0000	24.4686
Total	**0.0200**	**0.1830**	**0.1740**	**2.8000e-004**		**0.0101**	**0.0101**		**9.4600e-003**	**9.4600e-003**	**0.0000**	**24.3219**	**24.3219**	**5.8700e-003**	**0.0000**	**24.4686**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8000e-003	0.1579	0.0394	4.1000e-004	9.9200e-003	3.4000e-004	0.0103	2.8700e-003	3.3000e-004	3.2000e-003	0.0000	39.2128	39.2128	1.9300e-003	0.0000	39.2610
Worker	0.0137	9.4500e-003	0.1001	3.3000e-004	0.0353	2.3000e-004	0.0355	9.3800e-003	2.1000e-004	9.5900e-003	0.0000	29.8091	29.8091	6.7000e-004	0.0000	29.8258
Total	**0.0185**	**0.1674**	**0.1395**	**7.4000e-004**	**0.0452**	**5.7000e-004**	**0.0458**	**0.0123**	**5.4000e-004**	**0.0128**	**0.0000**	**69.0219**	**69.0219**	**2.6000e-003**	**0.0000**	**69.0868**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0200	0.1830	0.1740	2.8000e-004		0.0101	0.0101		9.4600e-003	9.4600e-003	0.0000	24.3219	24.3219	5.8700e-003	0.0000	24.4686
Total	**0.0200**	**0.1830**	**0.1740**	**2.8000e-004**		**0.0101**	**0.0101**		**9.4600e-003**	**9.4600e-003**	**0.0000**	**24.3219**	**24.3219**	**5.8700e-003**	**0.0000**	**24.4686**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8000e-003	0.1579	0.0394	4.1000e-004	9.9200e-003	3.4000e-004	0.0103	2.8700e-003	3.3000e-004	3.2000e-003	0.0000	39.2128	39.2128	1.9300e-003	0.0000	39.2610
Worker	0.0137	9.4500e-003	0.1001	3.3000e-004	0.0353	2.3000e-004	0.0355	9.3800e-003	2.1000e-004	9.5900e-003	0.0000	29.8091	29.8091	6.7000e-004	0.0000	29.8258
Total	**0.0185**	**0.1674**	**0.1395**	**7.4000e-004**	**0.0452**	**5.7000e-004**	**0.0458**	**0.0123**	**5.4000e-004**	**0.0128**	**0.0000**	**69.0219**	**69.0219**	**2.6000e-003**	**0.0000**	**69.0868**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0139**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0139**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.3008					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**2.3030**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6100e-003	1.8000e-003	0.0191	6.0000e-005	6.7200e-003	4.0000e-005	6.7600e-003	1.7900e-003	4.0000e-005	1.8300e-003	0.0000	5.6779	5.6779	1.3000e-004	0.0000	5.6811
Total	**2.6100e-003**	**1.8000e-003**	**0.0191**	**6.0000e-005**	**6.7200e-003**	**4.0000e-005**	**6.7600e-003**	**1.7900e-003**	**4.0000e-005**	**1.8300e-003**	**0.0000**	**5.6779**	**5.6779**	**1.3000e-004**	**0.0000**	**5.6811**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.3008					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**2.3030**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6100e-003	1.8000e-003	0.0191	6.0000e-005	6.7200e-003	4.0000e-005	6.7600e-003	1.7900e-003	4.0000e-005	1.8300e-003	0.0000	5.6779	5.6779	1.3000e-004	0.0000	5.6811
Total	**2.6100e-003**	**1.8000e-003**	**0.0191**	**6.0000e-005**	**6.7200e-003**	**4.0000e-005**	**6.7600e-003**	**1.7900e-003**	**4.0000e-005**	**1.8300e-003**	**0.0000**	**5.6779**	**5.6779**	**1.3000e-004**	**0.0000**	**5.6811**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5261	6.7409	14.3872	0.0435	3.4968	0.0417	3.5385	0.9386	0.0390	0.9777	0.0000	3,991.6246	3,991.6246	0.1730	0.0000	3,995.9489
Unmitigated	1.5776	7.1250	15.5731	0.0487	3.9646	0.0463	4.0109	1.0642	0.0433	1.1076	0.0000	4,465.2597	4,465.2597	0.1865	0.0000	4,469.9228

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	864.50	830.70	761.80	1,951,618	1,721,327
City Park	7.60	91.46	67.29	60,001	52,921
Movie Theater (No Matinee)	1,170.90	1,489.20	1228.50	2,305,918	2,033,820
Hotel	1,102.95	1,105.65	803.25	2,014,917	1,777,157
Parking Lot	0.00	0.00	0.00		
Strip Mall	886.40	840.80	408.60	1,249,935	1,102,443
Unenclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	2,543.00	3,167.40	2636.80	3,069,596	2,707,384
Total	6,575.35	7,525.21	5,906.24	10,651,986	9,395,051

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
City Park	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Hotel	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Movie Theater (No Matinee)	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Strip Mall	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Unenclosed Parking with Elevator	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
High Turnover (Sit Down Restaurant)	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Livermore Downtown Specific Plan Amendment - Bay Area AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	543.0197	543.0197	0.0479	9.9100e-003	547.1700
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	543.0197	543.0197	0.0479	9.9100e-003	547.1700
NaturalGas Mitigated	0.0777	0.7030	0.5691	4.2400e-003		0.0537	0.0537		0.0537	0.0537	0.0000	768.9444	768.9444	0.0147	0.0141	773.5139
NaturalGas Unmitigated	0.0777	0.7030	0.5691	4.2400e-003		0.0537	0.0537		0.0537	0.0537	0.0000	768.9444	768.9444	0.0147	0.0141	773.5139

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.12313e+006	6.0600e-003	0.0518	0.0220	3.3000e-004		4.1800e-003	4.1800e-003		4.1800e-003	4.1800e-003	0.0000	59.9344	59.9344	1.1500e-003	1.1000e-003	60.2906
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	4.1576e+006	0.0224	0.2038	0.1712	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.8654	221.8654	4.2500e-003	4.0700e-003	223.1838
Hotel	8.68565e+006	0.0468	0.4258	0.3576	2.5500e-003		0.0324	0.0324		0.0324	0.0324	0.0000	463.4992	463.4992	8.8800e-003	8.5000e-003	466.2535
Movie Theater (No Matinee)	395700	2.1300e-003	0.0194	0.0163	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	21.1161	21.1161	4.0000e-004	3.9000e-004	21.2415
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	47400	2.6000e-004	2.3200e-003	1.9500e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5294	2.5294	5.0000e-005	5.0000e-005	2.5445
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0777**	**0.7030**	**0.5691**	**4.2300e-003**		**0.0537**	**0.0537**		**0.0537**	**0.0537**	**0.0000**	**768.9444**	**768.9444**	**0.0147**	**0.0141**	**773.5139**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.12313e+006	6.0600e-003	0.0518	0.0220	3.3000e-004		4.1800e-003	4.1800e-003		4.1800e-003	4.1800e-003	0.0000	59.9344	59.9344	1.1500e-003	1.1000e-003	60.2906
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	4.1576e+006	0.0224	0.2038	0.1712	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.8654	221.8654	4.2500e-003	4.0700e-003	223.1838
Hotel	8.68565e+006	0.0468	0.4258	0.3576	2.5500e-003		0.0324	0.0324		0.0324	0.0324	0.0000	463.4992	463.4992	8.8800e-003	8.5000e-003	466.2535
Movie Theater (No Matinee)	395700	2.1300e-003	0.0194	0.0163	1.2000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	21.1161	21.1161	4.0000e-004	3.9000e-004	21.2415
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	47400	2.6000e-004	2.3200e-003	1.9500e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5294	2.5294	5.0000e-005	5.0000e-005	2.5445
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0777**	**0.7030**	**0.5691**	**4.2300e-003**		**0.0537**	**0.0537**		**0.0537**	**0.0537**	**0.0000**	**768.9444**	**768.9444**	**0.0147**	**0.0141**	**773.5139**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	536686	80.0419	7.0600e-003	1.4600e-003	80.6537
City Park	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	654400	97.5980	8.6100e-003	1.7800e-003	98.3439
Hotel	1.49367e+006	222.7681	0.0197	4.0700e-003	224.4707
Movie Theater (No Matinee)	123900	18.4786	1.6300e-003	3.4000e-004	18.6198
Parking Lot	21000	3.1320	2.8000e-004	6.0000e-005	3.1559
Strip Mall	213800	31.8864	2.8100e-003	5.8000e-004	32.1301
Unenclosed Parking with Elevator	597520	89.1148	7.8600e-003	1.6300e-003	89.7959
Total		**543.0197**	**0.0479**	**9.9200e-003**	**547.1700**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	536686	80.0419	7.0600e-003	1.4600e-003	80.6537
City Park	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	654400	97.5980	8.6100e-003	1.7800e-003	98.3439
Hotel	1.49367e+006	222.7681	0.0197	4.0700e-003	224.4707
Movie Theater (No Matinee)	123900	18.4786	1.6300e-003	3.4000e-004	18.6198
Parking Lot	21000	3.1320	2.8000e-004	6.0000e-005	3.1559
Strip Mall	213800	31.8864	2.8100e-003	5.8000e-004	32.1301
Unenclosed Parking with Elevator	597520	89.1148	7.8600e-003	1.6300e-003	89.7959
Total		**543.0197**	**0.0479**	**9.9200e-003**	**547.1700**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7739	0.0113	0.9776	5.0000e-005		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	1.5967	1.5967	1.5800e-003	0.0000	1.6362
Unmitigated	2.0738	0.0182	1.3907	8.7000e-004		0.0644	0.0644		0.0644	0.0644	5.9267	4.0310	9.9577	0.0111	3.9000e-004	10.3512

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3000	6.9000e-003	0.4130	8.2000e-004		0.0591	0.0591		0.0591	0.0591	5.9267	2.4344	8.3610	9.5300e-003	3.9000e-004	8.7150
Landscaping	0.0303	0.0113	0.9776	5.0000e-005		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	1.5967	1.5967	1.5800e-003	0.0000	1.6362
Total	**2.0738**	**0.0182**	**1.3907**	**8.7000e-004**		**0.0644**	**0.0644**		**0.0644**	**0.0644**	**5.9267**	**4.0310**	**9.9577**	**0.0111**	**3.9000e-004**	**10.3512**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0303	0.0113	0.9776	5.0000e-005		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	1.5967	1.5967	1.5800e-003	0.0000	1.6362
Total	**1.7739**	**0.0113**	**0.9776**	**5.0000e-005**		**5.3700e-003**	**5.3700e-003**		**5.3700e-003**	**5.3700e-003**	**0.0000**	**1.5967**	**1.5967**	**1.5800e-003**	**0.0000**	**1.6362**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	34.9987	0.8323	0.0201	61.7935
Unmitigated	34.9987	0.8323	0.0201	61.7935

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.47002 / 5.3398	12.3098	0.2768	6.6900e-003	21.2253
City Park	0 / 4.78976	2.5002	2.2000e-004	5.0000e-005	2.5193
High Turnover (Sit Down Restaurant)	6.07067 / 0.38749	7.0273	0.1983	4.7600e-003	13.4035
Hotel	3.42451 / 0.380502	4.0487	0.1119	2.6900e-003	7.6462
Movie Theater (No Matinee)	6.02402 / 0.384512	6.9733	0.1967	4.7300e-003	13.3005
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.48145 / 0.907986	2.1395	0.0484	1.1700e-003	3.6988
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**34.9987**	**0.8323**	**0.0201**	**61.7935**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.47002 / 5.3398	12.3098	0.2768	6.6900e-003	21.2253
City Park	0 / 4.78976	2.5002	2.2000e-004	5.0000e-005	2.5193
High Turnover (Sit Down Restaurant)	6.07067 / 0.38749	7.0273	0.1983	4.7600e-003	13.4035
Hotel	3.42451 / 0.380502	4.0487	0.1119	2.6900e-003	7.6462
Movie Theater (No Matinee)	6.02402 / 0.384512	6.9733	0.1967	4.7300e-003	13.3005
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.48145 / 0.907986	2.1395	0.0484	1.1700e-003	3.6988
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**34.9987**	**0.8323**	**0.0201**	**61.7935**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	97.1434	5.7410	0.0000	240.6686
Unmitigated	97.1434	5.7410	0.0000	240.6686

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	59.8	12.1389	0.7174	0.0000	30.0735
City Park	0.35	0.0711	4.2000e-003	0.0000	0.1760
High Turnover (Sit Down Restaurant)	238	48.3119	2.8552	0.0000	119.6906
Hotel	73.91	15.0031	0.8867	0.0000	37.1695
Movie Theater (No Matinee)	85.5	17.3557	1.0257	0.0000	42.9981
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	21	4.2628	0.2519	0.0000	10.5609
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**97.1434**	**5.7410**	**0.0000**	**240.6686**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	59.8	12.1389	0.7174	0.0000	30.0735
City Park	0.35	0.0711	4.2000e-003	0.0000	0.1760
High Turnover (Sit Down Restaurant)	238	48.3119	2.8552	0.0000	119.6906
Hotel	73.91	15.0031	0.8867	0.0000	37.1695
Movie Theater (No Matinee)	85.5	17.3557	1.0257	0.0000	42.9981
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	21	4.2628	0.2519	0.0000	10.5609
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**97.1434**	**5.7410**	**0.0000**	**240.6686**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Livermore Downtown Specific Plan Amendment

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking with Elevator	770.00	Space	1.00	308,000.00	0
City Park	4.02	Acre	4.02	175,111.20	0
High Turnover (Sit Down Restaurant)	20.00	1000sqft	0.50	20,000.00	0
Hotel	135.00	Room	1.00	196,020.00	0
Movie Theater (No Matinee)	15.00	1000sqft	0.28	15,000.00	0
Apartments Mid Rise	130.00	Dwelling Unit	1.00	130,000.00	372
Strip Mall	20.00	1000sqft	0.50	20,000.00	0
Parking Lot	150.00	Space	1.00	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (2016-2020), PG&E, 2015

Land Use - Total project acreage is approximately 9.3 acres.

Construction Phase - Default construction period

Demolition - Project would include the demolition of existing onsite buildings

Vehicle Trips - Default

Mobile Land Use Mitigation - Project is mixed-use

Area Mitigation - No hearth

Energy Use -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	6.93	1.00
tblLandUse	LotAcreage	0.46	0.50
tblLandUse	LotAcreage	4.50	1.00
tblLandUse	LotAcreage	0.34	0.28
tblLandUse	LotAcreage	3.42	1.00
tblLandUse	LotAcreage	0.46	0.50
tblLandUse	LotAcreage	1.35	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1430	42.4552	32.1660	0.1016	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	10,241.9593	10,241.9593	1.1954	0.0000	10,264.8036
2021	230.5713	33.1119	30.5236	0.1000	4.4660	1.0128	5.4789	1.2066	0.9523	2.1590	0.0000	10,080.1949	10,080.1949	0.8865	0.0000	10,102.3586
Maximum	**230.5713**	**42.4552**	**32.1660**	**0.1016**	**18.2141**	**2.1984**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**10,241.9593**	**10,241.9593**	**1.1954**	**0.0000**	**10,264.8036**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1430	42.4552	32.1660	0.1016	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	10,241.9593	10,241.9593	1.1954	0.0000	10,264.8036
2021	230.5713	33.1119	30.5236	0.1000	4.4660	1.0128	5.4789	1.2066	0.9523	2.1590	0.0000	10,080.1949	10,080.1949	0.8865	0.0000	10,102.3586
Maximum	**230.5713**	**42.4552**	**32.1660**	**0.1016**	**18.2141**	**2.1984**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**10,241.9593**	**10,241.9593**	**1.1954**	**0.0000**	**10,264.8036**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	63.3540	1.3071	81.4989	0.1367		10.0875	10.0875		10.0875	10.0875	1,088.2100	501.3203	1,589.5303	1.5085	0.0769	1,650.1648
Energy	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719
Mobile	11.5171	43.6603	98.8751	0.3227	25.7864	0.2892	26.0756	6.8995	0.2709	7.1704		32,629.9166	32,629.9166	1.2837		32,662.0101
Total	**75.2968**	**48.8196**	**183.4924**	**0.4826**	**25.7864**	**10.6708**	**36.4572**	**6.8995**	**10.6525**	**17.5520**	**1,088.2100**	**37,775.7090**	**38,863.9190**	**2.8813**	**0.1621**	**38,984.2468**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.8902	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597	0.0000	19.5556	19.5556	0.0194	0.0000	20.0397
Energy	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719
Mobile	11.1871	41.3968	90.5032	0.2884	22.7436	0.2605	23.0041	6.0854	0.2439	6.3293		29,164.8196	29,164.8196	1.1856		29,194.4599
Total	**21.5031**	**45.3742**	**104.4843**	**0.3122**	**22.7436**	**0.6143**	**23.3579**	**6.0854**	**0.5977**	**6.6831**	**0.0000**	**33,828.8474**	**33,828.8474**	**1.2940**	**0.0852**	**33,886.5714**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**71.44**	**7.06**	**43.06**	**35.32**	**11.80**	**94.24**	**35.93**	**11.80**	**94.39**	**61.92**	**100.00**	**10.45**	**12.96**	**55.09**	**47.46**	**13.08**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/6/2020	1/31/2020	5	20	
2	Site Preparation	Site Preparation	2/1/2020	2/14/2020	5	10	
3	Grading	Grading	2/15/2020	3/13/2020	5	20	
4	Building Construction	Building Construction	3/14/2020	1/29/2021	5	230	
5	Paving	Paving	1/30/2021	2/26/2021	5	20	
6	Architectural Coating	Architectural Coating	2/27/2021	3/26/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2

Residential Indoor: 263,250; Residential Outdoor: 87,750; Non-Residential Indoor: 376,530; Non-Residential Outdoor: 125,510; Striped Parking Area: 22,080 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	75.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	425.00	144.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8141	0.0000	0.8141	0.1233	0.0000	0.1233			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.8141**	**1.6587**	**2.4728**	**0.1233**	**1.5419**	**1.6651**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0309	1.0742	0.2135	2.9800e-003	0.0655	3.5100e-003	0.0690	0.0180	3.3600e-003	0.0213		319.0438	319.0438	0.0160		319.4428
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0521	0.0316	0.4025	1.2400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		123.1165	123.1165	2.9700e-003		123.1907
Total	**0.0831**	**1.1057**	**0.6159**	**4.2200e-003**	**0.1887**	**4.3100e-003**	**0.1930**	**0.0506**	**4.1000e-003**	**0.0547**		**442.1603**	**442.1603**	**0.0189**		**442.6335**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8141	0.0000	0.8141	0.1233	0.0000	0.1233			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.8141**	**1.6587**	**2.4728**	**0.1233**	**1.5419**	**1.6651**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0309	1.0742	0.2135	2.9800e-003	0.0655	3.5100e-003	0.0690	0.0180	3.3600e-003	0.0213		319.0438	319.0438	0.0160		319.4428
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0521	0.0316	0.4025	1.2400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		123.1165	123.1165	2.9700e-003		123.1907
Total	**0.0831**	**1.1057**	**0.6159**	**4.2200e-003**	**0.1887**	**4.3100e-003**	**0.1930**	**0.0506**	**4.1000e-003**	**0.0547**		**442.1603**	**442.1603**	**0.0189**		**442.6335**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0626	0.0379	0.4830	1.4800e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		147.7398	147.7398	3.5600e-003		147.8288
Total	**0.0626**	**0.0379**	**0.4830**	**1.4800e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**147.7398**	**147.7398**	**3.5600e-003**		**147.8288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0626	0.0379	0.4830	1.4800e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		147.7398	147.7398	3.5600e-003		147.8288
Total	**0.0626**	**0.0379**	**0.4830**	**1.4800e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**147.7398**	**147.7398**	**3.5600e-003**		**147.8288**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0521	0.0316	0.4025	1.2400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		123.1165	123.1165	2.9700e-003		123.1907
Total	**0.0521**	**0.0316**	**0.4025**	**1.2400e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**123.1165**	**123.1165**	**2.9700e-003**		**123.1907**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0521	0.0316	0.4025	1.2400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		123.1165	123.1165	2.9700e-003		123.1907
Total	**0.0521**	**0.0316**	**0.4025**	**1.2400e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**123.1165**	**123.1165**	**2.9700e-003**		**123.1907**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5459	16.4106	3.9145	0.0397	0.9747	0.0805	1.0552	0.2806	0.0770	0.3575		4,200.5959	4,200.5959	0.2069		4,205.7674
Worker	1.4772	0.8943	11.4029	0.0350	3.4913	0.0226	3.5139	0.9261	0.0208	0.9469		3,488.3004	3,488.3004	0.0841		3,490.4018
Total	**2.0231**	**17.3049**	**15.3175**	**0.0747**	**4.4660**	**0.1031**	**4.5691**	**1.2066**	**0.0978**	**1.3044**		**7,688.8963**	**7,688.8963**	**0.2909**		**7,696.1692**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5459	16.4106	3.9145	0.0397	0.9747	0.0805	1.0552	0.2806	0.0770	0.3575		4,200.5959	4,200.5959	0.2069		4,205.7674
Worker	1.4772	0.8943	11.4029	0.0350	3.4913	0.0226	3.5139	0.9261	0.0208	0.9469		3,488.3004	3,488.3004	0.0841		3,490.4018
Total	**2.0231**	**17.3049**	**15.3175**	**0.0747**	**4.4660**	**0.1031**	**4.5691**	**1.2066**	**0.0978**	**1.3044**		**7,688.8963**	**7,688.8963**	**0.2909**		**7,696.1692**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4466	14.8811	3.5091	0.0393	0.9748	0.0322	1.0070	0.2806	0.0308	0.3114		4,161.0030	4,161.0030	0.1953		4,165.8853
Worker	1.3665	0.7986	10.4393	0.0338	3.4913	0.0220	3.5132	0.9261	0.0202	0.9463		3,365.8280	3,365.8280	0.0752		3,367.7090
Total	**1.8131**	**15.6798**	**13.9484**	**0.0730**	**4.4660**	**0.0542**	**4.5202**	**1.2066**	**0.0511**	**1.2577**		**7,526.8310**	**7,526.8310**	**0.2705**		**7,533.5943**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4466	14.8811	3.5091	0.0393	0.9748	0.0322	1.0070	0.2806	0.0308	0.3114		4,161.0030	4,161.0030	0.1953		4,165.8853
Worker	1.3665	0.7986	10.4393	0.0338	3.4913	0.0220	3.5132	0.9261	0.0202	0.9463		3,365.8280	3,365.8280	0.0752		3,367.7090
Total	**1.8131**	**15.6798**	**13.9484**	**0.0730**	**4.4660**	**0.0542**	**4.5202**	**1.2066**	**0.0511**	**1.2577**		**7,526.8310**	**7,526.8310**	**0.2705**		**7,533.5943**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3866**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3866**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	230.0791					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**230.2980**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2733	0.1597	2.0879	6.7500e-003	0.6983	4.3900e-003	0.7027	0.1852	4.0500e-003	0.1893		673.1656	673.1656	0.0151		673.5418
Total	**0.2733**	**0.1597**	**2.0879**	**6.7500e-003**	**0.6983**	**4.3900e-003**	**0.7027**	**0.1852**	**4.0500e-003**	**0.1893**		**673.1656**	**673.1656**	**0.0151**		**673.5418**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	230.0791					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**230.2980**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2733	0.1597	2.0879	6.7500e-003	0.6983	4.3900e-003	0.7027	0.1852	4.0500e-003	0.1893		673.1656	673.1656	0.0151		673.5418
Total	**0.2733**	**0.1597**	**2.0879**	**6.7500e-003**	**0.6983**	**4.3900e-003**	**0.7027**	**0.1852**	**4.0500e-003**	**0.1893**		**673.1656**	**673.1656**	**0.0151**		**673.5418**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.1871	41.3968	90.5032	0.2884	22.7436	0.2605	23.0041	6.0854	0.2439	6.3293		29,164.8196	29,164.8196	1.1856		29,194.4599
Unmitigated	11.5171	43.6603	98.8751	0.3227	25.7864	0.2892	26.0756	6.8995	0.2709	7.1704		32,629.9166	32,629.9166	1.2837		32,662.0101

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	864.50	830.70	761.80	1,951,618	1,721,327
City Park	7.60	91.46	67.29	60,001	52,921
Movie Theater (No Matinee)	1,170.90	1,489.20	1228.50	2,305,918	2,033,820
Hotel	1,102.95	1,105.65	803.25	2,014,917	1,777,157
Parking Lot	0.00	0.00	0.00		
Strip Mall	886.40	840.80	408.60	1,249,935	1,102,443
Unenclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	2,543.00	3,167.40	2636.80	3,069,596	2,707,384
Total	6,575.35	7,525.21	5,906.24	10,651,986	9,395,051

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
City Park	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Hotel	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Movie Theater (No Matinee)	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Strip Mall	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Unenclosed Parking with Elevator	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
High Turnover (Sit Down Restaurant)	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Livermore Downtown Specific Plan Amendment - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719
NaturalGas Unmitigated	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3077.06	0.0332	0.2836	0.1207	1.8100e-003		0.0229	0.0229		0.0229	0.0229		362.0076	362.0076	6.9400e-003	6.6400e-003	364.1588
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	11390.7	0.1228	1.1167	0.9381	6.7000e-003		0.0849	0.0849		0.0849	0.0849		1,340.0806	1,340.0806	0.0257	0.0246	1,348.0440
Hotel	23796.3	0.2566	2.3330	1.9597	0.0140		0.1773	0.1773		0.1773	0.1773		2,799.5636	2,799.5636	0.0537	0.0513	2,816.2001
Movie Theater (No Matinee)	1084.11	0.0117	0.1063	0.0893	6.4000e-004		8.0800e-003	8.0800e-003		8.0800e-003	8.0800e-003		127.5423	127.5423	2.4400e-003	2.3400e-003	128.3002
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	129.863	1.4000e-003	0.0127	0.0107	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004		15.2780	15.2780	2.9000e-004	2.8000e-004	15.3688
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4257**	**3.8523**	**3.1184**	**0.0232**		**0.2942**	**0.2942**		**0.2942**	**0.2942**		**4,644.4721**	**4,644.4721**	**0.0890**	**0.0852**	**4,672.0719**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.07706	0.0332	0.2836	0.1207	1.8100e-003		0.0229	0.0229		0.0229	0.0229		362.0076	362.0076	6.9400e-003	6.6400e-003	364.1588
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	11.3907	0.1228	1.1167	0.9381	6.7000e-003		0.0849	0.0849		0.0849	0.0849		1,340.0806	1,340.0806	0.0257	0.0246	1,348.0440
Hotel	23.7963	0.2566	2.3330	1.9597	0.0140		0.1773	0.1773		0.1773	0.1773		2,799.5636	2,799.5636	0.0537	0.0513	2,816.2001
Movie Theater (No Matinee)	1.08411	0.0117	0.1063	0.0893	6.4000e-004		8.0800e-003	8.0800e-003		8.0800e-003	8.0800e-003		127.5423	127.5423	2.4400e-003	2.3400e-003	128.3002
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.129863	1.4000e-003	0.0127	0.0107	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004		15.2780	15.2780	2.9000e-004	2.8000e-004	15.3688
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4257**	**3.8523**	**3.1184**	**0.0232**		**0.2942**	**0.2942**		**0.2942**	**0.2942**		**4,644.4721**	**4,644.4721**	**0.0890**	**0.0852**	**4,672.0719**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8902	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597	0.0000	19.5556	19.5556	0.0194	0.0000	20.0397
Unmitigated	63.3540	1.3071	81.4989	0.1367		10.0875	10.0875		10.0875	10.0875	1,088.2100	501.3203	1,589.5303	1.5085	0.0769	1,650.1648

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2607					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2932					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	53.4638	1.1819	70.6363	0.1361		10.0279	10.0279		10.0279	10.0279	1,088.2100	481.7647	1,569.9747	1.4892	0.0769	1,630.1251
Landscaping	0.3363	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597		19.5556	19.5556	0.0194		20.0397
Total	**63.3541**	**1.3071**	**81.4989**	**0.1367**		**10.0875**	**10.0875**		**10.0875**	**10.0875**	**1,088.2100**	**501.3203**	**1,589.5303**	**1.5085**	**0.0769**	**1,650.1648**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2607					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2932					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3363	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597		19.5556	19.5556	0.0194		20.0397
Total	**9.8902**	**0.1251**	**10.8627**	**5.7000e-004**		**0.0597**	**0.0597**		**0.0597**	**0.0597**	**0.0000**	**19.5556**	**19.5556**	**0.0194**	**0.0000**	**20.0397**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Livermore Downtown Specific Plan Amendment

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking with Elevator	770.00	Space	1.00	308,000.00	0
City Park	4.02	Acre	4.02	175,111.20	0
High Turnover (Sit Down Restaurant)	20.00	1000sqft	0.50	20,000.00	0
Hotel	135.00	Room	1.00	196,020.00	0
Movie Theater (No Matinee)	15.00	1000sqft	0.28	15,000.00	0
Apartments Mid Rise	130.00	Dwelling Unit	1.00	130,000.00	372
Strip Mall	20.00	1000sqft	0.50	20,000.00	0
Parking Lot	150.00	Space	1.00	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (2016-2020), PG&E, 2015

Land Use - Total project acreage is approximately 9.3 acres.

Construction Phase - Default construction period

Demolition - Project would include the demolition of existing onsite buildings

Vehicle Trips - Default

Mobile Land Use Mitigation - Project is mixed-use

Area Mitigation - No hearth

Energy Use -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	6.93	1.00
tblLandUse	LotAcreage	0.46	0.50
tblLandUse	LotAcreage	4.50	1.00
tblLandUse	LotAcreage	0.34	0.28
tblLandUse	LotAcreage	3.42	1.00
tblLandUse	LotAcreage	0.46	0.50
tblLandUse	LotAcreage	1.35	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.2568	42.4641	32.0363	0.0978	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	9,860.6533	9,860.6533	1.1952	0.0000	9,883.7832
2021	230.5875	33.4277	30.3755	0.0963	4.4660	1.0140	5.4800	1.2066	0.9534	2.1601	0.0000	9,709.3255	9,709.3255	0.8975	0.0000	9,731.7619
Maximum	**230.5875**	**42.4641**	**32.0363**	**0.0978**	**18.2141**	**2.1984**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**9,860.6533**	**9,860.6533**	**1.1952**	**0.0000**	**9,883.7832**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.2568	42.4641	32.0363	0.0978	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	9,860.6533	9,860.6533	1.1952	0.0000	9,883.7832
2021	230.5875	33.4277	30.3755	0.0963	4.4660	1.0140	5.4800	1.2066	0.9534	2.1601	0.0000	9,709.3255	9,709.3255	0.8975	0.0000	9,731.7619
Maximum	**230.5875**	**42.4641**	**32.0363**	**0.0978**	**18.2141**	**2.1984**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**9,860.6533**	**9,860.6533**	**1.1952**	**0.0000**	**9,883.7832**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	63.3540	1.3071	81.4989	0.1367		10.0875	10.0875		10.0875	10.0875	1,088.2100	501.3203	1,589.5303	1.5085	0.0769	1,650.1648
Energy	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719
Mobile	9.8585	45.4721	103.8936	0.3018	25.7864	0.2922	26.0786	6.8995	0.2737	7.1733		30,514.9039	30,514.9039	1.3366		30,548.3194
Total	**73.6383**	**50.6315**	**188.5109**	**0.4617**	**25.7864**	**10.6739**	**36.4603**	**6.8995**	**10.6554**	**17.5549**	**1,088.2100**	**35,660.6963**	**36,748.9063**	**2.9342**	**0.1621**	**36,870.5561**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.8902	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597	0.0000	19.5556	19.5556	0.0194	0.0000	20.0397
Energy	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719
Mobile	9.5334	42.9717	96.4314	0.2697	22.7436	0.2635	23.0071	6.0854	0.2468	6.3322		27,266.1911	27,266.1911	1.2432		27,297.2722
Total	**19.8494**	**46.9491**	**110.4125**	**0.2935**	**22.7436**	**0.6173**	**23.3609**	**6.0854**	**0.6006**	**6.6860**	**0.0000**	**31,930.2188**	**31,930.2188**	**1.3516**	**0.0852**	**31,989.3837**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**73.04**	**7.27**	**41.43**	**36.44**	**11.80**	**94.22**	**35.93**	**11.80**	**94.36**	**61.91**	**100.00**	**10.46**	**13.11**	**53.94**	**47.46**	**13.24**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/6/2020	1/31/2020	5	20	
2	Site Preparation	Site Preparation	2/1/2020	2/14/2020	5	10	
3	Grading	Grading	2/15/2020	3/13/2020	5	20	
4	Building Construction	Building Construction	3/14/2020	1/29/2021	5	230	
5	Paving	Paving	1/30/2021	2/26/2021	5	20	
6	Architectural Coating	Architectural Coating	2/27/2021	3/26/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2

Residential Indoor: 263,250; Residential Outdoor: 87,750; Non-Residential Indoor: 376,530; Non-Residential Outdoor: 125,510; Striped Parking Area: 22,080 (Architectural Coating – sqft)

OffRoad Equipment

Livermore Downtown Specific Plan Amendment - Bay Area AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	75.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	425.00	144.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8141	0.0000	0.8141	0.1233	0.0000	0.1233			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.8141**	**1.6587**	**2.4728**	**0.1233**	**1.5419**	**1.6651**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0318	1.1005	0.2298	2.9300e-003	0.0655	3.5700e-003	0.0691	0.0180	3.4200e-003	0.0214		313.6851	313.6851	0.0168		314.1042
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0390	0.3780	1.1400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		113.4098	113.4098	2.7700e-003		113.4792
Total	**0.0869**	**1.1395**	**0.6078**	**4.0700e-003**	**0.1887**	**4.3700e-003**	**0.1931**	**0.0506**	**4.1600e-003**	**0.0548**		**427.0949**	**427.0949**	**0.0195**		**427.5833**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8141	0.0000	0.8141	0.1233	0.0000	0.1233			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.8141**	**1.6587**	**2.4728**	**0.1233**	**1.5419**	**1.6651**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0318	1.1005	0.2298	2.9300e-003	0.0655	3.5700e-003	0.0691	0.0180	3.4200e-003	0.0214		313.6851	313.6851	0.0168		314.1042
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0390	0.3780	1.1400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		113.4098	113.4098	2.7700e-003		113.4792
Total	**0.0869**	**1.1395**	**0.6078**	**4.0700e-003**	**0.1887**	**4.3700e-003**	**0.1931**	**0.0506**	**4.1600e-003**	**0.0548**		**427.0949**	**427.0949**	**0.0195**		**427.5833**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0662	0.0468	0.4536	1.3700e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		136.0918	136.0918	3.3300e-003		136.1750
Total	**0.0662**	**0.0468**	**0.4536**	**1.3700e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**136.0918**	**136.0918**	**3.3300e-003**		**136.1750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0662	0.0468	0.4536	1.3700e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		136.0918	136.0918	3.3300e-003		136.1750
Total	**0.0662**	**0.0468**	**0.4536**	**1.3700e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**136.0918**	**136.0918**	**3.3300e-003**		**136.1750**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0390	0.3780	1.1400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		113.4098	113.4098	2.7700e-003		113.4792
Total	**0.0552**	**0.0390**	**0.3780**	**1.1400e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**113.4098**	**113.4098**	**2.7700e-003**		**113.4792**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0390	0.3780	1.1400e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		113.4098	113.4098	2.7700e-003		113.4792
Total	**0.0552**	**0.0390**	**0.3780**	**1.1400e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**113.4098**	**113.4098**	**2.7700e-003**		**113.4792**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5745	16.5942	4.4783	0.0387	0.9747	0.0818	1.0565	0.2806	0.0783	0.3588		4,094.3123	4,094.3123	0.2238		4,099.9059
Worker	1.5625	1.1050	10.7095	0.0323	3.4913	0.0226	3.5139	0.9261	0.0208	0.9469		3,213.2780	3,213.2780	0.0786		3,215.2428
Total	**2.1370**	**17.6991**	**15.1878**	**0.0709**	**4.4660**	**0.1044**	**4.5704**	**1.2066**	**0.0991**	**1.3057**		**7,307.5903**	**7,307.5903**	**0.3023**		**7,315.1488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5745	16.5942	4.4783	0.0387	0.9747	0.0818	1.0565	0.2806	0.0783	0.3588		4,094.3123	4,094.3123	0.2238		4,099.9059
Worker	1.5625	1.1050	10.7095	0.0323	3.4913	0.0226	3.5139	0.9261	0.0208	0.9469		3,213.2780	3,213.2780	0.0786		3,215.2428
Total	**2.1370**	**17.6991**	**15.1878**	**0.0709**	**4.4660**	**0.1044**	**4.5704**	**1.2066**	**0.0991**	**1.3057**		**7,307.5903**	**7,307.5903**	**0.3023**		**7,315.1488**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4731	15.0091	4.0334	0.0383	0.9748	0.0334	1.0081	0.2806	0.0319	0.3125		4,055.4309	4,055.4309	0.2113		4,060.7130
Worker	1.4477	0.9865	9.7670	0.0311	3.4913	0.0220	3.5132	0.9261	0.0202	0.9463		3,100.5307	3,100.5307	0.0702		3,102.2847
Total	**1.9207**	**15.9956**	**13.8003**	**0.0694**	**4.4660**	**0.0553**	**4.5214**	**1.2066**	**0.0521**	**1.2588**		**7,155.9616**	**7,155.9616**	**0.2814**		**7,162.9976**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4731	15.0091	4.0334	0.0383	0.9748	0.0334	1.0081	0.2806	0.0319	0.3125		4,055.4309	4,055.4309	0.2113		4,060.7130
Worker	1.4477	0.9865	9.7670	0.0311	3.4913	0.0220	3.5132	0.9261	0.0202	0.9463		3,100.5307	3,100.5307	0.0702		3,102.2847
Total	**1.9207**	**15.9956**	**13.8003**	**0.0694**	**4.4660**	**0.0553**	**4.5214**	**1.2066**	**0.0521**	**1.2588**		**7,155.9616**	**7,155.9616**	**0.2814**		**7,162.9976**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3866**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1310					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3866**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	230.0791					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**230.2980**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2895	0.1973	1.9534	6.2200e-003	0.6983	4.3900e-003	0.7027	0.1852	4.0500e-003	0.1893		620.1061	620.1061	0.0140		620.4569
Total	**0.2895**	**0.1973**	**1.9534**	**6.2200e-003**	**0.6983**	**4.3900e-003**	**0.7027**	**0.1852**	**4.0500e-003**	**0.1893**		**620.1061**	**620.1061**	**0.0140**		**620.4569**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	230.0791					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**230.2980**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2895	0.1973	1.9534	6.2200e-003	0.6983	4.3900e-003	0.7027	0.1852	4.0500e-003	0.1893		620.1061	620.1061	0.0140		620.4569
Total	**0.2895**	**0.1973**	**1.9534**	**6.2200e-003**	**0.6983**	**4.3900e-003**	**0.7027**	**0.1852**	**4.0500e-003**	**0.1893**		**620.1061**	**620.1061**	**0.0140**		**620.4569**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5334	42.9717	96.4314	0.2697	22.7436	0.2635	23.0071	6.0854	0.2468	6.3322		27,266.1911	27,266.1911	1.2432		27,297.2722
Unmitigated	9.8585	45.4721	103.8936	0.3018	25.7864	0.2922	26.0786	6.8995	0.2737	7.1733		30,514.9039	30,514.9039	1.3366		30,548.3194

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	864.50	830.70	761.80	1,951,618	1,721,327
City Park	7.60	91.46	67.29	60,001	52,921
Movie Theater (No Matinee)	1,170.90	1,489.20	1228.50	2,305,918	2,033,820
Hotel	1,102.95	1,105.65	803.25	2,014,917	1,777,157
Parking Lot	0.00	0.00	0.00		
Strip Mall	886.40	840.80	408.60	1,249,935	1,102,443
Unenclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	2,543.00	3,167.40	2636.80	3,069,596	2,707,384
Total	6,575.35	7,525.21	5,906.24	10,651,986	9,395,051

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
City Park	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Hotel	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Movie Theater (No Matinee)	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Strip Mall	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Unenclosed Parking with Elevator	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
High Turnover (Sit Down Restaurant)	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Livermore Downtown Specific Plan Amendment - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719
NaturalGas Unmitigated	0.4257	3.8523	3.1184	0.0232		0.2942	0.2942		0.2942	0.2942		4,644.4721	4,644.4721	0.0890	0.0852	4,672.0719

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3077.06	0.0332	0.2836	0.1207	1.8100e-003		0.0229	0.0229		0.0229	0.0229		362.0076	362.0076	6.9400e-003	6.6400e-003	364.1588
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	11390.7	0.1228	1.1167	0.9381	6.7000e-003		0.0849	0.0849		0.0849	0.0849		1,340.0806	1,340.0806	0.0257	0.0246	1,348.0440
Hotel	23796.3	0.2566	2.3330	1.9597	0.0140		0.1773	0.1773		0.1773	0.1773		2,799.5636	2,799.5636	0.0537	0.0513	2,816.2001
Movie Theater (No Matinee)	1084.11	0.0117	0.1063	0.0893	6.4000e-004		8.0800e-003	8.0800e-003		8.0800e-003	8.0800e-003		127.5423	127.5423	2.4400e-003	2.3400e-003	128.3002
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	129.863	1.4000e-003	0.0127	0.0107	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004		15.2780	15.2780	2.9000e-004	2.8000e-004	15.3688
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4257**	**3.8523**	**3.1184**	**0.0232**		**0.2942**	**0.2942**		**0.2942**	**0.2942**		**4,644.4721**	**4,644.4721**	**0.0890**	**0.0852**	**4,672.0719**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.07706	0.0332	0.2836	0.1207	1.8100e-003		0.0229	0.0229		0.0229	0.0229		362.0076	362.0076	6.9400e-003	6.6400e-003	364.1588
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	11.3907	0.1228	1.1167	0.9381	6.7000e-003		0.0849	0.0849		0.0849	0.0849		1,340.0806	1,340.0806	0.0257	0.0246	1,348.0440
Hotel	23.7963	0.2566	2.3330	1.9597	0.0140		0.1773	0.1773		0.1773	0.1773		2,799.5636	2,799.5636	0.0537	0.0513	2,816.2001
Movie Theater (No Matinee)	1.08411	0.0117	0.1063	0.0893	6.4000e-004		8.0800e-003	8.0800e-003		8.0800e-003	8.0800e-003		127.5423	127.5423	2.4400e-003	2.3400e-003	128.3002
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.129863	1.4000e-003	0.0127	0.0107	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004		15.2780	15.2780	2.9000e-004	2.8000e-004	15.3688
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.4257**	**3.8523**	**3.1184**	**0.0232**		**0.2942**	**0.2942**		**0.2942**	**0.2942**		**4,644.4721**	**4,644.4721**	**0.0890**	**0.0852**	**4,672.0719**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8902	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597	0.0000	19.5556	19.5556	0.0194	0.0000	20.0397
Unmitigated	63.3540	1.3071	81.4989	0.1367		10.0875	10.0875		10.0875	10.0875	1,088.2100	501.3203	1,589.5303	1.5085	0.0769	1,650.1648

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2607					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2932					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	53.4638	1.1819	70.6363	0.1361		10.0279	10.0279		10.0279	10.0279	1,088.2100	481.7647	1,569.9747	1.4892	0.0769	1,630.1251
Landscaping	0.3363	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597		19.5556	19.5556	0.0194		20.0397
Total	**63.3541**	**1.3071**	**81.4989**	**0.1367**		**10.0875**	**10.0875**		**10.0875**	**10.0875**	**1,088.2100**	**501.3203**	**1,589.5303**	**1.5085**	**0.0769**	**1,650.1648**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2607					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2932					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3363	0.1251	10.8627	5.7000e-004		0.0597	0.0597		0.0597	0.0597		19.5556	19.5556	0.0194		20.0397
Total	**9.8902**	**0.1251**	**10.8627**	**5.7000e-004**		**0.0597**	**0.0597**		**0.0597**	**0.0597**	**0.0000**	**19.5556**	**19.5556**	**0.0194**	**0.0000**	**20.0397**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX 2

NOISE

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TABLE Existing Traffic Volumes-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6630 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	102.1

TABLE Existing Traffic Volumes-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of Livermore Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10530 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	68.6	140.5

TABLE Existing Traffic Volumes-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10130 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	67.1	137.0

TABLE Existing Traffic Volumes-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - west of Maple Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	89.1

TABLE Existing Traffic Volumes-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6740 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	103.2

TABLE Existing Traffic Volumes-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5220 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	88.6

TABLE Existing Traffic Volumes-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4770 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	82.1

TABLE Existing Traffic Volumes-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - east of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13290 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	75.4	162.1

TABLE Existing Traffic Volumes-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12620 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	76.4	158.0

TABLE Existing Traffic Volumes-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4470 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	80.3

TABLE Existing Traffic Volumes-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of Eastside Parking/Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6860 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	104.4

TABLE Existing Traffic Volumes-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Existing Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5280 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	89.3

TABLE Existing + Project Traffic Volumes-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7560 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	52.0	111.4

TABLE Existing + Project Traffic Volumes-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of Livermore Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12520 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	76.0	157.2

TABLE Existing + Project Traffic Volumes-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10760 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	69.5	142.5

TABLE Existing + Project Traffic Volumes-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - west of Maple Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5830 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	93.7

TABLE Existing + Project Traffic Volumes-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7440 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	51.4	110.2

TABLE Existing + Project Traffic Volumes-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5430 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	90.9

TABLE Existing + Project Traffic Volumes-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4840 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	82.8

TABLE Existing + Project Traffic Volumes-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - east of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13670 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.08

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	76.9	165.2

TABLE Existing + Project Traffic Volumes-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13300 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	78.8	163.5

TABLE Existing + Project Traffic Volumes-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5070 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	87.0

TABLE Existing + Project Traffic Volumes-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of Eastside Parking/Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7660 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	52.4	112.4

TABLE Existing + Project Traffic Volumes-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Existing + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4830 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	84.4

TABLE Cumulative Traffic Volumes-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9560 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	60.7	130.2

TABLE Cumulative Traffic Volumes-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of Livermore Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12820 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	77.1	159.7

TABLE Cumulative Traffic Volumes-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11560 SPEED (MPH): 25 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	72.5	149.3

TABLE Cumulative Traffic Volumes-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - west of Maple Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6140 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	97.0

TABLE Cumulative Traffic Volumes-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8020 SPEED (MPH): 25 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL 70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	54.0	115.8

TABLE Cumulative Traffic Volumes-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8090 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.9	117.6

TABLE Cumulative Traffic Volumes-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6530 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	101.1

TABLE Cumulative Traffic Volumes-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - east of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14810 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	81.1	174.2

TABLE Cumulative Traffic Volumes-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15810 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	87.6	183.1

TABLE Cumulative Traffic Volumes-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6280 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	99.8

TABLE Cumulative Traffic Volumes-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of Eastside Parking/Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9280 SPEED (MPH): 25 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.5	127.6

TABLE Cumulative Traffic Volumes-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative Traffic Volumes

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6790 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	105.0

TABLE Cumulative + Project Traffic Volumes-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10530 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	64.7	138.8

TABLE Cumulative + Project Traffic Volumes-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of Livermore Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14810 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	84.2	175.4

TABLE Cumulative + Project Traffic Volumes-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12190 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.08

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	74.8	154.5

TABLE Cumulative + Project Traffic Volumes-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - west of Maple Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6570 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	101.5

TABLE Cumulative + Project Traffic Volumes-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8300 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	55.3	118.5

TABLE Cumulative + Project Traffic Volumes-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8300 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.8	119.6

TABLE Cumulative + Project Traffic Volumes-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: First Street - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6600 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	101.8

TABLE Cumulative + Project Traffic Volumes-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Maple Street - east of First Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15190 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	82.4	177.2

TABLE Cumulative + Project Traffic Volumes-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Railroad Avenue - east of L Street
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16490 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	89.9	188.2

TABLE Cumulative + Project Traffic Volumes-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - south of Railroad Avenue
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6880 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	105.9

TABLE Cumulative + Project Traffic Volumes-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: Livermore Avenue - north of Eastside Parking/Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9390 SPEED (MPH): 25 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL 70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	60.0	128.6

TABLE Cumulative + Project Traffic Volumes-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 03/29/2019
ROADWAY SEGMENT: L Street - north of Westside Parking
NOTES: Livermore Downtown Specific Plan Amendment - Cumulative + Project Traffic Volumes

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	101.0