County of Alameda

Ashland and Cherryland Business District Specific Plan

Draft

Environmental Impact Report

SCH # 2015042047

July 2015

rincon

Environmental Scientists Planners Engineers

Draft

ENVIRONMENTAL IMPACT REPORT

ASHLAND AND CHERRYLAND BUSINESS DISTRICT SPECIFIC PLAN

Prepared by:

County of Alameda
224 West Winton Avenue, Suite 111
Hayward, California 94544
Contact: Rodrigo Orduña
(510) 670-6503

Prepared with the assistance of:

Rincon Consultants, Inc.
180 Grand Avenue, Suite 400
Oakland, California 94612
(510) 834-4455

July 2015

This report prepared on 50% recycled paper with 50% post-consumer content.

Ashland and Cherryland Business District Specific Plan EIR

Table of Contents

Page

List of Figures

List of Tables

Appendices

This page intentionally left blank.

EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed Ashland and Cherryland Business District Specific Plan and the significant environmental impacts, mitigation measures, and residual impacts associated with the proposed Specific Plan.

PROJECT SYNOPSIS

Lead Agency/Project Applicant

County of Alameda
224 West Winton Avenue, Suite 111
Hayward, CA 94544

Contact:
Rodrigo Orduña, AICP, Bay-Friendly QLP, Senior Planner
(510) 670-6503, rodrigo.orduna@acgov.org

Project Location

The ACBD Specific Plan Area ("Plan Area") covers approximately 246 acres along a three-mile stretch of East 14th Street/Mission Boulevard and a 1.5-mile section of Lewelling/East Lewelling Boulevard between 150th Avenue to the north, Grove Way to the south, and Hesperian Boulevard to the west

Project Description

The proposed project involves the adoption of the Ashland and Cherryland Business District (ACBD) Specific Plan ("proposed Specific Plan"). The proposed Specific Plan would update the existing ACBD Specific Plan adopted in 1995. The proposed Specific Plan includes policies and development standards to guide future development in the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors in Ashland and Cherryland, two unincorporated communities within the County of Alameda. The ACBD Specific Plan is intended to be consistent with and to implement the policies of the Eden Area General Plan (2010) and the Alameda County General Plan. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses, adding up to: (1) 167 single-family units, (2) 771 multi-family units, and (3) 570,000 square feet of non-residential development. The growth that would be accommodated by the proposed Specific Plan is within that envisioned by the Eden Area General Plan. The proposed Specific Plan would concentrate development into the districts, corridors, and neighborhoods within the Plan Area. The development assumed in the Specific Plan could occur over a 20-year time period.

AREAS OF CONTROVERSY KNOWN TO THE LEAD AGENCY

Areas of controversy known to the County of Alameda include traffic, water supply, wastewater infrastructure, and neighborhood impacts (noise, land use compatibility, and air

quality). Please see Section 1.0, *Introduction*, for a summary of comments received in response to the Notice of Preparation, and Appendix A to this EIR for the written comments received.

ALTERNATIVES

As required by Section 15126.6 of the CEQA *Guidelines*, this EIR examines a reasonable range of alternatives to the proposed project, and identifies the Environmentally Superior Alternative as also required by the CEQA *Guidelines*.

The following alternatives are evaluated in this EIR:

- *Alternative 1: No Project*
- *Alternative 2: Expanded Jobs*
- *Alternative 3: Spread Growth*

Of the development alternatives being considered, the Expanded Jobs alternative (Alternative 2) could be considered environmentally superior, as it would reduce impacts in many issue areas, due primarily to the reduction in housing units. However, this alternative would not eliminate the significant and unavoidable impact related to the local circulation system and the I-580 freeway. This alternative would generally meet most of the project objectives but would meet objectives 6 and 9 which involve providing adequate housing and residential uses to a lesser extent than the proposed Specific Plan.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Table ES-1 includes a brief description of the environmental issues relative to the proposed project, the identified significant environmental impacts, proposed mitigation measures, and residual impacts. Impacts are categorized by classes. *Significant and Unavoidable* impacts are defined as significant, unavoidable adverse impacts which require a statement of overriding considerations to be issued pursuant to the *State CEQA Guidelines* §15093 if the proposed project is approved. *Significant but mitigable* impacts are significant adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the *State CEQA Guidelines. Less than significant* impacts are impacts that are not considered significant.

Potential impacts that were analyzed in the Initial Study (Appendix A), and found to be less than significant and/or beneficial are not included in this table.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
AESTHETICS		
Impact AES-1 The proposed Specific Plan would facilitate development with view of Interstate 238, a County-designated scenic freeway. However, increases in the intensity and visibility of urban development in the Plan Area would not affect scenic views from Interstate 238 of the East Bay hills and San Francisco Bay. The Plan Area also is located outside of the scenic corridor associated with Interstate 580, a State-designated scenic highway. Therefore, impacts on scenic vistas would be *less than significant.*	None required.	Less than significant without mitigation.
Impact AES-2 The proposed Specific Plan would facilitate changes to the visual character of the Plan Area, relative to buildout under the existing ACBD Specific Plan. However, the formation of Character Areas and design guidelines for surface parking lots, gateways, and streetscapes would improve the visual quality of the environment, and the proposed design review criteria for new developments would ensure their visual compatibility with existing uses in the Plan Area. Impacts to visual character would be *less than significant*.	None required.	Less than significant without mitigation.
Impact AES-3 The proposed project would result in new sources of light and glare in and around the project area. However, these new sources would not substantially increase the amount of light and glare in the already urbanized Plan Area, and would be regulated by the Eden Area General Plan. This would be a *less than significant* impact.	None required.	Less than significant without mitigation.
AIR QUALITY		
Impact AQ-1 The proposed project would contribute to population growth, but would be consistent with the growth assumptions in the 2010 Bay Area Clean Air Plan. This impact is *less than significant.*	None required.	Less than significant without mitigation.
Impact AQ-2 The proposed Specific Plan includes a Multimodal Access Plan that would implement Transportation Control Measures (TCMs) included in the CAP that identify cities as implementing	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
agencies. Impacts would be *less than significant.*		
Impact AQ-3 Buildout of the proposed Specific Plan would result in the temporary generation of air pollutants during construction, which would affect local air quality. Compliance with the Eden Area General Plan would require future projects within the Specific Plan area to implement measures to reduce PM10 emissions. Impacts would be *less than significant.*	None required.	Less than significant without mitigation.
Impact AQ-4 Operational emissions associated with buildout of the proposed Specific Plan of ROG, NOX, and PM10 would exceed BAAQMD's daily thresholds. However, individual projects would be required to undergo project-specific review to reduce operational emissions to below BAAQMD's daily thresholds. Therefore, the proposed Specific Plan would have a *less than significant* impact on regional air quality.	None required.	Less than significant without mitigation.
Impact AQ-5 The proposed project would not increase traffic at study area intersections such that carbon monoxide (CO) hotspots would be created. Impacts related to CO hotspots would be *less than significant.*	None required.	Less than significant without mitigation.
Impact AQ-6 The project would not create objectionable odors that would affect neighboring properties. Impacts related to odors would be *less than significant.*	None required.	Less than significant without mitigation.
BIOLOGICAL RESOURCES		
Impact BIO-1 Implementation of development facilitated by the proposed Specific Plan may result in impacts to special status plant and animal species. Impacts would be *significant but mitigable*.	**BIO-1(a) Biological Resources Screening and Assessment.** For projects associated with the proposed Specific Plan, the project applicant shall hire a County-approved biologist to perform a preliminary biological resource screening as part of the environmental review process to determine whether the project has any potential to impact biological resources. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a County-approved biologist shall conduct a biological resources assessment (BRA) or similar type of study to document the existing biological resources within the project footprint plus a buffer and to determine the potential impacts to those resources. The BRA	Less than significant.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities, critical habitats, and other resources judged to be sensitive by local, state, and/or federal agencies. Pending the results of the BRA, design alterations, further technical studies (e.h., protocol surveys) and/or consultations with the USFWS, NMFS, CDFW and/or other local, state, and federal agencies may be required. The following mitigation measures [B-1(b) through B-1(k)] shall be incorporated, only as applicable, into the BRA for projects where specific resources are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the BRA where suitable habitat is present. **BIO-1(b) Special Status Plant Species Surveys.** If completion of the project-specific BRA determines that special status plant species may occur on-site, surveys for special status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. All plant surveys shall be conducted by a County-approved biologist no more than two years before initial ground disturbance. All special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and/or topographic map and/or mapped with the use of Global Positioning System (GPS) unit. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the implementing agency, and the CDFW and/or USFWS, as appropriate, for review and approval. **B-1(c) Special Status Plant Species Avoidance, Minimization, and Mitigation.** If state listed or CRPR List 1B or 2 species are found during special status plant surveys [pursuant to mitigation measure B-1(b)], then the project shall be re-designed to avoid impacting these plant species, if feasible. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	distance as approved by a County-approved biologist, to protect them from harm. **B-1(d) Restoration and Monitoring**. If special status plants species cannot be avoided and will be impacted by development under the Specific Plan, all impacts shall be mitigated by the project applicant at a minimum ratio of 2:1 (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. A restoration plan shall be prepared by the project applicant and submitted to the County for approval. (Note: if a state listed plant species will be impacted, the restoration plan shall be submitted to the CDFW for approval). The restoration plan shall include, at a minimum, the following components: • Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type). • Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]. • Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values). • Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan). • Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule). • Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports). • Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type. • An adaptive management program and remedial measures to address any shortcomings in meeting success criteria. • Notification of completion of compensatory mitigation and agency confirmation. • Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation,	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	funding mechanism). **B-1(e) Endangered/Threatened Species Habitat Assessments and Protocol Surveys**. Specific habitat assessments and survey protocols are established for several federally and state endangered or threatened species. If the results of the BRA determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW and/or USFWS protocols prior to issuance of any construction permits. If through consultation with the CDFW and/or USFWS it is determined that protocol habitat assessments/surveys are not required, said consultation shall be documented prior to issuance of any construction permits. Each protocol has different survey and timing requirements. The applicants for each project shall be responsible for ensuring they understand the protocol requirements and shall hire a County-approved biologist to conduct protocol surveys. **B-1(f) Endangered/Threatened Species Avoidance and Minimization.** The habitat requirements of endangered and threatened species are highly variable. The potential impacts from any given project implemented under the Specific Plan are likewise highly variable. However, there are several avoidance and minimization measures that can be applied for a variety of species to reduce the potential for impact, with the final goal of no net loss of the species. The following measures may be applied to aquatic and/or terrestrial species. The County shall select from these measures as appropriate and the project applicant shall be responsible for implementing selected measures. • Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance. • All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species. • All projects occurring within or adjacent to sensitive habitats that may support federally and/or state listed as endangered/threatened species shall have a CDFW- and/or USFWS-approved biologist	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW and/or USFWS, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are begin fully implemented. • No endangered/threatened species shall be captured and relocated without expressed permission from the CDFW and/or USFWS. • If at any time during construction of the project an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and/or USFWS as appropriate. • For all projects occurring in areas where endangered/ threatened species may be present and are at risk of entering the project site during construction, exclusion fencing shall be placed along the project boundaries prior to start of construction (including staging and mobilization). The placement of the fence shall be at the discretion of the CDFW/USFWS-approved biologist. This fence shall consist of solid silt fencing placed at a minimum of 3 feet above grade and 2 feet below grade and shall be attached to wooden stakes placed at intervals of not more than 5 feet. The fence shall be inspected weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete. • All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies. • No equipment shall be permitted to enter wetted portions of any affected drainage channel. • All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	materials shall be located in close proximity for easy access. • If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline. • If water is to be diverted around work sites, a diversion plan shall be submitted (depending upon the species that may be present) to the CDFW, RWQCB, USFWS, and/or NMFS for their review and approval prior to the start of any construction activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system. • At the end of each workday, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment. • All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling. • The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly. • If any federally and/or state protected species are harmed, the CDFW/USFWS-approved biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours. • Considering the potential for projects to impact federal and state listed species and their habitat, the County shall contact the CDFW and USFWS to identify mitigation banks within Alameda County during development of the proposed Specific Plan. Upon implementation of development projects included in the proposed Specific Plan, but on a project-by-project basis, if the results of the BRA determines that impacts to federal and state threatened or endangered species habitat are expected, the applicant shall explore species-appropriate mitigation bank(s) servicing the County for purchase of mitigation credits.	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	B-1(g) Endangered/Threatened Species Avoidance and Minimization Several State Species of Special Concern may be impacted by development facilitated by the Specific Plan. The ecological requirements and potential for impacts is highly variable among these species. Depending on the species identified in the BRA, several of the measures identified under B-1(f) shall be applicable to the project. In addition, the County shall select measures from among the following to be implemented by the project applicant to reduce the potential for impacts to non-listed special status animal species: • For non-listed special status terrestrial amphibians and reptiles, coverboard surveys shall be completed within three months of the start of construction. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground. The coverboards shall be checked by a County-approved biologist once per week for each week after placement up until the start of vegetation removal. All non-listed special status and common animals found under the coverboards shall be captured and placed in five-gallon buckets for transportation to relocation sites. All relocation sites shall be reviewed by the project applicant and shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by construction of the project. Relocation shall occur on the same day as capture. CNDDB Field Survey Forms shall be submitted to the CFDW for all special status animal species observed. • Pre-construction clearance surveys shall be conducted within 14 days of the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 200-foot buffer, if feasible, and shall identify all special status animal species that may occur on-site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion (e.g., burrowing owl). A report of the pre-construction survey shall be submitted to the County for their review and approval prior to the start of construction. • A County-approved biologist shall be present during all initial ground disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities. • Upon completion of the project, a County-approved biologist shall prepare a Final	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	Compliance Report documenting all compliance activities implemented for the project, including the pre-construction survey results. The report shall be submitted within 30 days of completion of the project. • If special status bat species may be present and impacted by the project, a County-approved biologist shall conduct within 30 days of the start of construction presence/absence surveys for special status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a roost is determined by a County-approved biologist to be used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultations with the CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a County-approved biologist that the young have dispersed. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately. **B-1(h) Pre-construction Surveys for Nesting Birds for Construction Occurring within Nesting Season.** For projects that may result in tree felling or removal of trees or vegetation that may contain a nesting bird, if feasible, construction activities should occur generally between September 16 to January 31 (thus outside of the nesting season). However, if construction activities must during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a County-approved biologist no more than 14 days prior to vegetation removal. The surveys shall include the entire segment disturbance area plus a 200-foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the County-approved biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A County-approved biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. A report of these preconstruction nesting bird surveys shall be submitted by the project applicant to the County to document compliance. **B-1(i) Worker Environmental Awareness Program (WEAP).** Prior to initiation of construction activities for applicable projects (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a County-approved biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to the County to document compliance. **B-1(j) Tree Protection.** If it is determined that construction may impact trees protected by the Alameda County Tree Ordinance (trees within the County ROW) or trees within the Caltrans ROW, the applicant shall procure all necessary tree removal permits. A certified arborist shall develop a tree protection and replacement plan as appropriate. The plan shall include, but would not be limited to, an inventory of trees to within the construction site, setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, direction regarding pruning and digging within root zone of trees, and requirements for replacement and maintenance of trees. If protected trees will be removed, replacement tree plantings of like species in accordance with local agency standards, but at a minimum ratio of 2:1 (trees planted to trees impacted), shall be installed on-	

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	site or at an approved off-site location and a restoration and monitoring program shall be developed in accordance with B-1(d) and shall be implemented for a minimum of seven years or until stasis has been determined by certified arborist. If a protected tree shall be encroached upon but not removed, a certified arborist shall be present to oversee all trimming of roots and branches.	
Impact BIO-2 Implementation of development facilitated by the proposed Specific Plan may result in impacts to sensitive habitats, including San Lorenzo Creek, a federally protected riverine wetland. This impact would be *significant but mitigable.*	**B-2(a) Jurisdictional Delineation.** For projects implemented under the proposed Specific Plan within or adjacent to San Lorenzo Creek, or other wetland, drainage, riparian habitat, or other areas that may fall under the jurisdiction of the CDFW, USACE, and/or RWQCB, a County-approved biologist shall complete a jurisdictional delineation. The jurisdictional delineation shall determine the extent of the jurisdiction for each of these agencies and shall be conducted in accordance with the requirement set forth by each agency. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the implementing agency, USACE, RWQCB, and CDFW, as appropriate, for review and approval. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirements (WDR) permit and/or Section 401 Water Quality Certification (depending upon whether or not the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Streambed Alteration Agreement pursuant to Section 1600 et seq. of the California Fish and Game Code would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the Clean Water Act would likely be required. **B-2(b) Wetland and Riparian Habitat Restoration.** Impacts to jurisdictional wetland and riparian habitat shall be mitigated by the project applicant at a minimum ratio of 2:1 (acres of habitat restored to acres impacted), and shall occur on-site or as close to the impacted habitat as possible (e.g., within the same watershed). A mitigation and monitoring plan shall be developed by a County-approved biologist in accordance with mitigation measure B-1(d) above and shall be implemented for no less than five years after construction of the segment, or until the County and/or the permitting authority (e.g., CDFW or USACE) has determined that restoration has been successful. Alternately, mitigation may occur through the purchase of credits at a USACE-approved mitigation bank or contribution to the	Less than significant.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
	USACE in-lieu fee program. **B-2(c) Landscaping Plan.** If landscaping is proposed for projects occurring within or adjacent to sensitive habitats, a County-approved biologist/landscape architect shall prepare a landscape plan for that project. This plan shall indicate the locations and species of plants to be installed. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Lists 1, 2, and 4 shall not be permitted. Species selected for planting shall be similar to those species found in adjacent native habitats. **B-2(d) Invasive Weed Prevention and Management Program.** Prior to start of construction for projects occurring within or adjacent to sensitive habitats, an Invasive Weed Prevention and Management Program shall be developed by a County-approved biologist to prevent invasion of native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a County-approved biologist and in accordance with the restoration plan.	
CULTURAL RESOURCES		
Impact CR-1 The Plan Area contains existing designated historic resources, as well as other properties that could be eligible for listing historic resources. These resources could be affected by future development allowed under the proposed Specific Plan. However, adopted Eden Area General Plan policies, existing regulations, and proposed Specific Plan policies would ensure that this impact would be *less than significant.*	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
Impact CR-2 The Plan Area includes known prehistoric and historic archaeological resources. In addition, ground disturbance associated with new construction could uncover previously unknown buried archeological deposits or human remains. However, adopted County policies and existing regulations would ensure that this impact would be *less than significant.*	None required.	Less than significant without mitigation.
Impact CR-3 Paleontological resources may be present in portions of the Specific Plan area. Ground disturbance associated with new construction in these areas could disturb unrecorded paleontological resources, which may occur at or near the surface. This impact would be *significant but mitigable.*	**CR-3 Paleontological Monitoring.** Prior to the commencement of grading below a depth of six inches for any project along East 14th Street/Mission Boulevard between 163rd Avenue and Paradise Boulevard, applicants shall retain a qualified paleontologist approved by the County to monitor grading and excavation. Monitoring onsite shall occur whenever grading activities are occurring. Additional monitors in addition to one full-time monitor may be required to provide adequate coverage if earth-moving activities are occurring simultaneously. Any cultural resources discovered by construction personnel or subcontractors shall be reported immediately to the paleontologist. In the event undetected buried resources are encountered during grading and excavation, work shall be halted or diverted from the area and the paleontologist shall evaluate the resource and propose appropriate mitigation measures. Measures may include testing, data recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution. All testing, data recovery, reburial, archival review or transfer to research institutions related to monitoring discoveries shall be determined by the qualified paleontologist and shall be reported to the County.	
GEOLOGY AND SOILS		
Impact GEO-1 A portion of the Plan Area is located within the Hayward Fault zone. Therefore, the Plan Area is subject to seismically-induced ground shaking and other seismic hazards, including liquefaction, which could damage structures in the Plan Area and result in loss of property and risk to human health and safety. However, implementation of State-mandated building standards and compliance with the Earthquake Fault Zoning Act and Eden Area General Plan policies would reduce impacts to a *less than significant* level.	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
Impact GEO-2 The Plan Area is located on expansive soils. Proper soils engineering practices would be required to ensure that soil conditions would not result in significant adverse impacts. With required implementation of standard engineering practices, impacts associated with unstable or expansive soils would be *less than significant.*	None required.	Less than significant without mitigation.
GREENHOUSE GAS EMISSIONS		
Impact GHG-1 Development under the proposed Specific Plan would generate additional GHG emissions beyond existing conditions due to construction activity and long-term operations. Total estimated GHG emissions would exceed the efficiency threshold. Impacts related to GHG emissions would be *significant but mitigable*.	**GHG-1 GHG Reduction**. Projects within the Plan Area that exceed the recommended operational GHG screening level sizes shown in Table 3-1 in the BAAQMD's May 2010 *California Environmental Quality Act Air Quality Guidelines* (i.e., low-rise apartments over 78 units, strip mall over 19,000 square feet, quality restaurant over 9,000 square feet, general office building over 53,000 square feet) shall quantify estimated GHG emissions associated with the project. If the project exceeds the recommended BAAQMD threshold of 4.9 metric tons CO_2e per service population per year, then one of the following shall be implemented: A. Prior to permit issuance, such projects shall develop a GHG Reduction Plan to ensure that project-related emissions are below 4.9 metric tons CO2e per person per year over the operational life of the project. The plan shall be implemented on site by the project applicant and may include, but is not be limited to, the following components: 1. Alternative fuel vehicles 2. Energy conservation policies 3. Energy efficient equipment, appliances, heating and cooling 4. Energy efficient lighting 5. Green building and roofs 6. Water conservation and recycling 7. Renewable energy production 8. Trip reduction 9. Carbon sequestration; or B. If GHG emissions cannot be reduced through compliance with the County Green Building Ordinance, a Climate Action Plan, other County GHG reduction plan, or project GHG Reduction Plan as described above, purchase carbon offsets to reduce GHG emissions below threshold levels demonstrated to the satisfaction of the County.	Less than significant.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
Impact GHG-2 The proposed Specific Plan would be generally consistent with Alameda County's draft Community Climate Action Plan, the Climate Action Team GHG reduction strategies, and the 2008 Attorney General Greenhouse Gas Reduction Measures. As a result, the proposed Specific Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be *less than significant.*	None required.	Less than significant without mitigation.
HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1 Implementation of the proposed Specific Plan would include development of residential or commercial land uses that could involve the use, storage, disposal or transportation of hazardous materials. In addition, upset or accident conditions within the Plan Area could involve the release of hazardous materials into the environment. However, required adherence to existing regulations would ensure that this is a *less than significant* impact.	None required.	Less than significant without mitigation.
Impact HAZ-2 Implementation of the proposed Specific Plan may involve the demolition or redevelopment of structures that could contain asbestos or lead based paints. Demolition of these buildings, if these materials are present, could potentially expose workers to hazards that would adversely affect human health and safety. However, compliance with both locally adopted Bay Area Air Quality Management District (BAAQMD) and State regulations regarding the handling and disposal of these materials would reduce these potential impacts to *less than significant.*	None required.	Less than significant without mitigation.
Impact HAZ-3 Implementation of the proposed Specific Plan would not involve facilities that would produce or emit hazardous materials near any schools. Impacts would be *less than significant.*	None required.	Less than significant without mitigation.
Impact HAZ-4 There are many properties within the Plan Area where past uses could have produced localized contamination or concentrations of hazardous	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
substances. If these sites were redeveloped or excavated, workers or residents could be exposed to residual contaminants in the soils. However, development within the Plan Are would be subject to existing policies regarding development in contaminated areas. Therefore, impacts would be less than significant.		
HYDROLOGY AND WATER QUALITY		
Impact HYD-1 Construction of future development under the Specific Plan would involve ground-disturbing activities and the use of heavy machinery that could release hazardous materials, including sediments and fuels. Operation of proposed development could also result in discharges of wastewater that could be contaminated and affect downstream waters. However, compliance with permits and regulations, and implementation of Best Management Practices contained therein would ensure that potential water quality impacts would be *less than significant.*	None required.	Less than significant without mitigation.
Impact HYD-2 Development included under the proposed Specific Plan would place housing and other structures within FEMA-designated Flood Hazard Areas. However, compliance with County building standards would reduce potential effects associated with flood events. Impacts would be *less than significant*.	None required.	Less than significant without mitigation.
LAND USE AND PLANNING		
Impact LU-1 The proposed Specific Plan is consistent with the goals, policies, and objectives of the Alameda County General Plan, the Eden Area General Plan, and the ALUCP, with inclusion of the mitigation measures described throughout this EIR. This is a *significant but mitigable* impact.	Mitigation measures included in sections 4.3*, Biological Resources*, and 4.6, *Greenhouse Gas Emissions,* would reduce environmental impacts to help achieve consistency with adopted goals and policies.	Less than significant.
Impact LU-2 The proposed Specific Plan would allow new development that may be incompatible with surrounding residential land uses and the existing pattern of development in the Plan Area. However, impacts would be *less than significant*.	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
NOISE		
Impact N-1 Development associated with the proposed Specific Plan would be subject to Eden Area General Plan policies and would be required to comply with its Land Use and Noise Compatibility Guidelines. Impacts related to exposing people or generating noise levels in excess of standards would be *less than significant.*	None required.	Less than significant without mitigation.
Impact N-2 Construction-related activities associated with implementation of the proposed Specific Plan would intermittently generate high noise levels and groundborne vibration within and adjacent to the Plan Area. However, buildout of the proposed Specific Plan would be consistent with the Eden Area General Plan. In addition, with implementation of Eden Area General Plan EIR Mitigation Measure NOI-2, impacts would be *less than significant.*	None required.	Less than significant without mitigation.
Impact N-3 Traffic generated by buildout of the proposed Specific Plan would incrementally increase noise levels on roads in the Plan Area. However, the increase of up to 1.5 dBA would not exceed the 3 dBA threshold identified in the Eden Area General Plan EIR. Therefore, traffic noise impacts would be *less than significant.*	None required.	Less than significant without mitigation.
POPULATION AND HOUSING		
Impact PH-1 Implementation of the proposed Specific Plan would encourage growth along the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors that could add 938 residential units, 1,900 employees, and an estimated 2,768 residents to the Plan Area. However, because these increases are within ABAG and Eden Area General Plan projections, impacts related to housing, population, and employment growth would be *less than significant.*	None required.	Less than significant without mitigation.
Impact PH-2 Implementation of the proposed Specific Plan would increase the Plan Area's housing stock. Impacts related to the displacement of housing and people would be less than significant.	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
PUBLIC SERVICES		
Impact PS-1 Implementation of the proposed Specific Plan would add new residential and non-residential uses to the Plan Area, generating additional need for Alameda County Sherriff's Office protection services. However, with adherence to Eden Area General Plan policies, impacts to police protection services would be *less than significant.*	None required.	Less than significant without mitigation.
Impact PS-2 Implementation of the proposed Specific Plan would add new residential and non-residential uses, generating additional need for Alameda County Fire Department protection services. However, impacts to fire protection services would be *less than significant.*	None required.	Less than significant without mitigation.
Impact PS-3 Implementation of the proposed Specific Plan would add up to an estimated 685 students. However, with payment of State-mandated school impact fees, impacts related to public school operating capacity would be *less than significant.*	None required.	Less than significant without mitigation.
Impact PS-4 Implementation of the proposed Specific Plan would increase the service population of the San Lorenzo and Castro Valley libraries by up to a total of 2,768 customers. However, because adequate capacity at existing libraries exists to serve the proposed Specific Plan, impacts related to libraries would be *less than significant.*	None required.	Less than significant without mitigation.
RECREATION		
Impact REC-1 Implementation of the proposed Specific Plan would add 938 residential units and an estimated 2,768 residents to the Plan Area, which would increase use of recreational facilities and contribute to their physical deterioration. However, payment of in-lieu public park fees would reduce impacts to a less than significant level.	None required.	Less than significant without mitigation.
TRANSPORTATION/TRAFFIC		
Impact T-1 Development facilitated by the proposed project would increase Existing Year (2013) traffic levels along East 14th/Mission and Lewelling/East Lewelling Boulevard. However, all study segments are	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
projected to operate at acceptable levels of service (LOS D or better). Therefore, impacts on the local circulation system under the Existing Year (2013) scenario would be *less than significant.*		
Impact T-2 Development facilitated by the proposed project would increase Cumulative Year (2040) traffic levels along East 14th/Mission and Lewelling/East Lewelling Boulevard. The proposed project is expected to degrade LOS from D to E along southbound Mission Boulevard between Mattox Road and Hayward City Limit during the AM peak hour, along southbound East 14th Street between San Leandro City Limit and Ashland Avenue during the PM peak hour, and along eastbound East Lewelling Boulevard between Meekland Avenue and Mission Boulevard during the PM peak hour. All other segments along East 14th/Mission and Lewelling Boulevard are projected to operate at acceptable levels of service (LOS D or better). Capacity increasing mitigation measures along East 14th/Mission or East Lewelling Boulevard are not proposed as part of the project. Therefore, impacts on the local circulation system under the Cumulative Year (2040) scenario would be *significant and unavoidable.*	None available.	Significant and unavoidable.
Impact T-3 The proposed project would not disrupt existing or planned transit facilities and would provide "Good" or "Best" conditions based on the established MMLOS method. The proposed project would not degrade existing or planned transit facilities to worse MMLOS conditions compared to existing conditions. Impacts to transit infrastructure would be *less than significant.*	None required.	Less than significant without mitigation.
Impact T-4 The proposed project would not disrupt existing or planned bicycle facilities and would provide "Good" conditions based on the established MMLOS method. The proposed project would not degrade existing or planned bicycle facilities to worse MMLOS conditions compared to existing conditions. Impacts to the bicycle network would	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
be *less than significant*.		
Impact T-5 The proposed project would not disrupt existing or planned pedestrian facilities and maintains "Good" conditions based on the established MMLOS method. The proposed project would not degrade existing or planned pedestrian facilities to worse MMLOS conditions compared to existing conditions. Impacts to the pedestrian network would be *less than significant*.	None required.	Less than significant without mitigation.
Impact T-6 Traffic generated by the proposed project would increase traffic along the Alameda County Transportation Commission Congestion Management Plan freeway and arterial segments under Near-Term (2020) and Cumulative Year (2040) PM peak hour conditions. However, the increase in Specific Plan buildout traffic would only exceed the CMP LOS thresholds along eastbound I-580 between Grand Avenue and 150th Avenue, by increasing the LOS from E to F during the PM peak hour under Near-Term (2020) conditions, and increasing the V/C ratio by more than 0.03 along a segment that operates at LOS F under Cumulative Year (2040) Without Specific Plan buildout conditions. In addition, the project would also exceed the CMP LOS thresholds along eastbound I-580 between 150th Avenue and 163rd Avenue, by increasing the V/C ratio by more than 0.03 along a segment that operates at LOS F under Cumulative Year Without Specific Plan buildout conditions. Capacity increasing mitigation measures along eastbound I-580 are not proposed by the project. Therefore, impacts to CMP network would be *significant and unavoidable.*	None available.	Significant and unavoidable.
UTILITIES AND SERVICE SYSTEMS		
Impact UTL-1 Full buildout of development included under the proposed Specific Plan would generate an increased demand for water supply. Existing and projected water supply would be adequate to serve the Plan Area demands though the Year 2040, and existing or planned water conveyance infrastructure is sufficient to deliver	None required.	Less than significant without mitigation.

Table ES-1
Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measures	Residual Impact
projected water supply requirements. Impacts would be *less than significant.*		
Impact UTL-2 Full buildout of development included under the proposed Specific Plan would generate a new source of wastewater, which would flow through the existing Oro Loma Sanitary District (OLSD) system. Local conveyance infrastructure would be upgraded in accordance with an existing maintenance plan, and would not need to be upgraded as a result of the proposed Specific Plan buildout. Impacts would be *less than significant.*	None required.	Less than significant without mitigation.
Impact UTL-3 Implementation of the proposed Specific Plan would generate an increase of up to 12.1 tons of solid waste per day. However, because the Altamont Landfill has adequate capacity to serve the proposed Specific Plan, impacts related to solid waste facilities would be *less than significant.*	None required.	Less than significant without mitigation.

This page intentionally left blank.

1.0 INTRODUCTION

This document is an Environmental Impact Report (EIR) that evaluates the potential environmental effects associated with implementation of the Ashland and Cherryland Business District (ACBD) Specific Plan ("proposed Specific Plan").

This section: (1) provides an overview of the background and process involved in developing the proposed Specific Plan; (2) describes the purpose of and legal authority of the document; (3) summarizes the scope and content of the EIR; (4) lists lead, responsible, and trustee agencies for the EIR; (5) describes the intended uses of the EIR; and (6) provides a synopsis of the environmental review process required under CEQA.

The contents of other EIR sections are as follows:

- *Section 2.0, Project Description, provides a detailed discussion of the proposed Specific Plan.*
- *Section 3.0, Environmental Setting, describes the general environmental setting for ACBD Specific Plan Area ("Plan Area").*
- *Section 4.0, Environmental Impact Analysis, describes the potential environmental effects associated with development facilitated by the proposed Specific Plan.*
- *Section 5.0, Other CEQA Requirements, discusses issues such as growth inducement and significant irreversible environmental effects.*
- *Section 6.0, Alternatives, discusses alternatives to the proposed Specific Plan, including the CEQA-required "no project" alternative.*
- *Section 7.0, References and Preparers, lists informational sources for the EIR and persons involved in the preparation of the document.*

1.1 OVERVIEW OF THE ACBD SPECIFIC PLAN

Under California law, a specific plan is a planning tool that allows a community to create a long-term vision for a defined area and develop guidelines and regulations to implement that vision. A specific plan may establish clear goals, policies, and implementation strategies to guide public and private investment in a coordinated manner.

The Ashland and Cherryland Business District Specific Plan ("ACBD Specific Plan") provides direction for future development within the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors in Ashland and Cherryland—two unincorporated communities within the County of Alameda. The proposed Specific Plan would update the existing ACBD Specific Plan adopted in 1995. The ACBD Specific Plan is intended to be consistent with and to implement the policies of the Eden Area General Plan (2010) and the Alameda County General Plan.

Development of the draft Specific Plan that is the subject of this EIR entailed an approximately nine-month process involving the Alameda County Board of Supervisors, key community stakeholders, County and consultant staff, and the public at large. The public involvement process used to develop the Specific Plan included:

- *A series of stakeholder interviews with community members;*
- *A series of public workshops with County and consultant staff, members of the public, and key stakeholders to discuss a range of issues relevant to the Specific Plan*
- *Establishment of a Community Advisory Committee (CAC) consisting of community members and stakeholders to provide guidance during implementation of the plan*
- *Establishment of a Technical Advisory Committee (TAC) consisting of planning, economic development, and transportation processionals from local agencies to provide technical incite.*
- *Additional outreach meetings with community groups such as the Eden Area Livability Initiative, Castro Valley/Eden Area Chamber of Commerce, and Cherryland Community Association.*

1.2 LEGAL AUTHORITY

This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) and the *State CEQA Guidelines*. In accordance with Section 15121 (a) of the *State CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3), the purpose of an EIR is to:

> *Inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

This EIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in Section 15168 of the *CEQA Guidelines*, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the County (as Lead Agency) with the opportunity to consider broad policy alternatives and program-wide mitigation measures and provides the County with greater flexibility to address environmental issues and/or cumulative impacts on a comprehensive basis. Agencies generally prepare Program EIRs for programs or a series of related actions that are linked geographically; are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or are individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways. By its nature, a Program EIR considers the "macro" effects associated with implementing a program (such as a general plan) and does not, and is not intended to, examine the specific environmental effects associated with individual actions that may be undertaken under the guise of the larger program.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (*CEQA Guidelines* Section 15168(c)). When a Program EIR is relied on for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (*CEQA Guidelines* Section 15168(c)(3)). If a subsequent activity would have effects not addressed in

the Program EIR, the Lead Agency must prepare a new Initial Study leading to a Negative Declaration (ND), Mitigated Negative Declaration (MND), or project level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The *CEQA Guidelines* (Section 15168(h)) encourage the use of Program EIRs, citing five advantages:

1. *Provision of a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR*
2. *Focus on cumulative impacts that might be slighted in a case-by-case analysis*
3. *Avoidance of continual reconsideration of recurring policy issues*
4. *Consideration of broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them*
5. *Reduction of paperwork by encouraging the reuse of data (through tiering)*

As a "macro" level environmental document, this EIR uses macro level thresholds as compared to the project-level thresholds that might be used for an EIR on a specific development project. It should not be assumed that impacts determined not to be significant at a macro level would not be significant at a project level. In other words, determination that implementation of the proposed Specific Plan as a "program" would not have a significant environmental effect does not necessarily mean that an individual project undertaken under the guise of the proposed Specific Plan would not have significant effects based on project-level CEQA thresholds, even if the project is consistent with the proposed Specific Plan.

1.3 SCOPE AND CONTENT OF THE EIR

In accordance with the *CEQA Guidelines*, a Notice of Preparation (NOP) of a Draft EIR was circulated to potentially interested parties on April 13, 2015. The NOP, included in Appendix A, indicated that the following issues would be discussed in the EIR:

- *Aesthetics*
- *Air Quality*
- *Biological Resources*
- *Cultural Resources*
- *Geology and Soils*
- *Greenhouse Gas Emissions*
- *Hazards and Hazardous Materials*
- *Hydrology and Water Quality*
- *Land Use and Planning*
- *Noise*
- *Population and Housing*
- *Public Services and Recreation*
- *Transportation and Traffic*
- *Utilities and Service Systems*

This EIR evaluates potential impacts in each of these areas.

In addition, the County received two written responses to the NOP regarding the scope and content of the EIR. These responses are included in Appendix A. The County also held an EIR scoping meeting on April 29, 2015, and received verbal comments regarding the scope and content of the EIR from four attendees. Verbal comments from the scoping meeting attendees and written comments are summarized in Table 1-1. Verbal and written comments are addressed, as appropriate, in the analysis contained in the various subsections of Section 4.0, *Environmental Impact Analysis*, and in the Initial Study (Appendix A).

Table 1-1
NOP Comment Issues

Issue	EIR Section
The proposed Specific Plan would increase water demand and a Water Supply Assessment is needed	Section 4.15, *Utilities and Service Systems*
The environmental document should include an analysis of the travel demand expected from the proposed project	Section 4.14, *Transportation and Circulation*
Growth in Specific Plan area could lead to increased traffic through surrounding neighborhoods	Section 4.14, *Transportation and Circulation*
The Specific Plan area is not suitable for pedestrian travel	Section 4.14, *Transportation and Circulation*
Growth in Specific Plan area could encourage people to shop locally rather than outside the Plan area, thereby reducing vehicle miles travelled	Section 4.14, *Transportation and Circulation*
There is potential to improve bikeability in Plan Area corridors	Section 4.14, *Transportation and Circulation*
EIR should consider local/street level aesthetic impacts in addition to broader views	Section 4.1, *Aesthetics*
Allowing for diversity in architectural design would improve aesthetics and visual interest	Section 4.1, *Aesthetics*
Applicability of/consistency with County watercourse ordinance	Section 4.8, *Hydrology and Water Quality*
Applicability of/consistency with County Health and Wellness Element	Section 4.9, *Land Use and Planning*
EIR should consider sewer infrastructure capacity and capacity of other utilities serving the Plan area	Section 4.15, *Utilities and Service Systems*
EIR should consider construction noise	Section 4.10, *Noise*
EIR should consider compatibility of adjacent uses, and location of noise-sensitive uses, e.g. near freeways	Section 4.10, *Noise*
EIR should consider compatibility of adjacent uses	Section 4.9, *Land Use and Planning,* and other EIR sections as appropriate regarding air quality, noise, etc.
EIR should consider whether the Plan would have an impact on local urban agricultural uses (e.g. Dig Deep Farm's operations)	Section II, *Agriculture and Forest Resources,* of the Initial Study (Appendix A of this EIR)

1.4 LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The County of Alameda is the lead agency under CEQA for this EIR because it has primary discretionary authority to determine whether or how to approve the ACBD Specific Plan.

"Responsible Agencies," are other agencies that are responsible for carrying out/implementing a specific component of the proposed Specific Plan or for approving a project (such as an annexation) that implements the goals and policies of the proposed Specific Plan. Section 15381 of the *State CEQA Guidelines* defines a "responsible agency" as:

> *A public agency which proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For purposes of CEQA, responsible agencies include all public agencies other than the lead agency that have discretionary approval authority over the project.*

There are no responsible agencies for the proposed Specific Plan.

Trustee agencies have jurisdiction over certain resources held in trust for the people of California but do not have a legal authority over approving or carrying out the project. *CEQA Guidelines* Section 15386 designates four agencies as trustee agencies: the California Department of Fish and Game with regards to fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves; the State Lands Commission, with regard to state-owned "sovereign" lands, such as the beds of navigable waters and state school lands; the California Department of Parks and Recreation, with regard to units of the state park system; and, the University of California, with regard to sites within the Natural Land and Water Reserves System.

There are no trustee agencies for the prosed Specific Plan.

1.5 INTENDED USES OF THE EIR

This EIR is as an informational document for use in the County's review and consideration of the ACBD Specific Plan. It is to be used to facilitate creation of Specific Plan that incorporates environmental considerations and planning principles into a cohesive policy document. The ACBD Specific Plan will guide subsequent actions taken by the County in its review of new development projects within the Plan Area and its establishment of new and/or revised programs for the Plan Area.

This EIR discloses the possible environmental consequences associated with the proposed Specific Plan. The information and analysis in this EIR will be used by the Alameda County Board of Supervisors and the general public.

1.6 EIR PROCESS

The environmental review process, as required under CEQA, is summarized below and illustrated generally on Figure 1-1.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. For projects of regional significance, the lead agency holds a scoping meeting during the 30-day NOP review period.
2. **Draft EIR.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion.** Upon completion of a Draft EIR, the lead agency must file a Notice of Completion with the State Clearinghouse and prepare a Public Notice of

Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it (*CEQA Guidelines* Section 15087). In addition, public notice of the availability of the Draft EIR must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off of the project site; or c) direct mailing to owners and occupants of contiguous properties and others who have requested such notification. The lead agency must solicit comments from the public and respond in writing to all written comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days (Public Resources Code Section 21091).

4. **Final EIR.** Following the close of the Draft EIR review period, a Final EIR is prepared. The Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) a list of persons and entities commenting; and d) responses to comments.

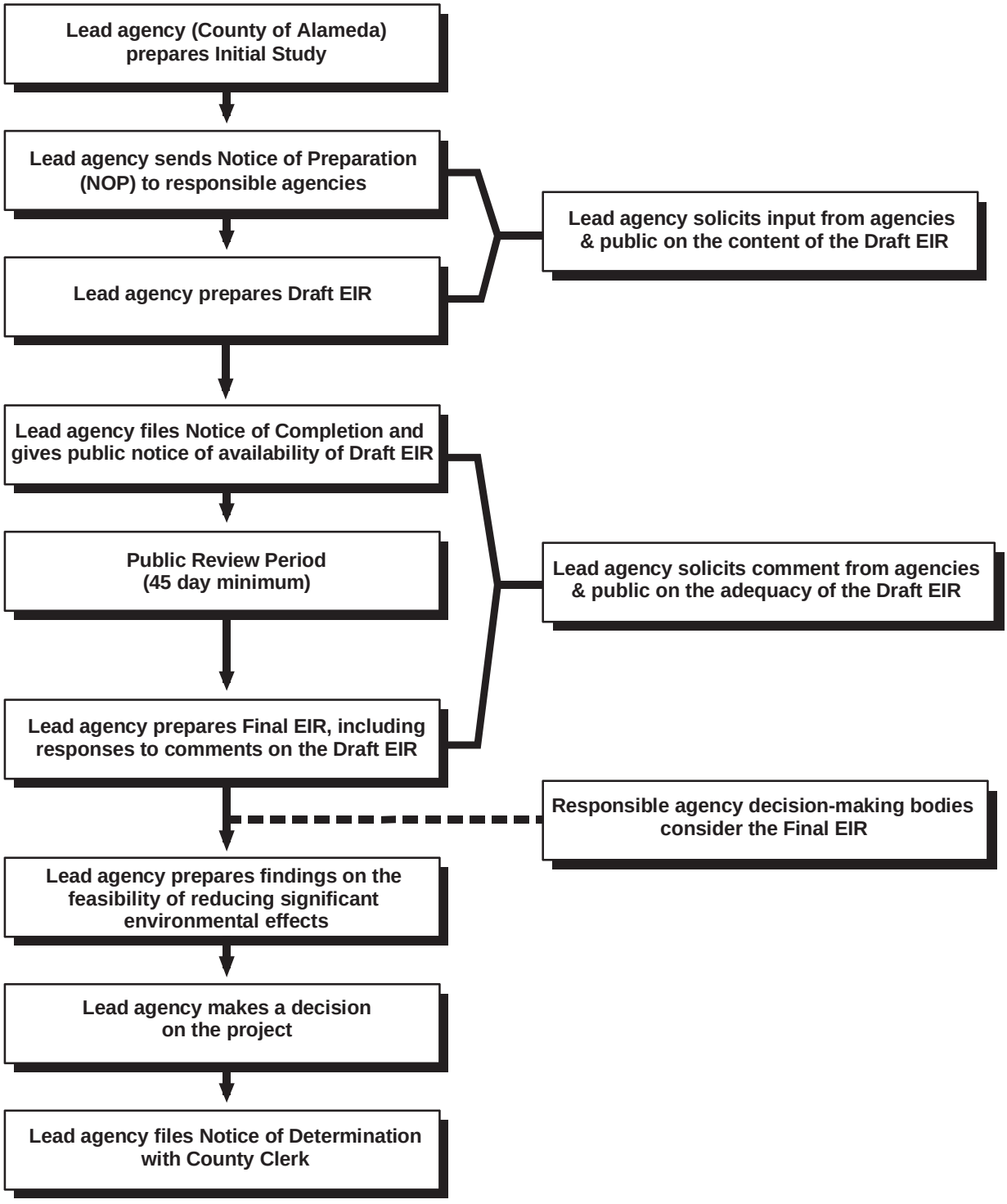
   Final EIR Certification. Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving the project (*CEQA Guidelines* Section 15090).

5. **Lead Agency Project Decision.** Upon certification of an EIR, the lead agency makes a decision on the project analyzed in the EIR. A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).

6. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible *(CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision and explaining why the project's benefits outweigh the significant environmental effects.

7. **Mitigation Monitoring/Reporting Program.** When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.

THE EIR PROCESS



Environmental Review Process Figure 1-1

This page intentionally left blank.

2.0 PROJECT DESCRIPTION

2.1 PROJECT SUMMARY

The proposed project involves the adoption of the Ashland and Cherryland Business District (ACBD) Specific Plan ("proposed Specific Plan"). The proposed Specific Plan would update the existing ACBD Specific Plan adopted in 1995. The proposed Specific Plan includes policies and development standards to guide future development in the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors in Ashland and Cherryland, two unincorporated communities within the County of Alameda. The proposed Specific Plan is intended to be consistent with and to implement the policies of the Eden Area General Plan (2010) and the Alameda County General Plan. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses, adding up to: (1) 167 single-family units, (2) 771 multi-family units, and (3) 570,000 square feet of non-residential development. The growth that would be accommodated by the proposed Specific Plan is within that envisioned by the Eden Area General Plan. The proposed Specific Plan would concentrate development into the districts, corridors, and neighborhoods within the Plan Area. The development assumed in the Specific Plan could occur over a 20-year time period.

This section describes the proposed Specific Plan location, characteristics of the plan area and potential buildout under the proposed Specific Plan, Specific Plan objectives, and the approvals needed to adopt the proposed Specific Plan. Actual development under the provisions of the Specific Plan would require subsequent approvals and permits including, in some cases, separate California Environmental Quality Act (CEQA) review.

2.2 LEAD AGENCY/PROJECT APPLICANT

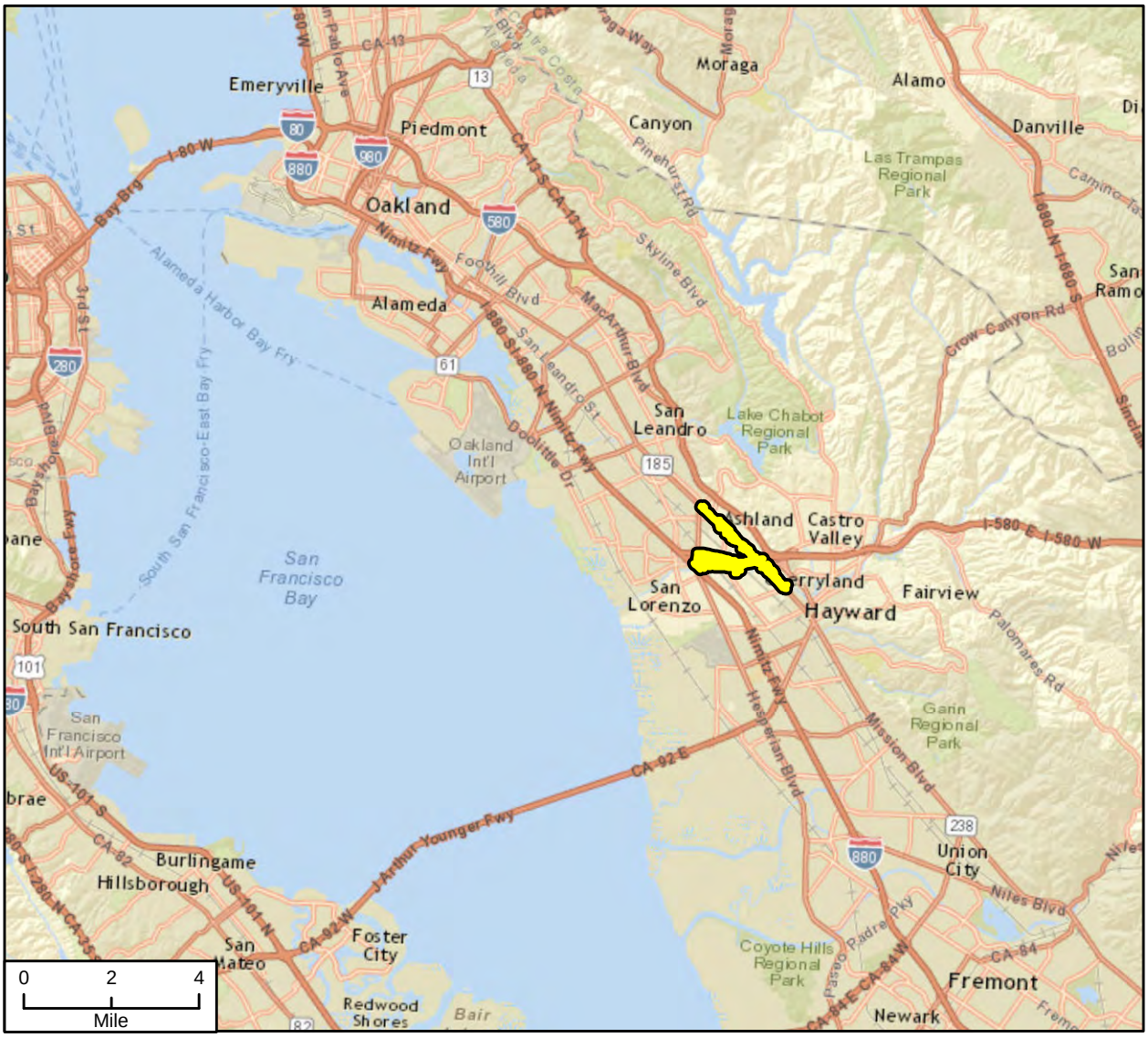
County of Alameda
224 West Winton Avenue, Suite 111
Hayward, CA 94544

Contact:
Rodrigo Orduña, AICP, Bay-Friendly QLP, Senior Planner
(510) 670-6503, rodrigo.orduna@acgov.org

2.3 LOCATION AND SETTING

2.3.1 Plan Area Setting

The ACBD Specific Plan Area ("Plan Area") is situated in the unincorporated communities of Ashland and Cherryland within the County of Alameda. The County of Alameda is located in the East Bay area of the San Francisco Bay region of California. The unincorporated communities of Ashland and Cherryland are located in the western portion of the County between the City of San Leandro to the north and the City of Hayward to the south, approximately 0.5 miles west of the unincorporated community of Castro Valley. The regional location is illustrated in Figure 2-1. Figure 2-2 shows the local location of the Plan Area.

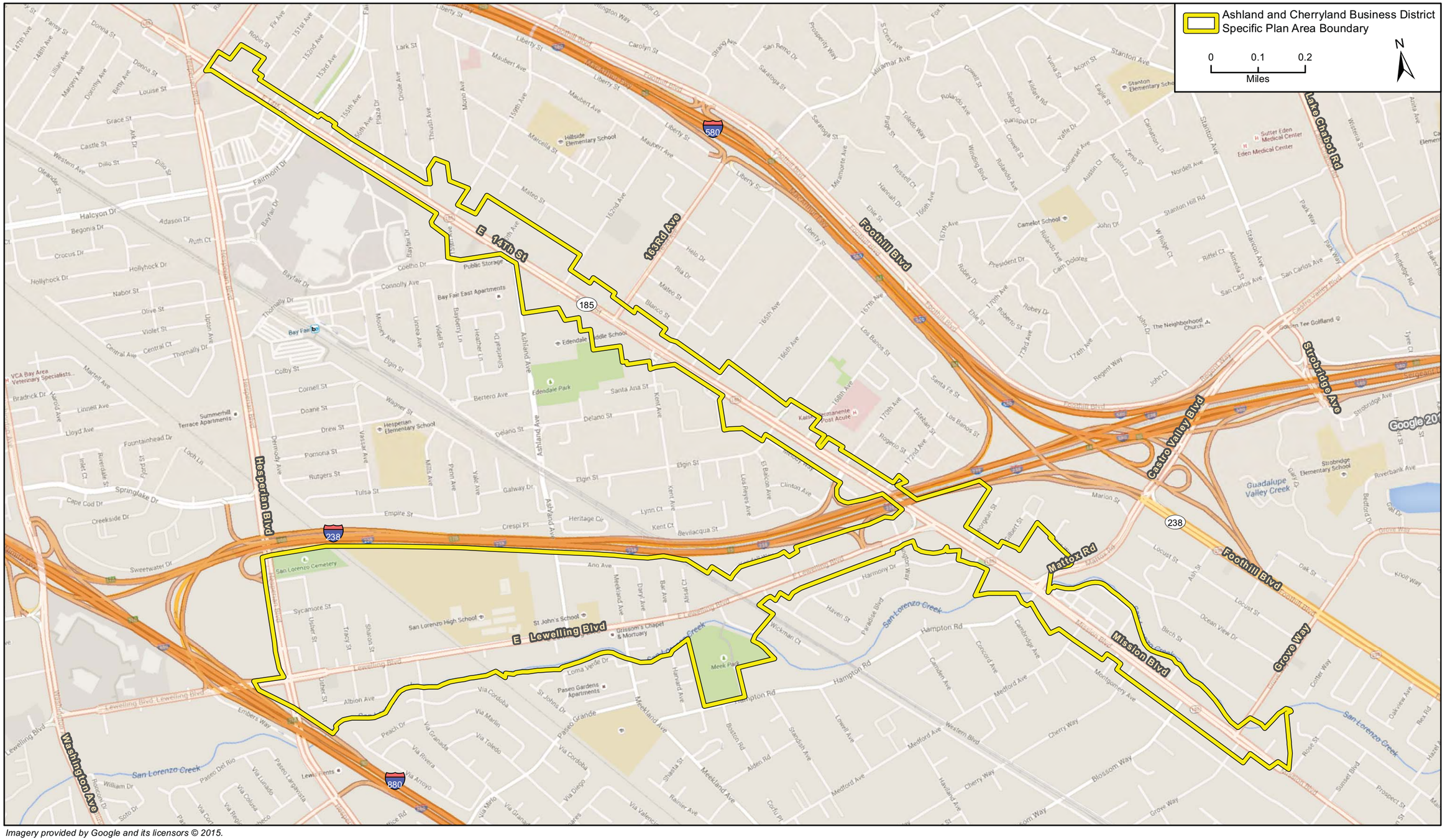


Imagery provided by ESRI and its licensors © 2015.

N

Specific Plan Boundary

Regional Location Figure 2-1



Imagery provided by Google and its licensors © 2015.

Specific Plan Area

Figure 2-2

The Plan Area covers approximately 246 acres along a three-mile stretch of East 14th Street/Mission Boulevard and a 1.5-mile section of Lewelling/East Lewelling Boulevard between 150th Avenue to the north, Grove Way to the south, and Hesperian Boulevard to the west. The Plan Area is bisected by Interstate 238 and adjacent to interstates 880 and 580. The Bay Fair Bay Area Rapid Transit (BART) station is located just outside the northern corner of the Plan Area. The Plan Area is between two and four miles from the San Francisco Bay.

The Plan Area is almost entirely built out with residential, commercial, and institutional uses and is relatively flat with elevations ranging from 35 to 85 feet above mean sea level. The Plan Area is located in proximity to the San Andreas Fault Zone. The Hayward Fault, one of the ten major faults that comprise the San Andreas Fault Zone, runs along the western edge of the Plan Area. Most of the Plan Area is within one mile of the Hayward Fault.

2.3.2 Regulatory Setting

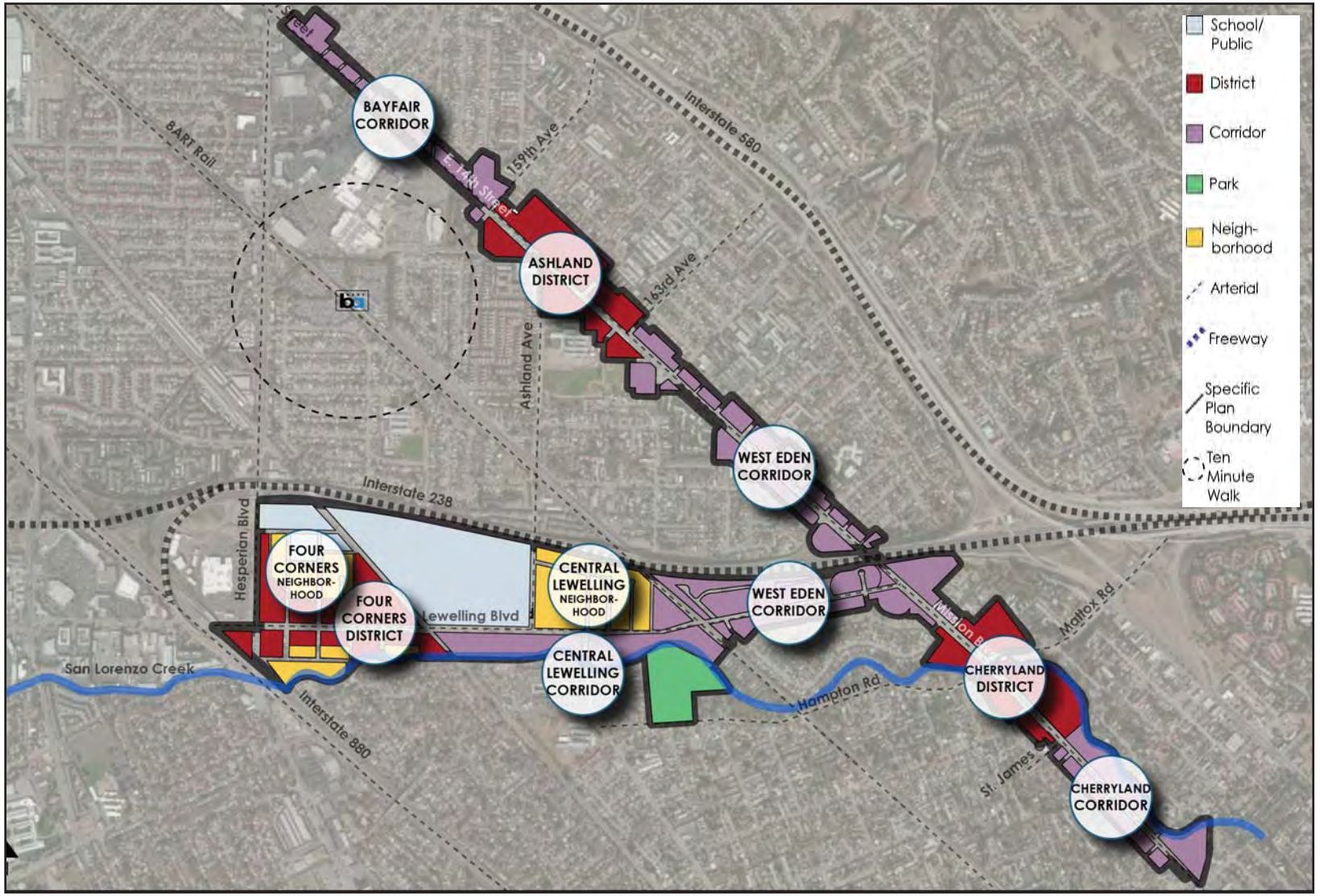
Alameda County General Plan. The Alameda County General Plan provides the framework for the growth and development of the unincorporated areas of the County. There are seven countywide elements: Housing (2010), Conservation (1994), Open Space (1994), Noise (1994), Safety (2013), Scenic Route (1994), and Recreation (1994). These elements contain goals, policies, and actions that apply to all unincorporated area within Alameda County. These elements supplement three individual area general plans which contain land use and circulation elements for their respective geographic areas, as well as area specific goals, policies and actions for circulation, open space, conservation, safety, and noise. The County is divided into three areas which each have their own area general plans: the Eden Area , the Castro Valley Area, and the East County Area . The Plan Area is within the Eden Area and therefore the underlying general plan governing the Plan Area is the Eden Area General Plan, adopted in 2010.

Under Government Code Section 65450 et seq., a specific plan implements and must be consistent with the governing general plan. However, a specific plan is a separate document from the general plan and contains a greater degree of detail, including functions of zoning, land use regulations, design standards, and capital improvement plans.

The Alquist-Priolo Earthquake Fault Zone Act (1972). This Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults. Under the Act, development of a building for human occupancy is generally restricted within 50 feet of an identified fault. An approximately 22-acre area in the southeastern part of the Plan Area is within an Alquist-Priolo Fault Zone for the Hayward Fault and is subject to the regulations of the Act.

2.4 EXISTING CHARACTER

The Plan Area contains typical urban uses such as residential, commercial, and school uses. As shown in Figure 2-3, the proposed Specific Plan divides the Plan Area into nine "Character Areas." The character areas include three districts (centers of employment, shopping, dining, and civic activity), four corridors (create connectivity between neighborhoods and districts),



Specific Plan Character Areas

Figure 2-3

Base drawing source: Lisa Wise Consulting, Inc., 2015.

and two neighborhoods (district residential areas). The existing character for each of the Character Areas is described below.

- **Ashland District:** situated in the northern segment of East 14th Street, between 159th Avenue to the north and 164th Avenue to the south (see Figure 2-3). The Eden Area General Plan land use designation is General Commercial (GC). The most prevalent uses within the District are auto related sales, service uses, and convenience stores.
- **Cherryland District:** located in the southern portion of the Plan Area approximately between Paradise Boulevard to the north, St. James Court to the south, Montgomery Avenue to the west, and San Lorenzo Creek to the east. The Eden Area General Plan Land use designation is General Commercial (GC). The District is visible from I-580 and contains a variety of auto-related service, sales, and repair uses, discount stores, and restaurants.
- **Four Corners District:** located in the western most section of the Plan Area along Lewelling Boulevard, approximately between College Street to the north, Albion Avenue to the south, Hesperian Boulevard to the west and the Union Pacific railroad tracks to the east. This area is the historic center of the Eden Area. The Eden Area General Plan Land use designation is General Commercial (GC). This District includes a shopping center, a former hardware store, and residential uses.
- **Bayfair Corridor:** located along East 14th Street, between 150th Avenue to the north and 159th Avenue to the south, and consists of the single block east of East 14th Street. This Corridor is walking distance from the Bayfair mall and Bayfair BART station. The Eden Area General Plan Land use designation is General Commercial (GC). Land uses within the Corridor are mostly commercial, with a few residential properties, including a multi-family development at the intersection of Thrush Avenue and East 14th Street. Commercial uses range from restaurants, fast food, personal service, and auto parts and service.
- **West Eden Corridor:** situated at the intersection of East 14th Street, Mission Boulevard, and East Lewelling Boulevard (the major thoroughfares in the Plan Area), extending from 164th Avenue to the north, Gilbert Street to the south, and the BART tracks to the west. The Eden Area General Plan Land use designation is General Commercial (GC). The West Eden Corridor, similar to the adjacent Corridors and Districts along East 14th/Mission, is characterized by varied commercial uses on small lots, including a gas station, small restaurants, used auto sales, auto parts sales, fast food, appliance stores, and personal services.
- **Cherryland Corridor:** comprises the southernmost section of the Plan Area located along Mission Boulevard., between St. James Court to the north, Rose Street to the south, Montgomery Avenue to the west and San Lorenzo Creek to the east. This Corridor is located adjacent to the Hayward fault. The Eden Area General Plan land use designation on the east side of Mission Boulevard is General Commercial (GC) and Low-Medium to Medium Density Residential on the west side. This Corridor contains auto-related and service uses as well as mixed-use properties with street-front commercial and residential located behind.
- **Central Lewelling Corridor:** positioned in the central portion of the Plan Area, and is located across from San Lorenzo High School, approximately between Lewelling

Boulevard to the north, San Lorenzo Creek to the south, the Union Pacific railroad tracks to the west and the BART tracks to the east. This Corridor includes a variety of uses including residential, neighborhood commercial, and religious uses. The Eden Area General Plan Land use designations are General Commercial (GC) and Medium Density Residential. This Corridor also includes Meek Estate Park, a regional cultural and historical site.

- **Central Lewelling Neighborhood:** positioned in the center of the Plan Area, north of Lewelling Boulevard between Ashland Avenue to the west and Alisal Court to the east. Land use designations in this neighborhood include Low and Medium Density Residential. Aside from St. Johns Church and School and townhomes at the intersection of Ashland Avenue and Lewelling Boulevard., the Neighborhood consists of low-density single family homes. The Neighborhood is mostly built out.
- **The Four Corners Neighborhood:** situated in the western section of the Plan Area, and is located on both sides of Lewelling Boulevard, between San Lorenzo Creek to the south, Hesperian Boulevard to the west, Sycamore Street to the north, and Sharon Street to the east. Land use designations include Low Density Residential to the north of Lewelling Boulevard and Medium High Density Residential to the south of Lewelling Boulevard. The Neighborhood contains a large range of densities including multi-family, duplexes, and single-family detached homes.

2.5 PROJECT OBJECTIVES

The objectives of the proposed Specific Plan include:

1) *Achieve economic revitalization of the Ashland and Cherryland Business District Specific Plan Area.*
2) *Attain Plan Area recognition as a destination that draws visitors and customers to the area.*
3) *Realize attractive and high quality public and private improvements along East 14th Street/Mission Boulevard and of Lewelling/East Lewelling Boulevard.*
4) *Develop and use the East 14th Street/Mission Boulevard as a place for higher intensity uses.*
5) *Build Plan Area landscaped areas, parks, open space, and trails that are supportive of the public life of the community and part of the SP area revitalization.*
6) *Enhance the quality of and conservation of Plan Area residential neighborhoods; improve compatibility between residential and commercial uses; and implement mixed-use development that improves the edge between business districts and adjacent residential areas.*
7) *Maintain and improve Plan Area infrastructure that matches infrastructure levels in newer parts of the County.*
8) *Balance and complete a circulation network that creates a strong economy and vibrant community and accommodates the internal and external transportation needs of the Plan Area by promoting walking, biking, and transit while continuing to serve automobile traffic.*
9) *Establish complete neighborhoods in the Plan Area with adequate shopping, jobs, housing, infrastructure, and daily services f or Plan Area residents.*

2.6 SPECIFIC PLAN COMPONENTS

2.6.1 Overview

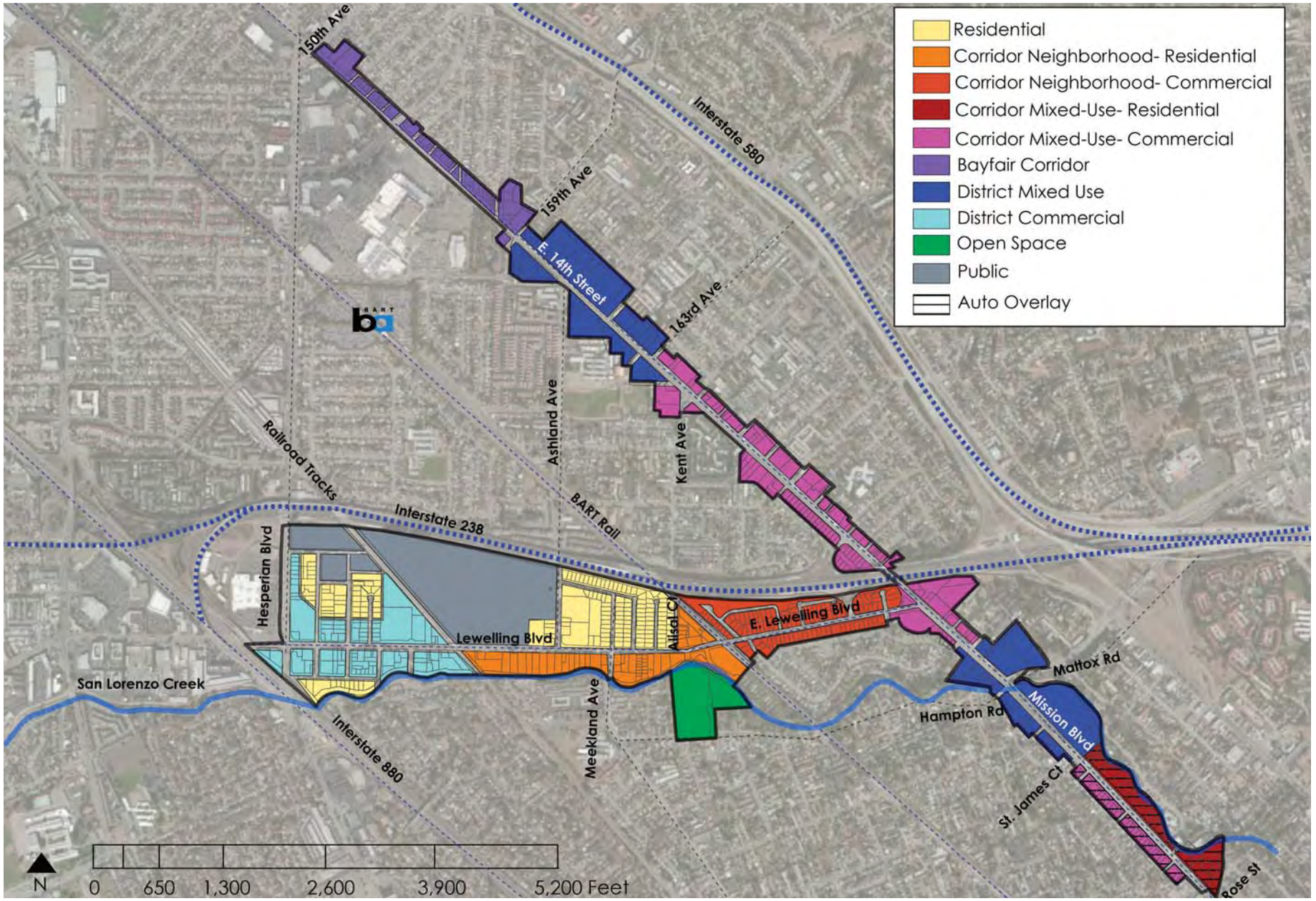
The proposed Specific Plan has two major components: (1) the long term vision and policy component (Chapters 2 through 5) and (2) the regulatory component (Chapter 6). The vision and policy component provides the goals and policies related to land use, circulation, infrastructure, and design; and recommends implementing programs and financing options to achieve these goals. The regulatory component would enact zoning for the Plan Area—establishing zones, uses, and development standards. Together, these two components are intended to serve as a comprehensive document for development within the Plan Area.

The Specific Plan contains the following Chapters:

- The **Introduction** chapter (Chapter 1) describes the purpose and goals of the proposed Specific Plan, the Plan Area conditions, and the public participation and plan development process.
- The **Vision and Community Character** chapter (Chapter 2) provides the long-term vision and existing conditions for each District, Corridor, and Neighborhood within the Plan Area.
- The **Mobility and Parking** chapter (Chapter 3) presents the Multimodal Access Plan for the Plan Area. It provides the vision and recommendations for all travel mode types: automobile, bicycle, pedestrian, and public transit. Transportation demand management and parking are also addressed in this Chapter.
- The **Infrastructure** chapter (Chapter 4) addresses existing infrastructure and impact of the Plan on existing infrastructure resources: water, waste water, storm water, solid waste, schools, and public services.
- The **Implementation and Financing** chapter (Chapter 5) presents the goals, policies, and programs to achieve the vision as described in Chapters 2 through 4. The chapter lists funding sources to implement the Plan's programs.
- The **Zoning Code** (Chapter 6) provides the Zoning Code for the Plan Area. The Code establishes zones, allowed uses, and development standards for the Plan Area in order to implement the Plan vision. The Chapter also includes a discussion of zoning procedures and administration, and the relationship of the ACBD Code to the Alameda County Zoning Ordinance and other regulatory documents.

2.6.2 Land Use Concept

The proposed Specific Plan's zoning concept is shown in Figure 2-4 and calls for a variety of zones that support the project objectives listed in Subsection 2.5. Chapter 6 of the proposed Specific Plan establishes the following zones:



Specific Plan Zoning Concept

Figure 2-4

Source: Lisa Wise Consulting, Inc.

- **District Mixed Use (DMU).** The intent of this zone is to provide a vibrant, walkable urban main street mixed-use commercial environment that supports public transportation alternatives and provides locally- and regionally-serving commercial, retail, and entertainment uses, as well as a variety of urban housing choices. This zone would generally apply to the Ashland and Cherryland Districts.
- **District Commercial (DC).** The intent of this zone is to provide a vibrant, walkable urban main street commercial environment that serves as the focal point for the surrounding neighborhoods and provides locally- and regionally-serving commercial, retail, and entertainment uses. This zone would generally apply to the Four Corners District.
- **Bayfair Corridor (BC).** The intent of this zone is to provide a vibrant mixed-use environment adjacent to public transit that strengthens present and future commercial opportunities, serves daily needs of surrounding neighborhood residents, and accommodates growth and infill. This zone would generally apply to the Bayfair Corridor.
- **Corridor Mixed Use-Residential (CMU-R).** The intent of this zone is to provide an urban form that can accommodate mixed-use residential development with commercial as a secondary use and to encourage revitalization and investment. This zone would generally apply to the Cherryland Corridor.
- **Corridor Mixed Use-Commercial (CMU-C).** The intent of this zone is to provide an urban form that can accommodate a very diverse range of uses, including mixed-use and commercial services, to encourage revitalization and investment. This zone would generally apply to the West Eden and Cherryland Corridors.
- **Corridor Neighborhood-Commercial (CN-C).** The intent of this zone is to support neighborhood-serving commercial uses on small and medium-sized lots in various structures, including house form building types. This zone would generally apply to the West Eden Corridor.
- **Corridor Neighborhood-Residential (CN-R).** The intent of this zone is to accommodate a variety of medium density housing choices and to support a limited amount of retail, commercial, and office uses as allowed in the Eden Area General Plan. This zone would generally apply to the Central Lewelling Corridor.
- **Residential (R).** The intent of this zone is to preserve existing and allow new small-to-medium lot detached homes and reinforce their role within a walkable neighborhood. This zone generally applies to the Four Corners and Central Lewelling Neighborhoods.
- **Public (P).** The intent of this zone is to allow for public serving uses such as schools. This zone generally applies to the San Lorenzo High School and San Lorenzo Cemetery.
- **Open Space (OS).** The intent of this zone is to preserve land for parks and open space for active or passive recreational uses. This zone generally applies to the Meek Estate Park.
- **Auto Overlay (A-O).** The intent of this zone is to establish an area where auto related businesses are allowed by right in order to implement policies and programs in the proposed Specific Plan. The zone will accommodate a variety of uses and jobs to reduce displacement and concentrate auto uses. This zone generally applies to the Cherryland Corridor.

2.6.3 Development Standards

The Zoning Code (Chapter 6) establishes and defines the zones for the Plan Area and defines allowed uses, permit requirements, and development standards for each zone (Section 6.2). Allowed uses and permit requirements for each zone are shown in Table 2-1.

Table 2-1
Allowed Land Uses and Permit Requirements

Land Use Type	Zone									
	DMU	DC	BC	CMU-R(1)	CMU-C	CN-R(2)	CN-C	R	P	OS
Entertainment and Recreation										
Adult entertainment activity	-	-	-	-	-	-	-	-	-	-
Health/Fitness facility <5,000 sf	MUP	MUP	MUP	-	MUP	-	-	-	-	-
Health/Fitness facility >5,000 sf	CUP	CUP	CUP	-	CUP	-	-	-	-	-
Indoor/Outdoor Recreation	CUP	CUP	-	-	CUP	-	-	-	-	MUP
Park, Playground	P	P	P	P	P	P	P	P	P	P
Studio: art, dance, music, etc.	P	P	P	P(1)	P	P(2)	P	-	-	-
Theatre, cinema, or performing arts	P	P	P	P(1)	P	-	-	-	-	
Office, Civic, and Public Assembly										
Government	P	P	P	P	P	P	P	P	P	-
Library, museum, or art gallery	P	P	P	P(1)	P	-	-	-	-	MUP
Office, general	P	P	P	-	P	P(2)	P		-	-
Meeting facility, public or private	P	P	P	-	P	-	-	CUP	-	MUP
School, public or private	MUP	MUP	MUP	-	P	-	-	CUP	P	-
Restaurant and food										
Drive-in restaurant	-	-	-	-	MUP	-	-	-	-	-
Pub/bar/tavern	CUP	CUP	CUP	-	CUP	-	-	-	-	-
Restaurant, café, coffee shop	P	P	P	P(1)	P	MUP(2)	P	-	-	-
w/ sidewalk dining	P	P	P	MUP(1)	P	MUP(2)	MUP	-	-	-
Mobile outdoor business	TUP	TUP	TUP	TUP(1)	TUP	TUP(2)	TUP	-	-	-
Retail										
Alcohol outlet	CUP	CUP	CUP	-	CUP	-	-	-	-	-
General retail <10,000 sf	P	P	P	P(1)	P	P(2)	P	-	-	-
General retail >10,000 sf	P	P	P	-	MUP	-	-	-	-	-
General retail w/onsite production	P	P	P	-	P	P(2)	P	-	-	-
Second hand stores	P	P	P	P(1)	P	P(2)	P	-	-	-
Services										
Bail bonds/check cashing	-	-	-	-	P	CUP(2)	CUP	-	-	-
Business service	P	P	P	P(1)	P	P(2)	P	-	-	-
w/ drive through	MUP	MUP	MUP	MUP(1)	MUP	MUP(2)	-	-	-	-
Café facility for the elderly <7	P	P	P	P	P	P	P	P	-	-
Care facility for the elderly >7	CUP	CUP	CUP	CUP(1)	CUP	CUP(2)	CUP	CUP	-	-
Day care small <9 (5)	P	P	P	P	P	P	P	P	-	-
Day care large 9-14 (5)	P	P	P	P(1)	P	P(2)	P	-	-	-
Day care center >14	CUP	CUP	CUP	MUP(1)	MUP	MUP(2)	MUP	CUP	-	-
Emergency shelter	CUP	CUP	CUP	-	CUP	CUP(2)	CUP	-	-	-
Funeral home/Mortuary (4)	P	P	P	P	P	CUP	CUP	-	-	-
Hotel/motel	P	P	P	-	P	-	-	-	-	-
Laundromat/Dry cleaning	P	P	P	P(1)	P	P(2)	-	-	-	-

Table 2-1
Allowed Land Uses and Permit Requirements

Land Use Type	Zone									
	DMU	**DC**	**BC**	**CMU-R(1)**	**CMU-C**	**CN-R(2)**	**CN-C**	**R**	**P**	**OS**
Medical or residential care facility <7	P	P	P	P(1)	P	P	P	P	-	-
Medical or residential care facility >7	CUP	CUP	CUP	-	CUP	CUP(2)	CUP	CUP	-	-
Medical services	P	P	P	-	P	P(2)	P	-	-	-
Personal services	P	P	P	P(1)	P	P(2)	P	-	-	-
Personal services – restricted	CUP	CUP	CUP	-	MUP	-	-	-	-	-
Repair, commercial (non-vehicular)	-	-	-	-	P	-	-	-	-	-
Storage garage	-	-	-	-	-	-	-	-	-	-
Transitional and supportive housing	P	P	P	P	P	P	P	P	-	-
Residential										
Accessory Building	P	-	P	P	P	P	P	P	-	-
Dwelling: multi-family	P(6)	-	P(6)	P	P(6)	P	P(6)	P	-	-
Dwelling: single-family	-	-	-	P	P(6)	P	P(6)	P	-	-
Home occupation, no clients	P	P	P	P	P	P	P(6)	P	-	-
Home occupation, with clients	MUP	MUP	MUP	MUP	MUP	MUP	MUP	MUP	-	-
Live/work unit	P(6)	-	P(6)	P	P(6)	P	P	-	-	-
Mixed-use	P	-	P	P(1)	P	P(6)	P	-	-	-
Single Room Occupancy	P(6)	-	P(6)	P	P(6)	-	-	-	-	-
Motor Vehicle Related										
Car Wash	-	-	CUP	CUP(7)	CUP(7)	-	CUP	-	-	-
Commercial vehicle sales, rental, storage	-	-	-	-	-	-	-	-	-	-
Gas station	-	-	CUP	CUP(7)	CUP(7)	-	CUP	-	-	-
Automobile sales, rentals (new/used)	-	-	-	CUP(7)	CUP(7)	-	CUP	-	-	-
Repair, commercial (motor vehicles)	-	-	-	CUP(7)	CUP(7)	-	CUP	-	-	-
Parking facility	CUP	CUP	CUP	CUP(7)	CUP(7)	-	CUP	-	-	-
Towing, impound storage facilities	-	-	-	-	-	-	-	-	-	-
Other										
Temporary Use/Structure	TUP	TUP	TUP	TUP	TUP	TUP	TUP	-	TUP	TUP
Transit Station	P	P	P	-	P	-	P	-	P	-

Key:
P = Allowed by Right *CUP = Conditional Use Permit required*
MUP = Minor Use Permit required *TUP = Temporary Use Permit required*
- = Use not allowed
Notes:
1. Commercial uses allowed as a secondary use.
2. Commercial allowed on parcels designated General Commercial in the General Plan.
3. CUP required at the following intersections: Ashland Ave/ East14th Street, Mattox Rd/Mission Blvd, East Lewelling Blvd/Mission Blvd key intersections, and Hesperian Blvd/Lewelling Blvd.
4. CUP required if includes an accessory crematorium.
5. Up to eight children allowed in a small day care and up to 14 children allowed din a large day care if (a) At least one child is enrolled in and attending kindergarten or elementary school and a second child is at least six years of age. (b) No more than two infants are cared for during any time when more than six children are cared for. (c) The licensee notifies each parent that the facility is caring for two additional school age children and that there may be up to seven or eight children in the home at one time. (d) The licensee obtains the written consent of the property owner when the family day care home is operated on property that is leased or rented.
6. Residential allowed above or behind nonresidential uses facing a major arterial.
7. For property located within the Auto Overlay Zone, see Table 6.2.1 and Figure 6.2.1.

The Zoning Code also establishes frontage standards (Section 6.3), parking standards (Section 6.4), and sign standards (Section 6.5). Development standards also address building heights, building setbacks, lot requirements, floor area ratios, and fencing. Maximum building height, maximum floor area ratio, and maximum lot coverage for each zone are provided in Table 2-2.

Table 2-2
Development Standards

Zone	Maximum Height (number of stories)	Maximum Height (feet)	Maximum Floor Area Ratio (FAR)	Maximum Lot Coverage
DMU	5 stories	75 feet	2.5	90%
DC	5 stories	75 feet	2.5	90%
BC	4 stories	55 feet	2.5	90%
CMU-R	3.5 stories	45 feet	1.0	75%
CMU-C	3.5 stories	45 feet	1.0	75%
CN-R	2.5 stories	35 feet	1.0	70%
CN-C	2.5 stories	35 feet	1.0	70%
R	2.5 stories	35 feet	1.0	60%
P	4 stories	55 feet	1.0	50%
OS	n/a	n/a	1.0	10%

2.6.4 Transportation and Circulation

Chapter 3 presents the Multimodal Access Plan for the Plan Area. It provides the vision and recommendations for all travel mode types: automobile, bicycle, pedestrian, and public transit. Transportation demand management and parking are also addressed in this Chapter. Access and circulation improvements are based on the "Complete Streets" concept to design the street network to accommodate all users (pedestrians, bicycles, buses, automobiles, and trucks) safely and efficiently. Concepts and improvements related to all transit modes are as follows:

- **Motor Vehicles**. The Specific Plan would involve the following improvements to intersections within the Plan Area:

    - *East 14th Street and Ashland Avenue: re-align the intersection so that Ashland Avenue connects to East 14th Street at a 90 degree angle; extend the median on East 14th Street on the north side of the intersection; and create curb extensions/bulb-outs at all crosswalks.*
    - *Mission Boulevard and Lewelling Boulevard: eliminate the large channelized right-turn from southbound Mission Boulevard to westbound Lewelling Boulevard and to the extent feasible re-align the east leg of the intersection so that Lewelling Boulevard connects to Mission Boulevard at a 90 degree angle; provide medians on Mission Boulevard, and create curb extensions/bulb-outs at all crosswalks.*
    - *Mission Boulevard and Mattox Road: eliminate the channelized right-turn from southbound Mattox Road to northbound Mission Boulevard so that Mattox Road and Mission Boulevard intersect at a 90 degree angle; provide medians on Mission Boulevard; create curb extensions/bulb-outs at all crosswalks.*

In addition, the proposed Specific Plan outlines parking management and transportation demand management (TDM) strategies to reduce traffic and the Plan Area's overall automobile trip generation in comparison with more traditional suburban developments. Strategies to reduce traffic include implementing intelligent transportation system (ITS) technologies such as traffic signal timing, communication, and synchronization improvements. Parking strategies include establishing a parking benefit district (PVD), encouraging shared parking, establishing parking in-lieu fee program, and monitoring parking demand and supply.

- **Bicycles.** Bicycle access within the Plan Area is characterized by a general lack of bikeways along most roadway segments. An improved bicycle circulation system is proposed for the Plan Area, which would connect the Plan Area to the rest of the region, including San Leandro to the north, Hayward to the south, San Lorenzo to the west, and Castro Valley to the east. Planned bicycle facilities would include:

    - *Class I path along the Union Pacific Railroad (UPP) pathway between the Bay Fair BART Station and A Street. (This planned path is also known as the East Bay Greenway.)*
    - *Class IIIB bicycle route along EAST 14th Street between Lewelling Boulevard and 150th Avenue. (Although the Bicycle and Pedestrian Master Plan for Unincorporated Areas calls for Class IIIB bicycle route along East 14th Street, the ACBD Specific Plan recommends six foot Class II bicycle lanes along East 14th Street.)*
    - *Class II bicycle lanes along Mission Blvd. between Grove Way and Lewelling Blvd.*
    - *Class II bicycle lanes along Lewelling Blvd. between Meekland Avenue and Mission Blvd.*
    - *Class II bicycle lanes along Ashland Avenue between Lewelling Blvd. and East 14th Street.*
    - *Class II bicycle lanes along Hesperian Blvd. between Lewelling Blvd. and A Street.*
    - *Class II bicycle lanes along Fairmont Drive between East 14th Street and Lake Chabot Road.*
    - *Class IIIA bicycle route along Coelho Drive and 159th Avenue between the Bay Fair BART station and EAST 14th Street.*
    - *Class IIIA bicycle route along Elgin Street between the Bay Fair BART station and EAST 14th Street.*
    - *Class IIIA bicycle route along Hampton Road between the Meekland Avenue and Mission Blvd.*
    - *Class IIIA bicycle route along Blossom Way between Hathaway Avenue and Mission Blvd.*
    - *Class IIIA bicycle route along Grove Way between Western Blvd. and Redwood Road.*
    - *Class IIIA bicycle route along Via Granada/Via Toledo between Lewelling Blvd. and Hacienda Avenue.*

- **Pedestrians**. Overall, the pedestrian facilities in the Plan Area and the surrounding neighborhoods are typical of a residential area, not conducive to a walkable commercial

area. Pedestrian circulation within and surrounding the Plan Area is provided via sidewalks and marked crosswalks. The proposed Specific Plan's vision for the pedestrian environment is to create high quality pedestrian facilities and amenities that create a safe and aesthetically pleasing environment that encourages walking and accommodates increased pedestrian activity throughout the Plan Area. East 14th/Mission and Lewelling Boulevard would generally serve as the primary pedestrian roadways in the Plan Area, linking Plan Area neighborhoods to each other and adjacent areas. The improved pedestrian circulation system envisioned by the Specific Plan would also involve: reducing pedestrian crossing distances, implementing landscaping and street furniture improvements, and improving pedestrian crossings.

- **Transit.** Bay Area Rapid Transit (BART) and bus service operated by the Alameda-Contra Costa Transit District (AC Transit) would continue to provide transit service to the Plan Area. The proposed Specific Plan's long term vision for the Plan Area is to improve bus stops to enhanced efficiency and effectiveness of transit services. This may involve providing rider amenities, such as shelters, real time updates, trash cans, and benches at stops within the Plan Area.

2.6.5 Utilities and Infrastructure

Chapter 4 of the proposed Specific Plan discusses existing infrastructure and impact of the Specific Plan on existing infrastructure resources including: water, waste water, storm water, solid waste, schools, and public services. Because the proposed Specific Plan is consistent with the Eden Area General Plan, no improvements beyond those identified in the General Plan were identified.

2.6.4 Buildout Projections

Section 15126.2 of the *State CEQA Guidelines* requires that an EIR focus on the significant "direct and indirect" and "short-term and long-term" effects of a project. To ensure a conservative approach in analyzing environmental effects under CEQA, EIRs typically analyze what could be considered a maximum reasonable impact scenario in order to capture as many significant environmental effects as could reasonably be expected as a result of the project. For a programmatic evaluation of a land use plan, this entails projecting buildout calculations to carry through the environmental review process. These projections reflect the estimated number of new housing units, amount of new commercial development, and increased resident and employment populations that are reasonably foreseeable for the 20-year duration of the proposed Specific Plan. The actual rate and amount of development will be dependent on market conditions and regulatory processes.

Buildout estimates for residential and non-residential growth under the proposed Specific Plan include: 167 single-family residential units, 771 multi-family residential units, and 570,000 square feet of non-residential space. A breakdown of dwelling units for each character area is shown in Table 2-3.

Table 2-3
Potential Residential Buildout for each Character Area

Character Area	Single-Family Units	Multi-Family units
Ashland District	0	321
Cherryland District	0	154
Four Corners District	0	66
Bayfair Corridor	0	52
West Eden Corridor	0	0
Cherryland Corridor	0	0
Central Lewelling Corridor	26	78
Central Lewelling Neighborhood	106	50
Four Corners Neighborhood	36	48
Total	**167**	**771**

Residential buildout was estimated based on the assumption that of the parcels likely to be redeveloped over the next 20 years according to the Eden Area General Plan EIR, 60% will be redeveloped and built out to between 80% and 90% of maximum allowed density. The assumed density is 0-22 dwelling units per acre for single-family residential and 22-86 dwelling units per acre for multi-family units. Based on these assumptions, the Eden Area General Plan estimates 167 single family units and 771 multi-family units in the Plan Area and surrounding neighborhoods. While the boundaries of this growth extend beyond the boundaries of the Plan Area, low potential for redevelopment of existing low-density neighborhoods in the areas outside the Plan Area combined with proposed Specific Plan policies to target higher intensity development (as a secondary use) in the Districts can justify the utilizing the Eden Area General Plan EIR for projected residential buildout under the proposed Specific Plan.

Non-residential buildout was estimated based on employment projections in the Eden Area General Plan EIR. The Eden Area General Plan EIR estimates an additional 1,900 jobs located in the Plan Area and surrounding neighborhoods. Based on the estimate used in the Eden Area General Plan EIR of 300 square feet per job, non-residential buildout associated with the proposed Specific Plan would be 570,000 square feet.

2.7 REQUIRED DISCRETIONARY APPROVALS

In order for the proposed Specific Plan to be implemented, it would require adoption by the Board of Supervisors of the County of Alameda. No other discretionary approvals would be required for adoption of the Specific Plan.

This EIR serves as the environmental review for subsequent discretionary actions associated with development of the Specific Plan unless changes are proposed, or potential project-specific impacts not covered in this EIR would occur, that warrant additional environmental review. This EIR may also cover state, regional and/or local government permits that may be required for development under the proposed Specific Plan, whether or not they are explicitly listed

below. Federal, state, and regional agencies that may have jurisdiction over some aspects include (but are not limited to):

- *California Department of Fish and Wildlife*
- *San Francisco Bay Regional Water Quality Control Board*

3.0 ENVIRONMENTAL SETTING

This section describes the current environmental conditions on, and in the vicinity of the ACBD Specific Plan Area (Plan Area). More detailed descriptions of the setting for each environmental issue area can be found in Section 4.0, *Environmental Impact Analysis*.

3.1 REGIONAL SETTING

The County of Alameda (County) encompasses approximately 739 square miles and has an estimated population of 1,573, 254 residents (California Department of Finance [DOF], May 2014). The unincorporated areas within the County encompass roughly 443 square miles and have an estimated population of 145,461 (DOF, May 2014). Alameda County is located in the East Bay area of the San Francisco Bay region of California. The unincorporated communities of Ashland and Cherryland are located in the western portion of the County between the City of San Leandro to the north and the City of Hayward to the south, approximately 0.5 miles west of the unincorporated community of Castro Valley.

Regional topography includes variable topography and steeper slopes of the Coastal Ranges, with gentler slopes and more level terrain in the San Joaquin Valley to the east and in the East Bay Area to the west. The communities of Ashland and Cherryland are located in the San Francisco Bay Hydrologic Region. Drainage is generally to the west towards the San Francisco Bay. Alameda County is within the seismically active region of the San Andreas Fault Zone.

Located between two and four miles from the San Francisco Bay, Alameda County enjoys a mild climate characterized by cool winters and moderate summers. According to the Western Regional Climate Center, Hayward (the closest data to Cherryland and Ashland available) average temperatures range from about 66 degrees F in summer to 50 degrees F in winter. Annual rainfall averages about 16 inches per year, with most rainfall occurring between October and April.

3.2 SITE-SPECIFIC SETTING

The Plan Area (as defined in Section 2.0, *Project Description*) is located within the communities of Ashland and Cherryland in the western part of Alameda County. An aerial view of the Plan Area is shown on Figure 2-2 in Section 2.0, *Project Description*. Existing conditions in the project area are shown on figures 4.1-1 through 4.1-6 in Section 4.1, *Aesthetics*. The Eden Area General Plan land use designations for the Plan Area are discussed in subsection 2.4 in Section 2.0, *Project Description*.

Major arterials providing immediate access to the Plan Area include Interstates 580, 550, and 238. Interstates 580 and 238 bisect the Plan Area. The Plan Area is also served by the Bay Area Rapid Transit (BART) rail system. The closest BART station is the Bay Fair station located just outside the northern corner of the Plan Area.

The Plan Area is almost entirely built out with residential, commercial, and institutional uses and is relatively flat with elevations ranging from 35 to 85 feet above mean sea level. The Plan Area is located within approximately one mile of the San Andreas Fault Zone. The Hayward

Fault, one of the ten major faults that comprise the San Andreas Fault Zone, runs along the western edge of the Plan Area. Most of the Plan Area is within one mile of the Hayward Fault.

3.3 CUMULATIVE PROJECTS

CEQA defines cumulative impacts as two or more individual actions that, when considered together, are considerable or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be insignificant when analyzed separately, but could have a significant impact when analyzed together. Cumulative impacts analysis provides a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

The Plan Area is within the Eden Area of Alameda County. The Eden Area comprises the communities of Ashland, Cherryland, Hayward Acres, San Lorenzo, and Fairview. The cumulative impacts analysis for this EIR is based on the County's Eden Area General Plan, adopted in March 2010 (and incorporated herein by reference), and its Revised Final Environmental Impact Report (certified in March 2010). The Eden Area General Plan accommodates 5,120 new housing units (4,491 multi-family units and 629 single family units) and a population increase of 14,950 by 2025. The growth that would be accommodated by the proposed Specific Plan is within that envisioned by the Eden Area General Plan. However, the proposed Specific Plan would shift and concentrate development into the districts, corridors, and neighborhoods within the Plan Area.

The Plan Area is located geographically along the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors in the Ashland and Cherryland communities; however, cumulative development as considered in this EIR is generally spread throughout the Eden Area. Some cumulative impacts are not necessarily significant in relation to development that occurs further from the Plan Area. For example, aesthetic and noise impacts associated with the Specific Plan are not likely to be detected in the community of Fairview southeast of the Plan Area. Selected cumulative impact discussions, such as land use and geology and soils, rely on a smaller geographic area: these are noted as appropriate. Some cumulative impact discusses, such as air quality, rely on much larger geographic areas such as the Bay Area region. These are noted as appropriate. Unless otherwise noted, cumulative development includes all development within the Eden Area anticipated by the Eden Area General Plan.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed Specific Plan for the specific issue areas that were identified by the County, expert consultation, and NOP responses as having the potential to experience significant impacts. "Significant effect" is defined by the *CEQA Guidelines* §15382 as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant."

The assessment of each issue area begins with an italicized introduction that summarizes the environmental effects considered for that issue area. This is followed by the setting and impact analysis. Within the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the County, other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded effect listing also contains a statement of the significance determination for the environmental effect as follows:

> ***Significant and Unavoidable:*** *An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.*
>
> ***Significant but Mitigable:*** *An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.*
>
> ***Not Significant:*** *An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.*
>
> ***Beneficial:*** *An effect that would reduce existing environmental problems or hazards.*

Following each environmental effect discussion is a listing of recommended mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area.

This page intentionally left blank.

4.1 AESTHETICS

This section analyzes the proposed project's impacts to aesthetics, including the existing visual character of and scenic views in the ACBD area and whether development associated with the proposed Specific Plan would adversely affect surrounding land uses due to light or glare.

4.1.1 Setting

a. Visual Character. The Plan Area is situated in the low-lying coastal area just west of the foothills of the Diablo Range (i.e., the East Bay hills) and is relatively flat. The Plan Area is an urbanized community, with a diverse mix of commercial and residential development that dates to the post-WWII era. The major corridors of East 14th Street/Mission Boulevard, Lewelling Boulevard, and Hesperian Boulevard contain a variety of strip and stand-alone commercial buildings (County of Alameda, Eden Area General Plan EIR, 2006). Most of these buildings are set back from the street and bear little visual relationship to one another. The major arterials in the Plan Area – East 14th Street/Mission Boulevard and Hesperian Boulevard) have sidewalks that generally lack pedestrian amenities, such as a planting strip or street trees.

According to the Eden Area General Plan EIR, the East 14th Street/Mission Boulevard corridor is blighted within the Plan Area. A blighted area is defined as having physical or economic conditions that can only be improved with governmental assistance. Some of the physical conditions associated with blight include irregular parcel sizes; high business vacancies; deteriorated and poorly maintained properties; and an excess of bars, liquor stores, or adult business. Large billboards, overhead power lines, and vacant lots also contribute to visual blight in the Plan Area. However, it should be noted that since certification of the Eden Area General Plan EIR in 2006, redevelopment and streetscape improvements have taken place in portions of the Plan Area. The visual character of these improvements, as well as of remaining vacant and underutilized sites, is discussed below.

As discussed in Section 2.0, *Project Description*, the Specific Plan divides the Plan Area into nine "Character Areas," including three districts (centers of employment, shopping, dining, and civic activity), four corridors (creating connectivity between neighborhoods and districts), and two neighborhoods (district residential areas). Figure 2-3 shows the location of these Character Areas within the Specific Plan area. The visual character of each area is discussed below.

Ashland District. The Ashland District, located along East 14th Street between 159th and 163rd avenues, is mainly characterized by one-to-two-story commercial buildings fronting on East 14th Street. Typical commercial uses in this area are auto-related sales, service uses, and convenience stores; other commercial uses include retail shops, markets, and liquor stores.

Several 1950s-era buildings dating from the community's initial phase of urbanization are located in the Ashland District, including the Aaaftab Medical Center at 15931 East 14th Street, Tom Eplin's Automotive Center at 16338 East 14th Street, and the Ashland Professional Center at 16378 East 14th Street. Photo 1 in Figure 4.1-1 shows the storefront of Tom Eplin's Automotive Center, with its dark glass windows, black-and-white checkered trim, and bold red lettering at the top.

Photo 1: Commercial uses on small lots, such as this automotive center along E. 14th Street, typify the West Eden Corridor.

Photo 2: Southward view from E. 14th Street of the Ashland Youth Center.

Ashland District Photographs Figure 4.1-1

The newer REACH Youth Center, as shown in Photo 2 in Figure 4.1-2, was constructed as a catalyst for redevelopment in the Ashland District. This two-story, 31,500-square-foot building, which opened in May 2013, has a visually striking façade with dark reddish brown tiles and light green accent tiles. Other recent improvements to the Ashland District are a landscaped median and street trees on East 14th Street.

Cherryland District. The Cherryland District, located along Mission Boulevard between Paradise Boulevard to the north and St. James Court to the south, is characterized by a variety of commercial uses, especially auto-related service uses, sales and repair uses, and discount stores. Photo 2 in Figure 4.1-2 shows a representative discount store and associated surface parking lot in the district. Most buildings are one story tall, although some commercial uses and residences rise to two stories.

The Cherryland District also has several vacant or underutilized sites that are visible from Mission Boulevard:

- The former Banchero's Italian Dinners restaurant at 20102 Mission Blvd;
- The Serra property at the northeast corner of Mission Boulevard and Mattox Road; and
- A property owned by the Successor Agency to the former Alameda County Redevelopment Agency at Mission Boulevard and Hampton/Mattox Roads.

Photo 1 in Figure 4.1-2 shows the latter vacant site, looking westward from the intersection of Mission Boulevard at Hampton Road.

Four Corners District. As the historic center of the Eden Area, the Four Corners District is located along Lewelling Boulevard approximately between College Street to the north, Albion Avenue to the south, Hesperian Boulevard to the west, and the Union Pacific railroad tracks to the east. The Four Corners District has a range of one-story commercial uses, from strip malls at the intersection of Lewelling and Hesperian boulevards to stand-alone auto parts and auto repair stores, a liquor store, and a gas station. Several one-story single-family residences, interspersed among the commercial uses, front on Lewelling Boulevard. As shown by Photo 2 in Figure 4.1-3, a residential neighborhood with single-family homes is located to the north of Lewelling Boulevard, extending into the Four Corners Neighborhood.

Vacant or underutilized sites are visible in the Four Corners District at a shopping center where Lewelling and Hesperian boulevards intersect and at the former Orchard Supply Hardware site along Lewelling Boulevard between Sharon Street and Ashland Avenue (see Photo 1 in Figure 4.1-3). However, recent streetscape improvements (street trees, widened sidewalks, and new bike lanes) have improved the visual character of Lewelling Boulevard from Hesperian Boulevard to Meekland Avenue.

Bayfair Corridor. The Bayfair Corridor is located on the eastern side of East 14th Street between 150th Avenue to the north and 159th Avenue to the south, directly across from the Bayfair Mall in the City of San Leandro to the south. One-story commercial uses such as restaurants, fast food, personal service, and auto parts and service predominate. Figure 4.1-4 shows representative commercial uses in the Bayfair Corridor. In addition, a few residential properties occur in this area, including a two-story multi-family development at the intersection

Photo 1: Westward view of a representative vacant site in the Cherryland District, located at the intersection of Mission Boulevard and Hampton Road.

Photo 2: Eastward view of a discount store along Mission Boulevard in the Cherryland District.

Cherryland District Photographs Figure 4.1-2

Photo 1: Northward view of a vacant commercial lot along Lewelling Boulevard in the Four Corners District.

Photo 2: Northward view of single-family residences on Tracy Street, with Interstate 238 in the distance.

Four Corners District Photographs Figure 4.1-3

Photo 1: Northward view of one-story commercial buildings located in the Bayfair Corridor along E. 14th Street by Bayfair Drive.

Photo 2: Northward view of a car wash and billboard along E. 14th Street, with the East Bay hills in the background.

Bayfair Corridor Photographs Figure 4.1-4

of Thrush Avenue and East 14th Street. The Specific Plan finds that vacant buildings, large surface parking lots, sparse tree canopies, and the absence of street lighting collectively degrade the visual appeal of the pedestrian environment in the Bayfair Corridor.

West Eden Corridor. The West Eden Corridor is situated at the intersection of the three major thoroughfares in the Plan Area: East 14th Street, Mission Boulevard, and East Lewelling Boulevard. It extends from 164th Avenue to the north, Gilbert Street to the south, and the BART tracks to the west. The portion of the corridor along East 14th Street and Mission Boulevard is typified by a variety of commercial uses on small lots, including a gas station, small restaurants, used auto sales, auto parts sales, fast food, appliance stores, and personal services. The East Lewelling Boulevard segment of the West Eden Corridor has small single-family homes, many of which have transitioned into commercial uses. Commercial and residential buildings in the West Eden Corridor are primarily one story in height, with scattered two-story buildings. According to the Specific Plan, the wide roadways in this corridor lack visual amenities such as trees, medians, or pedestrian-scale lighting. Vacant lots also are visible at the northeast corner of the East Lewelling Boulevard and Mission Boulevard intersection and at the intersection of East 14th Street and 166th Avenue. Figure 4.1-5 shows representative commercial uses and a vacant lot in the West Eden Corridor.

Other visual aspects of the West Eden Corridor are billboards and overpasses. Billboards are clustered on East 14th Street to the north of the Interstate 238 overpass. This overpass, as well as the elevated BART tracks over East Lewelling Boulevard, stand as visual barriers in the corridor.

Cherryland Corridor. The Cherryland Corridor comprises the southernmost section of the Plan Area, along Mission Boulevard from St. James Court on the north to Rose Street on the south. This corridor is characterized by auto-related retail and service uses, several mixed-use properties with street-front commercial uses and residential uses located behind, and single-family homes that have been converted to small businesses. Churches and single-family residences also are located along Mission Boulevard in the Cherryland Corridor. Commercial and residential buildings range from one to two stories in height. The corridor lacks visual amenities such as street trees or landscaped medians.

Central Lewelling Corridor. The Central Lewelling Corridor is bounded by Lewelling Boulevard to the north, San Lorenzo Creek to the south, the Union Pacific railroad tracks to the west, and the BART tracks to the east. Photo 1 in Figure 4.1-6 shows the elevated BART tracks at their overpass of Lewelling Boulevard. The two-lane segment of Lewelling Boulevard to the east of Meekland Avenue has a more intimate character than the rest of the Plan Area, which is oriented around wider roadways. West of Meekland Avenue, Lewelling Boulevard opens up into a four-lane, divided roadway. Recent streetscape improvements (street trees, widened sidewalks, and new bike lanes) have improved the visual character of this roadway segment. The Central Lewelling Corridor has a variety of residential, neighborhood commercial, and religious uses. Building heights range from one to two stories. In addition, the landscaped grounds and historic Italianate residence of Meek Estate Park are located across San Lorenzo Creek to the south of the Central Lewelling Corridor (Hayward Area Historical Society, 2015). Prominent mature trees and the historic residence at Meek Estate Park constitute scenic resources.

Photo 1: Westward view of retail commercial uses along E. 14th Street in West Eden Corridor. *Source: Google Street View, 2011.*

Photo 2: Northward view of a vacant site for redevelopment, located at the corner of E. 14th Street and 166th Avenue.

West Eden Corridor Photographs Figure 4.1-5

Photo 1: Eastward view of the BART overpass of Lewelling Boulevard in the Central Lewelling Corridor.

Photo 2: View of St. John Catholic Church on the north side of Lewelling Boulevard in the Central Lewelling Neighborhood.

Central Lewelling Photographs Figure 4.1-6

Central Lewelling Neighborhood. The Central Lewelling Neighborhood is located north of Lewelling Boulevard between Ashland Avenue to the west and Alisal Court to the east. This neighborhood consists primarily of low-density single-family homes, except for townhomes at the intersection of Ashland Avenue and Lewelling Boulevard and the St. John Catholic Church on the north side of Lewelling Boulevard. Residences are generally one story in height. Photo 2 in Figure 4.1-6 shows the stucco façade of the St. John Catholic Church.

Four Corners Neighborhood. The Four Corners Neighborhood straddles Lewelling Boulevard between San Lorenzo Creek to the south, Hesperian Boulevard to the west, Sycamore Street to the north, and Sharon Street to the east. This neighborhood has a larger range of residential densities than the Central Lewelling Neighborhood, including multi-family units, duplexes, and single-family detached homes. Building heights range from one to two stories. Photo 2 in Figure 4.1-3 shows single-family residences along Tracy Street in the Four Corners Neighborhood.

b. Views and Scenic Resources. The principal public views of the Plan Area are from the East 14th Street/Mission Boulevard and Lewelling Boulevard. These roadways mainly provide views of adjacent commercial and residential development in the nine Character Areas within the Plan Area. East 14th Street/Mission Boulevard provides intermittent views of the East Bay hills to the northeast. Photo 2 in Figure 4.1-1 shows an example of these views from the Bayfair Corridor. Private residences located along these roadways also have views of urban development in the Plan Area.

The County's Scenic Route Element (amended in May 1994) identifies as a scenic freeway Interstate 238, which bounds the Central Lewelling and Four Corners areas to the north. Pursuant to Section 17.104.050 of the Alameda County Municipal Code, the southern edge of the scenic corridor associated with Interstate 238 is limited to the highway's right-of-way within the Plan Area. Section 17.104.060 of the Municipal Code defines the northern edge of the scenic corridor as within the highway's right-of-way from the Interstate 580 interchange to Kent Avenue, extending to the southern right-of-way of Lynn Court to the west of Kent Avenue, and then within the highway's right-of-way until the Interstate 880 interchange. Interstate 238 provides southward views of the Four Corners area and very limited southward views of the Central Lewelling Neighborhood. Generally, sound walls that line Interstate 238 in both directions obstruct views of the Plan Area.

In the vicinity of the Plan Area, Interstate 580 is identified as a scenic highway by the Scenic Route Element and is an officially designated State scenic highway (Caltrans, 2013). At its nearest point to the Plan Area, Interstate 580 is located approximately 1,000 feet to the northeast of East 14th Street in the West Eden Corridor. Section 17.104.090 of the Municipal Code defines Interstate 580's scenic corridor as extending up to 470 feet west of the highway in the vicinity of the Plan Area. Although the scenic corridor associated with Interstate 580 does not include the Plan Area, this highway offers distant, intermittent views of the West Eden Corridor to the southwest.

c. Light and Glare. The Plan Area is urban in character and currently has high nighttime light levels due to streetlights on East 14th Street, Mission Boulevard, and Lewelling Boulevard, as well as exterior lights at adjacent commercial uses and residences. Streetlights are generally spaced at closer intervals on Lewelling Boulevard, due to recent streetscape improvements in

the Central Lewelling Corridor, than on the East 14th Street/Mission Boulevard and East Lewelling Boulevard corridors. Headlights from motor vehicles traveling through the Plan Area also contribute to nighttime lighting. Glare is primarily a daytime phenomenon, caused by sunlight reflecting from structures (including windows), roadways, and cars. However, glare can also be created at night by vehicle headlights. Land uses in the Plan Area that would be most sensitive to night lighting and glare are residences located adjacent to East 14th Street, Mission Boulevard, and Lewelling Boulevard.

d. Regulatory Setting. The Eden Area General Plan includes the following policies relevant to aesthetics in the Land Use Element:

LU-5, Policy P2. New residential projects in Neighborhoods should enhance the existing character of the area and have high quality site planning and architectural design. Architectural diversity and variety, including variation in lot sizes, setbacks, orientation of homes and other site features should be allowed to maintain visual interest.

LU-5, Policy P4. Infill development that increases the density of existing Neighborhoods may be allowed so long as it is well designed and enhances the character of the Neighborhoods.

LU-7, Policy P5. New development along Corridors shall meet the following urban design requirements:

- *Buildings shall be designed with minimal setback to create a consistent, pedestrian-oriented environment.*
- *Buildings shall be designed to have an active street face with windows, entrances, awnings and other amenities.*
- *Building entrances shall be oriented to the street.*
- *Parking and loading activities as well as other areas for similar activities shall be located behind or on the side of buildings away from the main street frontage.*
- *The number of curb cuts and other intrusions of vehicles across the sidewalks shall be minimized.*
- *Buildings shall be constructed using high-quality materials.*
- *To the extent feasible, buildings should step down in height to adjacent Low-Medium Density residential uses at the edges of Corridors where they meet adjacent Neighborhoods.*

LU-12, Policy P1. The County should not approve projects that have a substantial adverse effect on scenic vistas, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the Eden Area.

LU-12, Policy P2. The County shall pursue all possible legal and financial mechanisms to phase out and remove existing billboards. In addition, no new billboards shall be allowed in the Eden Area unless relocated.

LU-12, Policy P3. When reviewing development proposals, the County should ensure that projects do not diminish views of natural features along public rights-of-way. Natural features are both within and around the Eden Area and include the San Francisco Bay and the East Bay hills.

LU-12, Policy P5. New development projects shall include street trees along public right-of-ways. Street trees should provide shade to pedestrians, buffer from moving traffic and enhance the visual quality of the area.

The existing ACBD Specific Plan (adopted in June 1995) also includes height guidelines for site design that are relevant to aesthetics. These guidelines limit the height of all development adjacent to residential property to a 45-degree profile drawn from the property line. The existing Specific Plan also sets a minimum height of 25 feet for commercial buildings at or near the street frontage. Furthermore, new multi-unit residential buildings are limited to three stories (or 35 feet) in height and may not exceed the exterior height of adjacent residential buildings by more than one story.

4.1.2 Impact Analysis

a. Methodology and Significance Thresholds. The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently. This evaluation measures the existing visual resource against the proposed action, analyzing the nature of the anticipated change. The Plan Area was observed and photographically documented, as was the surrounding area, to assist in the analysis.

According to Appendix G of the *State CEQA Guidelines,* an impact is considered significant if the project would have:

1) *A substantial adverse effect on a scenic vista;*
2) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or city-designated scenic highway;*
3) *Substantially degrade the existing visual character or quality of the site and its surroundings; or,*
4) *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.*

The impacts on visual character or quality that would be attributable to the proposed Specific Plan were evaluated relative to visual conditions under buildout of the existing ACBD Specific Plan. The Ashland and Cherryland Business District Specific Plan Initial Study (Appendix A of this EIR) determined that the proposed Specific Plan would have a less than significant impact on scenic resources. Therefore, the 2nd criterion above is not further addressed in this section.

b. Project Impacts and Mitigation Measures.

Impact AES-1 The proposed Specific Plan would facilitate development with view of Interstate 238, a County-designated scenic freeway. However, increases in the intensity and visibility of urban development in the Plan Area would not affect scenic views from Interstate 238 of the East Bay hills and San Francisco Bay. The Plan Area also is located outside of the scenic corridor associated with Interstate 580, a State-designated scenic

highway. Therefore, impacts on scenic vistas would be *less than significant*.

The development envisioned under the proposed Specific Plan would be visible from a number of roads in the vicinity of the Plan Area. New development in the Four Corners area and the Central Lewelling Neighborhood would be visible from the perspective of motorists on Interstate 238, which the County's Scenic Route Element identifies as a scenic freeway. In the Four Corners and Cherryland Districts, development standards in the proposed Specific Plan would establish a maximum height of five stories or 75 feet. Currently, the Four Corners District is characterized by one-story commercial strips and stand-alone stores and associated surface parking lots, and the Cherryland District has a variety of one- and two-story commercial and residential uses. The construction of new buildings up to 75 feet in height in these Districts would increase the intensity and visibility of urban development as viewed from Interstate 238. However, this aesthetic change to the south of Interstate 238 would not degrade scenic views of the East Bay hills to the northeast of the highway. Because Interstate 238 does not currently offer views of San Francisco Bay over the Four Corners area, the Central Lewelling Neighborhood, and the Cherryland District, new development in these areas would not obstruct any scenic views of the Bay. The proposed Specific Plan also would establish a T3-Residential District in the Four Corners and Central Lewelling neighborhoods, which would preserve existing and allow new small-to-medium lot detached homes. New single-family residential development in these existing neighborhoods would not substantially alter the character of views from Interstate 238. Therefore, the proposed Specific Plan would not adversely affect scenic vistas from Interstate 238.

New development envisioned under the proposed Specific Plan also could be visible from Interstate 580, which is identified as a scenic highway by the County's Scenic Route Element and is an officially designated State scenic highway (Caltrans, 2013). At its nearest point to the Plan Area, Interstate 580 is located approximately 1,000 feet to the northeast of East 14th Street in the West Eden Corridor. At this distance, the Plan Area is located outside of the scenic corridor associated with Interstate 580. While Interstate 580 offers distant, intermittent views of the West Eden Corridor to the southwest, redevelopment in the Plan Area would not substantially alter existing views toward San Francisco Bay. Therefore, the proposed Specific Plan would have a less than significant effect on scenic vistas from Interstate 580.

In addition, the proposed Specific Plan would facilitate new development in the principal public view corridors of the Plan Area: East 14th Street/Mission Boulevard and Lewelling Boulevard. These corridors, however, provide views of post-WWII era commercial and residential development and do not have scenic vistas. Therefore, the proposed project would have a less than significant overall impact on scenic vistas.

Mitigation Measures. The proposed project would not have a significant adverse impact on scenic vistas; therefore no mitigation is necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-2 The proposed Specific Plan would facilitate changes to the visual character of the Plan Area, relative to buildout under the existing ACBD Specific Plan. However, the formation of Character Areas and design guidelines for surface parking lots, gateways, and streetscapes would improve the visual quality of the environment, and the proposed design review criteria for new developments would ensure their visual compatibility with existing uses in the Plan Area. Impacts to visual character would be *less than significant*.

The proposed Specific Plan would facilitate changes to the visual character of the Plan Area by establishing new form-based zoning codes. As noted in Section 6.2 of the Specific Plan, form-based codes use requirements for physical form to reinforce "walkable, sustainable, mixed-use environments and development." The Specific Plan would apply mixed-use codes to the Ashland and Cherryland Districts, and to the Bayfair, West Eden, and Cherryland Corridors. These zoning codes would allow a wide range of commercial, civic, and residential development. In the Four Corners District, the Specific Plan would establish a District Commercial zone that provides for a walkable urban main street commercial environment with local- and regional-serving commercial, retail, and entertainment uses. In the Central Lewelling Corridor, the Corridor Neighborhood-Residential zone would accommodate a variety of medium-density housing types and a limited amount of retail, commercial, and office uses on small and medium-sized lots. In the Four Corners and Central Lewelling Neighborhoods, the Residential zone would preserve existing and allow new small-to-medium lot detached homes in walkable neighborhoods. (Refer to Section 2.0, *Project Description*, for a more complete discussion of the proposed zoning codes, including subzones.) Implementation of the proposed zoning is projected to result in an overall buildout of 167 single-family residences, 771 multi-family residential units, and 570,000 square feet of non-residential space beyond existing development in the Plan Area.

The proposed zoning would alter the visual character of the Plan Area, relative to that under buildout of the existing Specific Plan, by allowing for an increase in the intensity of development. Currently, the Plan Area is characterized primarily by post-WWII era commercial development with scattered single-family residences along East14th Street/Mission Boulevard and Lewelling Boulevard, and by single-family residential neighborhoods to the north of Lewelling Boulevard. In the East 14th Street/Mission Boulevard corridor, the existing ACBD Specific Plan calls for the development of "high intensity use nodes." Consistent with this vision, the proposed Specific Plan has the objective of developing the East 14th Street/Mission Boulevard corridor as a place for higher intensity uses. Proposed height limits of 75 feet in the Ashland and Cherryland Districts, 55 feet in the Bayfair Corridor, and 45 feet in the West Eden and Cherryland Corridors would allow for such development. While the existing Specific Plan does not envision new large-scale development in the Four Corners District and would maintain one-story commercial uses, the proposed Specific Plan would allow for a greater intensity of urban development in this area, including commercial buildings up to five stories or 75 feet in height.

To reduce visual impacts from increases in the intensity of development, the proposed Specific Plan envisions that building heights in the Four Corners District would be designed to remain visually compatible with surrounding residential uses. In addition, during the Site

Development Review process for all projects of more than 1,000 square feet in the Plan Area, the Specific Plan would require that the review authority make all of the following findings pertaining to aesthetics:

1) The proposed project would be harmonious and compatible with existing development and with the overall character of the neighborhood;
2) The location, size, design, and operating characteristics of the proposed project would promote the orderly growth of the County and would not be detrimental to the public interest, health, safety, convenience, or welfare of neighboring properties or to that of the overall community;
3) Site and architectural design and functional plan of the structure(s) and related improvements, including landscaping, are of reasonable aesthetic quality and implement the objectives of the ACBD Specific Plan;
4) Structure(s) and related improvements, including access and parking, are suitable for the proposed use of the property, consistent with the intent of the applicable zone, promote orderly development in the vicinity of the subject site, and provide adequate consideration of the existing and contemplated uses of land; and
5) The design and layout of the proposed project are consistent with the General Plan, the ACBD Specific Plan, and the development standards of this Code.

The application of these required findings during the Site Development Review process would ensure that the height and massing of large new developments are harmonious and visually compatible with existing residences throughout the Plan Area.

The proposed Specific Plan also would alter the visual character of the Plan Area by facilitating growth in multi-family residences. While existing residential development in the Plan Area is by and large single-family residential, buildout of the Specific Plan is expected to involve 771 new multi-family residential units and only 167 new single-family residences. As shown in Table 2-2 in Section 2.0, *Project Description*, potential buildout of multi-family residences includes 321 units in the Ashland District, 154 units in the Cherryland District, 78 units in the Central Lewelling Corridor, 66 units in the Four Corners District, 52 units in the Bayfair Corridor, 50 units in the Central Lewelling Neighborhood, and 48 units in the Four Corners Neighborhood. This increase in the share of multi-family residences will result in a denser residential environment in Districts, Corridors, and Neighborhoods throughout the Plan Area. It should be noted that the proposed Specific Plan includes many features to improve the visual quality of the urban environment. In an area that now lacks a cohesive visual identity, due to the haphazard nature of existing development, the formation of distinct Districts and Corridors would improve the visual environment.

While large surface parking lots currently create an auto-centric aesthetic, detracting from the appearance of roadway corridors, design standards in the Specific Plan would "reduce visual dominance of off-street parking" from public rights-of-way. At new developments in the Cherryland District, design standards would require the addition of trees, landscaping buffers, and fencing to hide off-street parking. Furthermore, at parking court frontages (where the primary building façade is set back from the property line with a small parking lot in front), the Development Code in the Specific Plan area calls for enclosing the parking lot by a low wall or hedge at or near the property line "for visual compatibility with the surrounding landscape." In

addition to the existing Cherryland Community sign at the intersection of Mission Boulevard with Hampton and Maddox roads, the Specific Plan calls for gateway signage or monument to "signify a sense of arrival" within the Four Corners District. This signage would aid in creating Districts with visually distinct identities.

The proposed Specific Plan also would facilitate visual improvements to streetscapes. As discussed in the Setting (Section 4.1.1), the majority of the pedestrian environment in the Plan Area currently lacks basic visual amenities such as street trees. Consistent with Policy LU-12, P5 in the Eden Area General Plan, new development in the Plan Area would be required to include street trees along public right-of-ways, which would enhance the visual quality of the area. The proposed zoning in the Districts and Corridors also would allow public art in the form of murals, subject to Planning Commission approval, provided that the size, colors, and placement are visually compatible with the base structure's architecture and enhance the aesthetics of the area. Additionally, Program 3.1.1 in the Specific Plan would involve undergrounding of power and utility lines to reduce visual clutter on the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors. Finally, Sign Standards in the Specific Plan are intended to ensure that signs do not impair the attractiveness of the Plan Area. These standards would require that the "design, height, location, and size of the sign(s) are visually complementary and compatible with the scale and architectural style of the primary structures on the site, any prominent natural features on the site, and structures and prominent natural features on adjacent properties on the same street." Tall, "freeway-oriented signs" would be allowed in the District Commercial, Corridor Mixed Use-Commercial, and Corridor Neighborhood-Commercial zones on parcels with a property line within 150 feet of the Interstate 880, 580, and 238 rights-of-way. These signs would not exceed a maximum of 60 feet in height. Billboard signs also would be prohibited, except as allowed per Section 17.52.515 of the Alameda County Municipal Code.

Therefore, impacts to visual character would be less than significant.

Mitigation Measures. The proposed project would not have a significant adverse impact related to visual character; therefore no mitigation is necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-3 The proposed project would result in new sources of light and glare in and around the project area. However, these new sources would not substantially increase the amount of light and glare in the already urbanized Plan Area, and would be regulated by the Eden Area General Plan. This would be a *less than significant* impact.

New development under the proposed Specific Plan would increase the development intensity of the Plan Area, and thus introduce into it new sources of light. Potential sources of new nighttime light include light spillover from the windows of residences and businesses, as well as from outdoor security lighting, lighted signs, and streetlights. New development also could produce glare from sunlight reflecting off reflective structures and motor vehicles, or by vehicle headlights at night. However, new sources would not substantially increase the amount of nighttime lighting or glare in the already urbanized Plan Area. Furthermore, under Goal LU-12

in the Eden Area General Plan to improve the visual quality of the Eden Area, the County would consider light and glare impacts from new development. Based on implementation of Goal LU-12 and site-specific environmental review of each proposed discretionary project within the Plan Area, impacts associated with light and glare would be reduced to a less than significant level.

Mitigation Measures. The proposed project would not have a significant adverse impact related to light and glare; therefore no mitigation is necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. As noted in Section 3.0, *Environmental Setting*, some cumulative impacts are not necessarily significant in relation to development that occurs in the greater Eden Area. For example, aesthetic impacts associated with the Specific Plan are not likely to be detected in the nearby unincorporated communities such as Fairview and Castro Valley. Therefore, this analysis of cumulative aesthetic impacts focuses on buildout of the Plan Area, as represented by buildout under the proposed Specific Plan. As discussed in Section 2.0, *Project Description*, the proposed Specific Plan would result in an overall intensification of land uses, including an estimated 169 single-family residences, 771 multi-family residential units, and 570,000 square feet of non-residential space. This intensification of urban development would result in changes to the area's visual environment. However, buildout under the Specific Plan would not significantly affect scenic vista or scenic resources. The proposed Specific Plan also would not result in significant adverse effects on visual character or quality, relative to buildout under the existing Specific Plan. Furthermore, while new development in the Plan Area would increase sources of light and glare, compliance with the Eden Area General Plan and site-specific environmental review would reduce impacts from light and glare to a less than significant level. Therefore, cumulative impacts of the proposed Specific Plan on aesthetics within the Plan Area would be less than significant.

This page intentionally left blank.

4.2 AIR QUALITY

4.2.1 Setting

a. Climate and Topography. The Plan Area is located within the San Francisco Bay Area Air Basin (SFBAAB), which includes Alameda County, Contra Costa County, Napa County, Southern Sonoma County, Western Solano County, Marin County, San Francisco County, San Mateo County, and Santa Clara County. The Bay Area Air Quality Management District (BAAQMD) is responsible for local control and monitoring of criteria air pollutants throughout the SFBAAB.

Climate, or the average weather condition, affects air quality in several ways. Wind patterns can remove or add air pollutants emitted by stationary or mobile sources. Inversion, a condition where warm air traps cooler air underneath it, can hold pollutants near the ground by limiting upward mixing (dilution). Topography also affects the local climate, as valleys often trap emissions by limiting lateral dispersal.

Air pollutant transport by wind is significant in the SFBAAB. While much of the Bay Area has good air quality as ocean breezes blow the air pollutants inland, the interior valleys such as Livermore and Santa Clara experience ozone standard violations in the summer as winds turn south.

b. Air Pollutants of Primary Concern. The State and federal Clean Air Acts mandate the control and reduction of certain air pollutants. Under these Acts, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for certain "criteria" pollutants. Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant emissions, as well as by the climactic and topographic influences discussed above. The primary determinant of concentrations of non-reactive pollutants (such as CO and PM_{10}) is proximity to major sources. Ambient CO levels in particular usually closely follow the spatial and temporal distributions of vehicular traffic. A discussion of primary criteria pollutants is provided below.

Ozone. Ozone is a colorless gas with a pungent odor. Most ozone in the atmosphere is formed as a result of the interaction of ultraviolet light, reactive organic gases (ROG), and oxides of nitrogen (NO_X). ROG (the organic compound fraction relevant to ozone formation, and sufficiently equivalent for the purposes of this analysis to volatile organic compounds, or VOC[1]) is composed of non-methane hydrocarbons (with some specific exclusions), and NO_X is made of different chemical combinations of nitrogen and oxygen, mainly NO and NO_2. A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO_X levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless, gas. CO causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major

[1] *ROG is equivalent to volatile organic compounds (VOC) per MBUAPCD Rule 101, 2.32*

cause of CO. CO is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the State CO standard are generally associated with major roadway intersections during peak hour traffic conditions.

Localized carbon monoxide "hotspots" can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal Ambient Air Quality Standards (AAQS) of 35.0 parts per million (ppm) or the State AAQS of 20.0 ppm.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Particulate Matter. Suspended particulate matter (airborne dust) consists of particles small enough to remain suspended in the air for long periods. Fine particulate matter includes particles small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulate matter can include materials such as sulfates and nitrates, which are particularly damaging to the lungs. Health effects studies resulted in revision of the Total Suspended Particulate (TSP) standard in 1987 to focus on particulates that are small enough to be considered "inhalable," i.e. 10 microns or less in size (PM_{10}). In July of 1997, a further revision of the federal standard added criteria for $PM_{2.5}$, reflecting recent studies that suggested that particulates less than 2.5 microns in diameter are of particular concern.

Lead. Lead is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed below, metal processing currently is the primary source of lead emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the US EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. US EPA completed the ban prohibiting the use of leaded gasoline in highway vehicles in December 1995.[2] As a result of US EPA's regulatory efforts to remove lead from gasoline, lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 in the transportation sector due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with significant reductions occurring in the metals industries at least in part as a result of national emissions standards for hazardous air pollutants.[3]

[2] *40 CRF Part 80*
[3] *U.S. EPA 2013. Policy Assessment for the Review of the Lead National Ambient Air Quality Standards – External Review Draft. EPA – 452/P-13-001.*

c. Current Ambient Air Quality. CARB and the EPA establish ambient air quality standards for major pollutants at thresholds intended to protect public health. Federal and State standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and fine particulates (PM_{10} and $PM_{2.5}$). Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except for lead and the eight-hour average for CO.

Local air districts and CARB monitor ambient air quality to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. Air quality monitoring stations measure pollutant ground-level concentrations (typically, ten feet aboveground level). Depending on whether the standards are met or exceeded, the local air basin is classified as in "attainment" or "non-attainment." Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment. Table 4.2-1 summarizes the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS) for each of these pollutants as well as the attainment status of the SFBAAB.

Table 4.2-1
Ambient Air Quality Standards & Basin Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 Hour	0.070 ppm (137µg/m^3)	N	0.075 ppm	N
	1 Hour	0.09 ppm (180 µg/m^3)	N		
Carbon Monoxide	8 Hour	9.0 ppm (10 mg/m^3)	A	9 ppm (10 mg/m^3)	A
	1 Hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	A
Nitrogen Dioxide	1 Hour	0.18 ppm (339 µg/m^3)	A	0.100 ppm	U
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	A
Sulfur Dioxide (See Footnote #12)	24 Hour	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	A
	1 Hour	0.25 ppm (655 µg/m^3)	A	0.075 ppm (196 µg/m^3)	A
	Annual Arithmetic Mean			0.030 ppm (80 µg/m^3)	A
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N		
	24 Hour	50 µg/m^3	N	150 µg/m^3	U
Particulate Matter - Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	N	15 µg/m^3	A
	24 Hour			35 µg/m^3	N

Table 4.2-1
Ambient Air Quality Standards & Basin Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Sulfates	24 Hour	25 µg/m^3	A		
Lead	Calendar Quarter			1.5 µg/m^3	A
	Rolling 3 Month Average			0.15 µg/m^3	
	30 Day Average	1.5 µg/m^3)			A
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3	U		
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 µg/m^3	*No information available*		
Visibility Reducing particles	8 Hour(10:00 to18:00 PST)		U		

A=Attainment N=Nonattainment U=Unclassified; mg/m^3=milligrams per cubic meter ppm=parts per million µg/m^3=micrograms per cubic meter

Source: Bay Area Air Quality Management District Website, November 2013: http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm

As shown in Table 4.2-1, the SFBAAB is in nonattainment for the federal and state standards for ozone, as well as the state standard for particulate matter (PM_{10} and $PM_{2.5}$) and the federal standard for 24 hour $PM_{2.5}$.

Ambient air quality is monitored at four BAAQMD-operated monitoring stations located in Alameda County. Table 4.2-2 summarizes the representative annual air quality data for the Plan Area over the years 2011-2013. The nearest monitoring stations to the Plan Area are the Hayward – La Mesa monitoring station (approximately 5 miles southeast of the Plan Area), and the Oakland – 9925 International Blvd. monitoring station (approximately five miles northwest of the Plan Area).

As indicated in Table 4.2-2, there were no federal ozone exceedances at the nearest SFBAAB monitoring station in 2011, 2012, or 2013. There was one state ozone exceedance in 2013. The state and federal standards for carbon monoxide were not exceeded in 2011, 2012, or 2013. The federal standards for $PM_{2.5}$ were exceeded three times 2011, zero times in 2012, and twice in 2013. SFBAAB monitoring stations near the Plan Area did not have PM_{10} data available.

Table 4.2-2
Ambient Air Quality Data

Pollutant	2011	2012	2013
Ozone (ppm), Worst 1-Hour [1, 2]	0.088	0.094	0.085
Number of days of State exceedances (>0.09 ppm)	0	0	0
Ozone (ppm), 8-Hour Average [1, 2]	0.070	0.065	0.075
Number of days of State exceedances (>0.07 ppm)	0	0	1
Number of days of Federal exceedances (>0.08 ppm)	0	0	0

Table 4.2-2
Ambient Air Quality Data

Pollutant	2011	2012	2013
Carbon Monoxide (ppm), Highest 8-Hour Average [3]	1.5	1.57	*
Number of days of above State or Federal standard (>9.0 ppm)	0	0	0
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours [3, 4]	49.3	33.6	37.9
Number of days above Federal standard (>65 μg/m^3)	3	0	2

Source: CARB Aerometric Data Analysis and Measurement System (ADAM) Top Four Summaries from 2011 to 2013, available at: http://www.arb.ca.gov/adam/topfour/topfour1.php
*ppm = parts per million; PM_{10} – particulate matter 10 microns in diameter or less; NM = not measured; μg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; * There was insufficient (or no) data available to determine the value.*
Notes:
1. Maximum concentration is measured over the same period as the California Standards.
2. O_3 data is from the Hayward – La Mesa Monitoring Station.
3. CO and $PM_{2.5}$ data from the Oakland – 9925 International Boulevard Monitoring Station.
4. $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

d. Regulatory Setting. The Federal Clean Air Act governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the federal level, the United States Environmental Protection Agency (EPA) administers the Clean Air Act (CAA). The California Clean Air Act is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management Districts at the regional and local levels. The BAAQMD regulates air quality at the regional level, which includes the nine-county Bay Area.

Federal. The EPA is responsible for enforcing the federal CAA. The EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the 1977 CAA and subsequent amendments. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency has jurisdiction over emission sources outside state waters (e.g. beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by the CARB.

State. In California, the CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the federal CAA, administering the California CAA, and establishing the California Ambient Air Quality Standards (CAAQS). The California CAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The CARB established passenger vehicle fuel specifications, which became effective on March 1996. The CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Regional. In 1955, the California Legislature created the BAAQMD. The agency is primarily responsible for assuring that the national and State ambient air quality standards are attained and maintained in the Bay Area. The BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities. The BAAQMD has jurisdiction over much of the nine-county Bay Area counties, including Napa County.

The BAAQMD, along with the other regional agencies (i.e. Association of Bay Area Governments and the Metropolitan Transportation Commission), has prepared the Ozone Attainment Plan to address the federal standard for ozone. The *2010 Clean Air Plan* is the most recently approved regional Clean Air Plan (CAP). It was adopted in September 2010 and updated the Bay Area ozone plan. This plan provides an integrated, multi-pollutant strategy to improve air quality, protect public health, and protect the climate. The plan is designed to provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan. The *2010 Clean Air Plan* developed Transportation Control Measures (TCMs) by reviewing the *2005 Ozone Strategy* measures, and modifying and expanding them based on new investment and policy decisions and public input. In particular, the TCMs have been updated to reflect the policy and investment decisions made in the Metropolitans Transportation Commission's (MTC) regional transportation plan, *Transportation 2035: Change in Motion.* The 2010 Clean Air Plan is also based on population and employment forecasts from the Association of Bay Area Governments (ABAG).

Local. Alameda County adopted a wood smoke ordinance in 2001. The ordinance, affecting new construction, prohibits the installation of any woodstove except a pellet stove or an EPA-certified stove. Fireplaces must be gas-fired or have EPA-certified inserts. Traditional wood burning masonry fireplaces or factory-built fireplaces are not allowed. The ordinance would greatly reduce new particulate matter (PM_{10} and $PM_{2.5}$) emissions from new residential development.

f. Sensitive Receptors. Certain population groups are more sensitive to air pollution than the general population; in particular, children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered sensitive receptors. Sensitive receptors that are in proximity to localized sources of particulate matter, toxics, and carbon monoxide (CO) are of particular concern. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. Sensitive receptors within the Plan Area include residences along Mission Boulevard, residential neighborhoods along Lewelling Boulevard, and San Lorenzo High School and St. John Elementary School on Lewelling Boulevard. REACH Ashland Youth Center and Meek Park would also be considered sensitive land uses, as they provide outdoor recreational opportunities for residents within and surrounding the Plan Area. Sensitive receptors near the Plan Area primarily include residential subdivisions on both sides of Lewelling Boulevard, as well as Meek Park to the south. Other adjacent land uses include commercial, industrial, and public facilities. Residential buildout

under the proposed Specific Plan would also introduce new sensitive receptors to the Plan Area.

The BAAQMD recommends that general plans include buffer zones to separate sensitive receptors from sources of air toxic contaminants and odors. In April 2005, the CARB released the final version of the *Air Quality and Land Use Handbook*, which is intended to encourage local land use agencies to consider the risks from air pollution prior to making decisions that approve the siting of new sensitive receptors (e.g. homes or daycare centers) near sources of air pollution. Unlike industrial or stationary sources of air pollution, siting of new sensitive receptors does not require air quality permits, but could create air quality problems. The primary purpose of the handbook is to highlight the potential health impacts associated with proximity to common air pollution sources, so that those issues are considered in the planning process. CARB makes recommendations regarding the siting of new sensitive land uses near freeways, truck distribution centers, dry cleaners, gasoline dispensing stations, and other air pollution sources. These recommendations are based primarily on modeling information and may not be entirely reflective of conditions in the Plan Area. The *Air Quality and Land Use Handbook* notes that siting of new sensitive land uses within these distances may be possible, but recommends that site-specific studies be conducted to identify actual health risks. CARB acknowledges that land use agencies have to balance other siting considerations such as housing and transportation needs, economic development priorities and other quality of life issues.

4.2.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of the project's air quality impacts follows the guidance and methodologies recommended in the BAAQMD's *1999 Thresholds of Significance*, as well as Appendix G of the *State CEQA Guidelines*.

According to Appendix G of the *State CEQA Guidelines*, impacts related to air quality from the proposed project would be significant if the project would:

1) *Conflict with or obstruct implementation of the applicable air quality plan;*
2) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
3) *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 qualitative thresholds for ozone precursors);*
4) *Expose sensitive receptors to substantial pollutant concentrations; and/or*
5) *Create objectionable odors affecting a substantial number of people.*

The *State CEQA Guidelines* further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the determinations above.

BAAQMD Thresholds of Significance and Methodology. On March 5, 2012 the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds contained in the BAAQMD's 2010 *CEQA Guidelines*. In

light of the Court's order, BAAQMD recommends that lead agencies determine appropriate air quality and GHG thresholds of significance based on substantial evidence in the record. BAAQMD notes that lead agencies may rely on the 2011 *CEQA Guidelines* for assistance in calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures. However, the BAAQMD has been ordered to set aside the thresholds and is no longer recommending that these thresholds be used as a general measure of a project's significant air quality impacts. Lead agencies may continue to rely on the Air District's 1999 *Thresholds of Significance* and to make determinations regarding the significance of an individual project's air quality impacts based on substantial evidence in the record for that project. This analysis relies on the BAAQMD's significance thresholds in the Air District's 1999 *Thresholds of Significance*, as these were the thresholds used in the Eden Area General Plan EIR.

Consistency with Air Quality Plan. The BAAQMD 1999 *Thresholds of Significance* has developed guidelines and thresholds of significance for local plans. Inconsistency with the most recently adopted CAP is considered a significant impact. According to the BAAQMD, the following criteria must be satisfied for a local plan to be determined to be consistent with the CAP and not have a significant air quality impact:

- *The local plan should be consistent with the CAP population and Vehicle Miles Traveled (VMT) assumptions. This is demonstrated if the population growth over the planning period will not exceed the values included in the 2010 Clean Air Plan, and the rate of increase in VMT is equal to or lower than the rate of increase in population.*
- *The local plan demonstrates reasonable efforts to implement the Transportation Control Measures (TCMs) included in the CAP that identify cities as implementing agencies.*
- *For local plans to have a less than significant impact with respect to potential odors and/or toxic air contaminants, buffer zones should be established around existing and proposed land uses that would emit these air pollutants. Buffer zones to avoid odors and toxics impacts should be reflected in local plan policies, land use maps, and implementing ordinances.*
- *In addition, the plans should not lead to development that would lead to violations of ambient air quality standards.*

Construction Emissions. Construction-related emissions are generally short-term in duration, but may still cause adverse air quality impacts. According to the BAAQMD's 1999 *Thresholds of Significance,* PM_{10} is the pollutant of greatest concern with respect to construction activities. Construction emissions of PM_{10} can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions and other factors. Despite this variability in emissions, experience has shown that there are a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction. The BAAQMD's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. To this end, the BAAQMD has identified a set of feasible PM_{10} control measures for construction activities.

According to the BAAQMD's 1999 *Thresholds of Significance,* the determination of significance for construction emissions should be based on a consideration of the control measures to be implemented. From the BAAQMD's perspective, quantification of construction emissions is not necessary. If all of the control measures indicated in the BAAQMD's 1999 *Thresholds of*

Significance (as appropriate, depending on the size of the project area) will be implemented, then air pollutant emissions from construction activities would be considered a less than significant impact. If all of the appropriate measures in the BAAQMD's 1999 *Thresholds of Significance* will not be implemented, then construction impacts would be considered to have a significant air quality impact.

Operational Emissions. According to the BAAQMD's 1999 *Thresholds of Significance,* total emissions from project operations should be compared to the thresholds provided in Table 4.2-3. Total operational emissions evaluated under this threshold should include all emissions from motor vehicle use associated with the project. A project that generates criteria air pollutant emissions in excess of the annual or daily thresholds in Table 4.2-3 would be considered to have a significant air quality impact.

Table 4.2-3
Thresholds of Significance for Project Operations

Pollutant	ton/yr	lb/day	kgm/day
ROG	15	80	36
NO_X	15	80	36
PM^{10}	15	80	36

The operational emissions associated with development of the proposed Specific Plan were calculated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 by using default inputs for the type and size of proposed land uses. CalEEMod is a software model developed by South Coast Air Quality Management District to estimate air pollutant and GHG emissions from land use development projects. Operational emissions would be comprised of mobile source emissions, emissions associated with energy consumption, and area source emissions. Mobile source emissions are generated by the increase in motor vehicle trips to and from the Plan Area associated with operation of development under the proposed Specific Plan. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating and cooling. Area source emissions are generated by, for example, landscape maintenance equipment, consumer products, and architectural coatings.

The estimate of total daily trips associated with the proposed Specific Plan was based on vehicle trip data provided in Section 4.14, *Transportation and Circulation*, which includes a 21% mixed-use development (MXD) reduction in daily vehicle trips along the E. 14th/Mission Boulevard Corridor and a 24% MXD reduction in daily vehicle trips along the Lewelling Boulevard Corridor. As the location of future development under the Specific Plan is not known, the average of the MXD reductions, or 23%, was used. The overall vehicle fleet mix used in the analysis is the default fleet mix provided in the CalEEMod software.

Local Carbon Monoxide Concentrations. The BAAQMD 1999 *Thresholds of Significance* states that localized carbon monoxide concentrations should be estimated for projects in which: (1) vehicle emissions of CO would exceed 550 lb/day, (2) project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E, or F or would cause LOS to decline to D, E, or F, or (3) project traffic would increase traffic volumes on nearby roadways by 10% or more. The BAAQMD 1999 Thresholds of Significance provides a procedure for estimating a

reasonable estimate of carbon monoxide concentrations near roads under worst case conditions. It is a simplified version of CALINE4, a common model for estimating local CO concentrations resulting from motor vehicle emissions. A project contributing to CO concentrations exceeding the State Ambient Air Quality Standard of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for 1 hour would be considered to have a significant impact.

b. Project Impacts and Mitigation Measures.

Impact AQ-1 The proposed project would contribute to population growth, but would be consistent with the growth assumptions in the *2010 Bay Area Clean Air Plan.* This impact is *less than significant.*

As noted in Section 4.2.3(a) (Methodology and Significance Thresholds), a project would conflict with or obstruct implementation of the CAP if it is inconsistent with the population growth assumptions included in the *2010 Bay Area Clean Air Plan*. The CAP relies upon growth forecasts provided by the ABAG. As discussed in Section 4.11, *Population and Housing*, according to ABAG's most recent population forecast (*Plan Bay Area,* July 2013), the population of Alameda County is projected to be 1,987,950 in 2040 and the population of the Ashland and Cherryland communities within Alameda County is projected to be 46,093 in 2040. The current Alameda County population is 1,573,254 (DOF, 2014).

Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses accommodating up to 938 residential units and 570,000 square feet of non-residential development, as described in Section 2.0, *Project Description*. Based on the City average of 2.95 persons per household, the proposed addition of 938 residential units would generate an increase of approximately 2,768 residents. As discussed in Section 4.11, *Population and Housing*, the 2,768 new residents associated with Specific Plan buildout would make up approximately 29% of projected growth in the Ashland and Cherryland communities, 19% of projected growth in the Eden Area, and 17% of projected growth in unincorporated Alameda County. The 938 new housing units would make up approximately 37% of the projected housing growth in the Ashland and Cherryland communities, 18% of projected growth in the Eden Area, and 17% of projected growth in unincorporated Alameda County. The 1,900 new jobs associated with Specific Plan buildout would make up approximately 89% of the projected job growth in the Ashland and Cherryland communities, 49% of projected job growth in the Eden Area, and 20% of job growth in unincorporated Alameda County.

The increases in population, housing, and jobs associated with full buildout of the proposed Specific Plan would not exceed ABAG or Eden Area General Plan growth projections. The anticipated increase in population would be consistent with long-term growth projections for the County. Therefore, implementation of the project would not obstruct implementation of a CAP and the project would have a less than significant impact related to conflicts with or obstruction of implementation of the *2010 Bay Area Clean Air Plan*.

MTC projects that VMT for Alameda County will grow at a much greater rate than population growth (MTC, 2005). Since daily VMT projections for the Plan Area are not available, this analysis assumes that VMT growth would exceed population growth as it would for the entire County.

As discussed in Section 4.14, *Transportation and Circulation*, the unique characteristics of the Plan Area such as, but not limited to, proportion of households within a ¼-mile of transit, jobs available within 30 minutes by transit, and residential densities, results in reduced vehicle trips; this reduction can be quantified using the MXD model, which accounts for the mix of land uses throughout the Plan Area more accurately than standard rates produced by the Institute of Transportation Engineers (ITE) *Trip Generation* manual. The estimate of total daily trips associated with the proposed Specific Plan includes a 21% MXD reduction in vehicle trips along the E. 14th/Mission Boulevard Corridor and a 24% MXD reduction in vehicle trips along the Lewelling Boulevard Corridor from standard trip generation rates for similar land uses. These reductions in vehicle trips would proportionately reduce project-related VMT by 21% along the E. 14th/Mission Boulevard Corridor and 24% along the Lewelling Boulevard Corridor.

In addition, the ACBD Specific Plan includes a Multimodal Access Plan, key elements of which include a set of recommended infrastructure improvements and goals and policies established to guide improvements for autos, bicyclists, pedestrians and transit within the Plan Area. As discussed in Section 4.14, *Transportation and Circulation*, the ACBD Specific Plan proposes that all bus stops along E. 14th/Mission Boulevard would be redesigned to include shelter, bicycle parking, and the minimum 80 feet of bus stop length to maximize access, comfort and safety. The ACBD Specific Plan also recommends Class II bicycle lanes along the segments of E. 14th/Mission Boulevard. These improvements to multimodal transportation, if adopted and implemented, would reduce vehicle travel; therefore, reducing air pollutant emissions.

These policies and actions would reduce VMT. However, it is not possible to predict that VMT growth under Specific Plan buildout conditions would be less than the rate at which population would grow. Increased growth in VMT rates would result in emissions of ozone precursor emissions that may not have been taken into account during preparation of the Clean Air Plan. This could interfere with efforts to obtain both State and federal ambient air quality standards for ozone. Failure to meet certain clean air planning goals may trigger the need for further air pollution control measures that could harm the overall economy of the Bay Area. Consistent with Eden Area General Plan Goal LU-17 Policy 1, new development projects would be analyzed in accordance with the BAAQMD CEQA Guidelines and appropriate mitigation measures to reduce project-related vehicle trips and vehicle miles traveled would be applied to projects in the Plan Area. As the Specific Plan would result in VMT reductions in the Plan Area, both directly from the mixed use nature of the proposed Specific Plan and its proposed policies and actions to improve multimodal transportation in the Plan Area, and projects within the Plan Area would be required to comply with Eden Area General Plan Goal LU-17 Policy 1, air quality impacts related to vehicle miles traveled would be less than significant, and the Specific Plan would not conflict with the *2010 Bay Area Clean Air Plan*.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-2 The proposed Specific Plan includes a Multimodal Access Plan that would implement Transportation Control Measures (TCMs) included in the CAP that identify cities as implementing agencies. Impacts would be less *than significant*.

The Eden Area General Plan policies implemented TCMs included in the *2005 Ozone Strategy*. The *2010 Bay Area Clean Air Plan* includes 17 transportation control measures (TCMs), six of which would apply to the proposed Specific Plan. The Specific Plan would be consistent with these policies and would also include a Multimodal Access Plan that would further implement applicable TCMs in the *2010 Bay Area Clean Air Plan*, as described in Table 4.2-4 below.

Table 4.2-4
Proposed Specific Plan Consistency with Transportation Control Measures

Transportation Control Measures	Consistency
TCM A-1 Improve Local and Areawide Bus Service	**Consistent** The Specific Plan proposes that all bus stops along E. 14th/Mission Boulevard would be redesigned to include shelter, bicycle parking, and the minimum 80 feet of bus stop length to maximize access, comfort and safety. The Specific Plan also recommends coordinating with AC Transit, improving connection to the Bay Area Rapid Transit (BART) network.
TCM C-2 Implement Safe Routes to Schools and Safe Routes to Transit	**Consistent** The Specific Plan recommends improvements to the pedestrian and bicycle network that would support safe routes to schools and transit.
TCM C-5 Promote Smart Driving/Speed Moderation	**Consistent** The Specific Plan recommends identifying strategies and best practices to manage and optimize the existing vehicular capacity by implementing intelligent transportation system (ITS) technologies such as traffic signal timing, communication, and synchronization improvements. The Specific Plan also recommends that as the Plan Area develops, traffic volumes and speeds on these and other residential streets should be monitored and, if warranted, traffic calming measures should be installed.
TCM D-1 Improve Bicycle Access and Facilities	**Consistent** The Specific Plan envisions a proposed bicycle network that would be safe and efficient, providing connections to major destinations within the Plan Area and throughout the region. The Specific Plan recommends installation of Class II bicycle lanes, intersection improvements for bicycle access and safety, and bicycle parking.
TCM D-2 Improve Pedestrian Access and Facilities	**Consistent** The Specific Plan recommends reduced pedestrian crossing distances through the use of curb extensions, pedestrian streetscape improvements, including lighting, street furniture, and street trees, and the elimination of channelized turn lanes to reduce vehicle speeding and improve pedestrian safety.
TCM D-3 Support Local Land Use Strategies	**Consistent** The proposed Specific Plan promotes mixed-use, transit-oriented development in the Plan Area that would reduce motor vehicle dependence and facilitate walking, bicycling, and transit use.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-3 Buildout of the proposed Specific Plan would result in the temporary generation of air pollutants during construction, which would affect local air quality. Compliance with the Eden Area General Plan would require future projects within the Specific Plan area to implement measures to reduce PM_{10} emissions. Impacts would be less *than significant*.

Construction of individual projects developed under the proposed General Plan would involve activities that result in air pollutant emissions. Construction activities such as demolition, grading, construction worker travel to and from project sites, delivery and hauling of construction supplies and debris to and from project sites, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants, particularly during site preparation and grading. Dust emissions can lead to both nuisance and health impacts. According to the BAAQMD's 1999 *Thresholds of Significance,* PM_{10} is the pollutant of greatest concern with respect to construction activities. PM_{10} emissions from construction can vary daily, depending on various factors, such as the level of activity, type of construction activity taking place, the equipment being operated, weather conditions, and soil conditions.

The BAAQMD has identified feasible PM_{10} control measures for construction activities. According to the BAAQMD *CEQA Guidelines* (1999), if all of these control measures are implemented, a less than significant impact is expected for PM_{10} emissions. In addition, the BAAQMD and CARB have regulations that address the handling of hazardous air pollutants such as lead and asbestos. Lead and asbestos emissions could occur from demolition activities and asbestos emissions could occur from disturbance of soils with naturally occurring asbestos (found in parts of the County). BAAQMD rules and regulations address both the handling and transport of these contaminants. An air toxic control measure adopted by CARB requires measures to minimize asbestos emissions in areas known to have naturally occurring asbestos. Construction associated with development of projects under the proposed Specific Plan would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution levels or air quality nuisances. However, development under the proposed Specific Plan would be required to comply with Eden Area General Plan Mitigation Measure AIR-3, which requires the application of control measures to reduce PM_{10} emissions from construction activities, including watering exposed ground areas twice a day during construction, covering haul trucks, suspending grading activities when winds exceed 25 miles per hour, and limiting area subject to excavation, grading or other construction activities at any one time, as well as additional measures. With adherence to these requirements, impacts would be less than significant.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-4 Operational emissions associated with buildout of the proposed Specific Plan of ROG, NO_X, and PM_{10} would exceed BAAQMD's daily thresholds. However, individual projects would be required to undergo project-specific review to reduce

operational emissions to below BAAQMD's daily thresholds. Therefore, the proposed Specific Plan would have a *less than significant* impact on regional air quality.

As described, operational emissions for the proposed Specific Plan would be comprised of mobile source emissions, emissions associated with energy consumption, and area source emissions. The emissions associated with all operations associated with buildout of the proposed Specific Plan are shown in Table 4.2-5 below.

Mobile source emissions constitute the vast majority of operational emissions from these types of land use development projects; compared to mobile source emissions, area-source emissions and energy source emissions are negligible. Mobile source emissions associated with the operational phase of the Project are presented in Table 4.2-5. The Specific Plan is based on a land use pattern that would co-locate residential and commercial uses within the Plan Area, resulting in reduced trip generation rates from standard trip generation rates for similar land uses. As discussed above, the estimate of total daily trips associated with the proposed Specific Plan was based on vehicle trip data provided in Section 4.14, *Transportation and Circulation*, which includes a 21%MXD reduction in vehicle trips along the E. 14th/Mission Boulevard Corridor and a 24% MXD reduction in vehicle trips along the Lewelling Boulevard Corridor from standard trip generation rates for similar land uses. As the location of future development under the Specific Plan is not known, the average of the MXD reductions, or 23%, was assumed.

Table 4.2-5
Estimated Operational Emissions

Emission Source	Emissions Estimate (lbs/day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	50	1	77	<1	<1	<1
Energy	1	10	6	<1	1	1
Mobile	61	97	586	2	116	32
***Total Emissions*[1]**	**113**	**108**	**669**	**2**	**117**	**34**

Source: Calculations using CalEEMod 2013.2.2. See Appendix B for calculations. Applied the highest emissions from Summer or Winter.
1. The sum of individual emissions sources may differ slightly from total emissions due to rounding of decimals.

Operational emissions associated with full buildout of the proposed Specific Plan are shown in Table 4.2-5. However, no specific development projects are proposed at this time. In order to quantify the level of emissions associated with individual development projects and compare emissions to established project-level BAAQMD thresholds, specific information regarding the size and type of development and the location of receptors would be needed. Though overall operational emissions associated with buildout of the proposed Specific Plan would exceed applicable BAAQMD thresholds for criteria pollutants, any project proposed within the Plan Area would be required to undergo CEQA review, which would include analysis of operational emissions. Appropriate mitigation measures would be identified at that time.

The proposed Specific Plan includes policies that would reduce vehicle trips and emissions. Policy 1.5 involves supporting infill development and Policy 1.9 encourages the combination of

on-site retail and production, which would reduce vehicle trips from manufacturer to retail locations. Policy 2.4 is to "support businesses that serve adjacent residents and the area at-large," which would reduce vehicle trips by local residents to services outside of the Plan Area. Policy 3.3 is to improve the pedestrian experience and establish high-amenity, safe pedestrian and bicycle connections along East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard. Furthermore, Policy 4.1 promotes high-intensity, clustered development supporting increased transit use, Policy 4.2 is to provide transit supportive development, and Policy 4.3 encourages pedestrian scale development. Lastly, Goal 8 is "A balanced and complete circulation network that creates a strong economy and vibrant community and accommodates the internal and external transportation needs of the Plan Area by promoting walking, biking, and transit while continuing to serve automobile traffic." Goal 8 includes nine policies to support walking, biking, and transit in the Plan Area, while ensuring vehicle access is efficient and the parking supply is adequate. Therefore, the proposed Specific Plan would have a less than significant impact related to operational air quality emissions.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-5 The proposed project would not increase traffic at study area intersections such that carbon monoxide (CO) hotspots would be created. Impacts related to CO hotspots would be *less than significant.*

Carbon monoxide emissions from traffic would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Since the early 1990s, carbon monoxide levels have been at healthy levels (i.e. below State and federal standards) in the Bay Area. As a result, the region has been designated as attainment for the standard.

Pursuant to BAAQMD guidance, a CO hotspot analysis should be conducted if project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E or F or would cause LOS to decline to D, E or F, or project traffic would increase traffic volumes on nearby roadways by 10% or more. Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of carbon monoxide (CO), known as CO "hot spots." A project contributing to CO concentrations exceeding the State Ambient Air Quality Standard of 9 parts per million (ppm) averaged over eight hours and 20 ppm for one hour would be considered to have a significant impact.

As shown in Table 4.14-7, in Section 4.14, *Transportation and Circulation,* three roadways operate at LOS D or worse under existing conditions with project traffic in the AM or PM peak hour. All other roadways operate at LOS C or better in existing conditions with project traffic during AM and PM peak hours. As shown in Tables 4.14-9 and 4.14-10 in Section 4.14, *Transportation and Circulation*, five roadways operate at LOS D or worse during AM or PM peak hours in cumulative conditions with project traffic. The intersection of Mission Boulevard and Lewelling Boulevard connects the two major roadways in the Plan Area. Therefore, assessing this intersection using the BAAQMD guidance for manually calculating CO concentrations would represent the worst case scenario for CO hotspot creation at Plan Area intersections.

Following the BAAQMD guidance, the one hour and eight hour average CO concentration was calculated for the Mission Boulevard and Lewelling Boulevard intersection (refer to Appendix B for CO calculation worksheets). The one hour concentration was estimated to be approximately 7 ppm and the eight hour concentration was estimated to be approximately 4 ppm, including both traffic-related CO emissions and background CO concentrations. The Specific Plan-related concentrations are less than the State Ambient Air Quality Standard of 9 ppm averaged over eight hours and 20 ppm for one hour at the major intersection in the Plan Area; therefore, impacts related to CO hotspots would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-6 The project would not create objectionable odors that would affect neighboring properties. Impacts related to odors would be *less than significant.*

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Specific Plan does not include any uses that would be associated with objectionable odors. Odor emissions from the proposed project would be limited to odors associated with vehicle and engine exhaust and idling. The project does not include any known sources of objectionable odors for long-term operations. During construction activities, only short-term, temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would be short-term, and would cease upon completion. Therefore, the project is not expected to result in significant impacts related to objectionable odors during construction or operation.

In addition, the proposed Specific Plan would be consistent with Eden Area General Plan LU-17 Policy-2 that requires new development that would emit air toxic contaminants or odors to provide adequate buffers and screening to protect sensitive land uses from unhealthy levels of air pollution or objectionable odors. The proposed Specific Plan would also be consistent with Eden Area General Plan LU-17 Policy 3 that requires new development involving sensitive receptors to be located an adequate distance from sources of air pollution and odor, such as freeway, arterial roadways and stationary air pollutant sources, or shall provide appropriate mitigation measures.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development through the year 2025 in the Eden Area in accordance with the Eden Area General Plan would result in an increase of approximately 16,472 residents and 5,641 housing units. Buildout estimates for residential and non-residential growth under the proposed Specific Plan would add an additional 938 residential units and 570,000 square feet of non-residential space. Air contaminant emissions are cumulative in nature as emissions of air pollution contribute to the general air quality of the region. The SFBAAB is in nonattainment for the federal and state standards for ozone, as well as the state

standard for particulate matter (PM_{10} and $PM_{2.5}$) and the federal standard for 24 hour $PM_{2.5}$. Any growth within the SFBAAB would contribute to existing exceedances of ambient air quality standards when taken as a whole with existing development. Population growth under the proposed Specific Plan would be consistent with long-term growth projections for the County; therefore, implementation of the project would not conflict with or obstruct the implementation of the *2010 Bay Area Clean Air Plan*. Therefore the proposed Specific Plan's contribution to cumulative regional air quality impacts would not be cumulatively considerable.

This page intentionally left blank.

4.3 BIOLOGICAL RESOURCES

4.3.1 Setting

a. Physical Setting. Ashland and Cherryland are centrally located in the western portion of unincorporated Alameda County, in the low-lying coastal area just west of the foothills of the Diablo Range. The Ashland and Cherryland Business District Specific Plan Area ("Plan Area") encompasses 246 acres along East 14th Street/Mission Boulevard between 150th Avenue and Grove Way and along East Lewelling Boulevard between East 14th Street /Mission Boulevard and Hesperian Boulevard (refer to Figure 2-2 in Section 2.0, *Project Description*). The Plan Area is generally flat with elevations ranging across the area from approximately 35 to 85 feet above mean sea level. Land uses in the vicinity of the Plan Area are predominately commercial/industrial, with residential development clustered along East Lewelling Boulevard and interspersed along East 14th Street/Mission Boulevard, as well as a few scattered public facilities throughout.

Habitats. With the exception of San Lorenzo Creek, virtually the entirety of the Plan Area is developed or disturbed. Developed areas within the Plan Area include the existing communities of Ashland and Cherryland which consist primarily of commercial/industrial development along East 14th Street/Mission Boulevard and East Lewelling Boulevard, with some residential development and public facilities located throughout. Developed areas correspond with the Urban land cover described in the California Wildlife Habitat Relationships (CWHR; Mayer and Laudenslayer, 1988).

Few ruderal areas are also located throughout the Plan Area on vacant lots scattered amongst the commercial/industrial and residential development. Ruderal areas are also typically associated with urban areas where substantial ground disturbance activities occur. They are often found along roadsides, fencelines, and in areas undergoing urban development. Ruderal plant communities are not described by Holland (1986), Sawyer et al. (2009), or Mayer and Laudenslayer (1988). Ruderal plant communities are typically dominated by herbaceous plants (i.e., forbs) such as mustard (*Hirschfeldia incana*), fiddleneck (*Amsinckia menziesii*), and great valley phacelia (*Phacelia ciliata*), and include many non-native annual grasses such as ripgut brome (*Bromus diandrus*), wild oats (*Avena* spp.), and foxtail barley (*Hordeum murinum*).

Drainages and Wetlands. Most of the Eden Area has been altered by urban development. San Lorenzo Creek runs from east to west through the Plan Area, bordering portions of the Specific Plan boundary and transecting the Plan Area under Mission Boulevard, and again south of the East Lewelling Boulevard BART overpass (Figure 4.3-1). The creek is channelized through the Plan Area but retains its sandy bottom near the San Francisco Bay adjacent to San Lorenzo. San Lorenzo Creek is subject to tidal influence upstream through the Eden Area and west of the Union Pacific Railroad tracks. The mouth of San Lorenzo Creek, in the City of San Leandro, opens into a tidal marsh before it joins the San Francisco Bay (Eden Area General Plan EIR, 2006).

There are a number of efforts underway to conserve and reclaim the natural function of San Lorenzo Creek and enhance it as a multi-use riparian corridor. The watershed is an important habitat for steelhead trout (*Oncorhynchus mykiss*), Central California Coast Distinct Population

Segment, a federally listed as "threatened" species. The Friends of San Lorenzo Creek, an organization formed in 2002, addresses concerns about the creek in its full course from the hills of Castro Valley to San Francisco Bay, as well as the associated watershed. Additionally, the City of San Leandro recently worked with local housing developers to restore the marsh lands around the mouth of San Lorenzo Creek at Historic Robert's Landing creating a link to the Bay Trail and an opportunity for an additional link between the Eden Area and an important regional resource.

Special Status Biological Resources. For the purpose of this EIR, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1, 2, 3, and 4, and are defined as:

- *List 1A = Plants presumed extinct in California*
- *List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)*
- *List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened)*
- *List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known)*
- *List 2 = Rare, threatened or endangered in California, but more common elsewhere*
- *List 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA)*
- *List 4.1 = Plants of limited distribution (watch list), seriously endangered in California*
- *List 4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80 percent occurrences threatened)*
- *List 4.3= Plants of limited distribution (watch list), not very endangered in California*

Queries of the USFWS Environmental Conservation Online System (ECOS): Information, Planning and Conservation System (IPaC) (USFWS, 2015a), USFWS Critical Habitat Portal (USFWS, 2015b), California Natural Diversity Database (CNDDB) (CDFW, 2015a), and California Native Plant Society (CNPS) *Online Inventory of Rare, Threatened and Endangered Plants of California* (CNPS, 2015) were conducted. The queries were conducted to obtain comprehensive information regarding state and federally listed species, sensitive communities and federally designated Critical Habitat known to or considered to have potential to occur within the Plan Area.

Sensitive Communities and Critical Habitat. No natural communities considered sensitive by the CDFW occur within the Plan Area. However, the CNDDB lists two sensitive natural communities that occur within a 5-mile radius of the Plan Area (Figure 4.3-2). Federally designated critical habitat for three species also occurs within a 5-mile radius of the Plan Area. These sensitive communities and critical habitats are listed in Table 4.3-1.

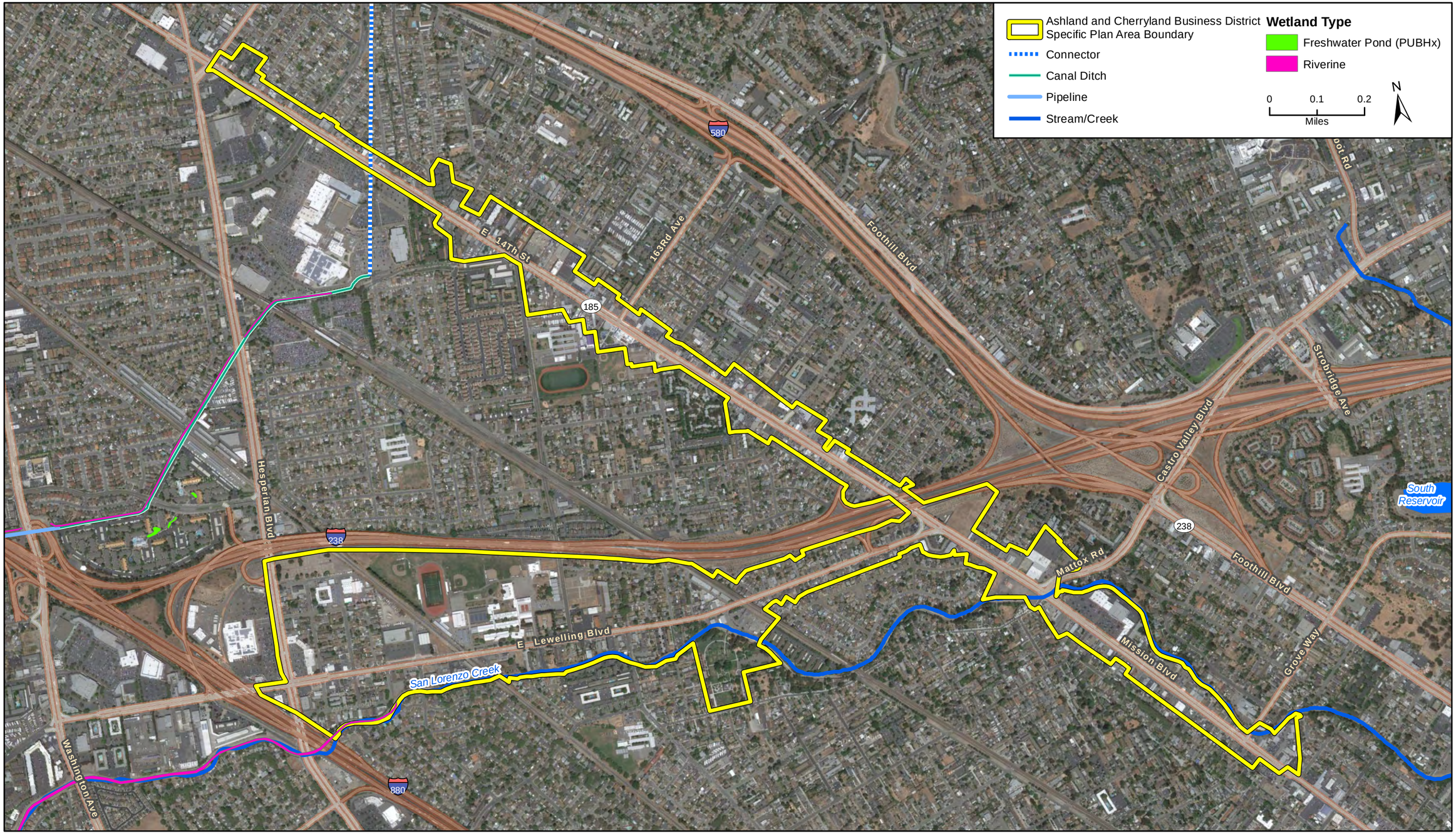
Table 4.3-1
Sensitive Communities and Critical Habitats Documented within 5-mile radius of Plan Area

Communities Considered Sensitive by the CDFW
Valley Needlegrass Grassland
Northern Coastal Salt Marsh
Critical Habitat
Western Snowy Plover (*Charadrius alexandrinus nivosus*)
California Red-legged Frog (*Rana draytonii*)
Alameda Whipsnake (*Masticophis lateralis*)

Sources: CNDDB (CDFW, 2014); USFWS, Critical Habitat Portal (2014)

Special Status Plant and Animal Species. Alameda County is home to several species protected by federal and state agencies. Special status animal species can be found in a variety of habitat types the County provides, including those within and surrounding the Plan Area. The CNDDB (CDFW, 2015a), CNPS (2015), and USFWS ECOS IPaC (2015a) together list special status plant (18 species) and animal (31 species) species that are known to or have potential to occur within the vicinity of the Plan Area. The status and habitat requirements for these special status animal and plant species are presented in Tables 4.3-2 and 4.3-3, respectively.

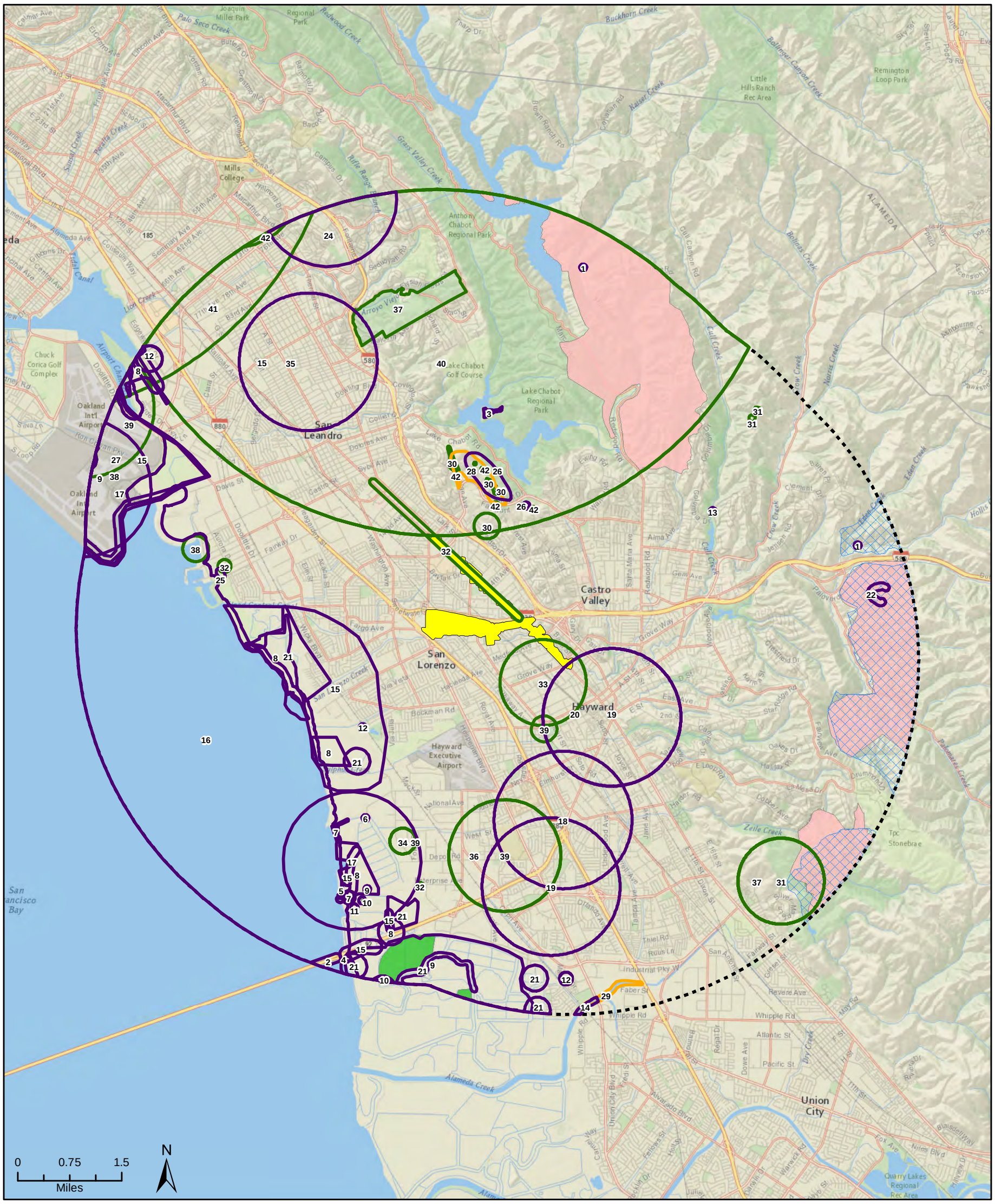
This page intentionally left blank.



Imagery provided by Google and its licensors © 2015. Additional data provided by the USGS National Hydrography Dataset, 2013 and USFW National Wetland Inventory, 2015 (http://www.fws.gov/wetlands/Data/Mapper.html)

Drainages and Wetlands

Figure 4.3-1



Imagery provided by ESRI and its licensors © 2015. Special status species data source: California Natural Diversity Database, April 7, 2015. Additional suppressed records reported by the CNDDB known to occur or potentially occur within this search radius include: Alameda Whipsnake. For more information please contact the Department of Fish and Game. Critical habitat data source: U.S. Fish and Wildlife Service, April 15, 2015. Final critical habitat acquired via the USFWS Critical Habitat Portal. It is only a general representation of the data and does not include all designated critical habitat. Contact USFWS for more specific data.

Special Status Species Recorded by the CNDDB
and Federally Designated Critical Habitat

Figure 4.3-2

Table 4.3-2
Special-Status Animal Species Known to Occur or with Potential to Occur within the vicinity of the Plan Area

Scientific Name Common Name	Status Fed/State Global Rank/ State Rank CDFW	Habitat Requirements
Mammals		
Antrozous pallidus Pallid bat	FS/— G5/S3 SSC	Deserts, grasslands, shrublands, woodlands, and forest. Most common in open, dry, habitats with rocky area for roosting. Roost must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Eumops perotis Western mastiff bat	—/— G5/S2 SSC	Many open habitats, including conifer and deciduous woodlands, grassland, and chaparral. Roosts in crevices in cliff faces and high buildings.
Lasiurus cinereus Hoary bat	—/— G5/S4 —	Thought to prefer trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	—/— G5T2T3/S2S3 SSC	Evergreen or live oaks and other thick-leaved trees and shrubs.
Reithrodontomys raviventris Salt-marsh harvest mouse	FE/SE G1G2/S1S2 FP	Salt marshes, in particular those that support dense stands of pickleweed and are adjacent to upland, salt-tolerant vegetation, for escape during high tides.
Sorex vagrans halicoetes Salt-marsh wandering shrew	—/— G5T1/S1 SSC	Confined to small remnant stands of salt marsh found around the southern arm of the San Francisco Bay in San Mateo, Santa Clara, Alameda and Contra Costa counties. The known elevational range extends from approximately 6 to 9 feet.
Birds		
Accipiter cooperi Cooper's hawk	—/— G5/S3 WL	Mature forest, open woodlands, wood edges, river groves. Nests in coniferous, deciduous, and mixed woods, typically those with tall trees and with openings or edge habitat nearby. Also found along trees along rivers through open country, and increasingly in suburbs and cities where some tall trees exist for nest sites. In winter may be in fairly open country, especially in west.
Ardea herodias Great blue heron	—/— G5/S4 S	Marshes, swamps, shores, tideflats. Very adaptable. Forages in any kind of calm fresh waters or slow-moving rivers, also in shallow coastal bays. Nests in trees or shrubs near water, sometimes on ground in areas free of predators.
Athene cunicularia Burrowing owl	—/— G5/S3 SSC	Open grassland, prairies, farmland, airfields. Favors areas of flat open ground with very short grass or bare soil. Prairie-dog towns once furnished much ideal habitat in west, but these are now scarce, and the owls are found on airports, golf courses, vacant lots, industrial parks, other open areas.
Charadrius nivosus nivosus Western snowy plover	FT/— G3T3/S2 SSC	Shores, peninsulas, offshore islands, bays, estuaries, and rivers of the United States' Pacific Coast.
Circus cyaneus Northern harrier	—/— G5/S3 SSC	Marshes, fields, prairies. Found in many kinds of open terrain, both wet and dry habitats, where there is good ground cover. Often found in marshes, especially in nesting season, but sometimes will nest in dry open fields.

Table 4.3-2
Special-Status Animal Species Known to Occur or with Potential to Occur within the vicinity of the Plan Area

Scientific Name Common Name	Status Fed/State Global Rank/ State Rank CDFW	Habitat Requirements
Dendroica petechia Yellow warbler	—/— G5/S3 SSC	Bushes, swamp edges, streams, gardens. Breeds in a variety of habitats in east, including woods and thickets along edges of streams, lakes, swamps, and marshes, favoring willows, alders, and other moisture-loving plants. Also in dryer second-growth woods, orchards, roadside thickets. In west, restricted to streamside thickets. In winter in the tropics, favors semi-open country, woodland edges, towns.
Geothlypis trichas sinuosa Saltmarsh common yellowthroat	—/— G5T2/S2 SSC	Salt marshes. Breeding: Nests just above ground or over water, in thick herbaceous vegetation, often at base of shrub or sapling, sometimes higher in weeds or shrubs up to about 1 m.
Laterallus jamaicensis coturniculus California black rail	__ /ST G3G4T1/S1 FP	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.
Melospiza melodia pusillula Alameda song sparrow	—/— G5T2?/S2? SSC	Inhabits tidal salt marshes that have an appropriate configuration of vegetation, water, and exposed ground. Vegetation is required for nesting sites, song perches, and concealment from predators.
Nycticorax nycticorax Black-crowned night heron	—/— G5/S4 —	Marshes, shores; roosts in trees. Found in a wide variety of aquatic habitats, around both fresh and salt water, including marshes, rivers, ponds, mangrove swamps, tidal flats, canals, ricefields. Nests in groves of trees, in thickets, or on ground, usually on islands or above water, perhaps to avoid predators.
Phalacrocorax auritus Double-crested cormorant	—/— G5/S3 WL	Coasts, bays, lakes, rivers. Very adaptable, may be found in almost any aquatic habitat, from rocky northern coasts to mangrove swamps to large reservoirs to small inland ponds. Nests in trees near or over water, on sea cliffs, or on ground on islands.
Rallus longirostris obsoletus California clapper rail	FE/SE G5T1/S1 FP	Inhabit a range of salt and brackish water marshes. They use a network of small tidal sloughs for foraging and quick escape. They construct nests near them (within 10 meters), canopied with either pickleweed or cordgrass, sometimes gum-plant, salt grass, or drift materials.
Rynchops niger Black skimmer	—/— G5/S2 SSC	Mostly ocean beaches, tidewater. Favors coastal waters protected from open surf, such as lagoons, estuaries, inlets, sheltered bays. Locally on inland lakes in Florida and at Salton Sea, California. Nests on sandy islands, beaches, shell banks. In South America, occurs far inland along major rivers.
Sterna antillarum brownii California least tern	FE/SE G4T2T3Q/S2 FP	Seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers, breeding on sandy or gravelly beaches and banks of rivers or lakes, rarely on flat rooftops of buildings
Reptiles		
Masticophis lateralis euryxanthus Alameda whipsnake	FT/ST G4T2/S2 —	Open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, stream courses

Table 4.3-2
Special-Status Animal Species Known to Occur or with Potential to Occur within the vicinity of the Plan Area

Scientific Name Common Name	Status Fed/State Global Rank/ State Rank CDFW	Habitat Requirements
Amphibians		
Ambystoma californiense California tiger salamander	FT/ST G2G3/S2S3 SSC	Frequents grassland, oak savanna, and edges of mixed woodland and lower elevation coniferous forest.
Rana draytonii California red-legged frog	FT/— G2G3/S2S3 SSC	Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry.
Fish		
Eucyclogobius newberryi Tidewater goby	FE/__ G3/S2S3 SSC	Found primarily in waters of coastal lagoons, estuaries, and marshes.
Hypomesus transpacificus Delta smelt	FT/SE G1/S1 —	Inhabits open waters of bays, tidal rivers, channels, and sloughs; it rarely occurs in water with salinity of more than 10-12 ppt; when not spawning, it tends to concentrate where salt water and freshwater mix (salinity about 2 ppt) and zooplankton populations are dense.
Oncorhynchus mykiss irideus Steelhead – northern California DPS	FT/__ G5T2T3Q/S2S3 SSC	In streams, deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates free of excessive silt.
Crustaceans		
Branchinecta lynchi Vernal Pool fairy shrimp	FT/__ G3/S2S3 —	Limited to vernal pools in Oregon and California. Occasionally will be found in habitats other than vernal pools, such as artificial pools created by roadside ditches.
Invertebrates		
Danaus plexippus Monarch butterfly	—/— G5/S3 —	Open fields and meadows with milkweed.
Euphydryas editha bayensis Bay checkerspot butterfly	FT/__ G5T1/S1 —	The serpentine outcrops in Santa Clara and San Mateo Counties harbor the native plants bay checkerspot butterflies require. The primary larval food plant is *Plantago erecta*, dwarf plantain. The near presence of *Castilleja densiflora*, purple owl's clover, and *Castilleja exserta*, exserted paintbrush, is critical for the extra food needed to reach diapause (i.e., a period of dormancy). Nectar plants for the adults include California goldfields, desert parsley, and tidy-tips.
Molluscs		
Tryonia imitator Mimic tryonia (California brackishwater snail)	—/— G1/S1 —	Freshwater.

Table 4.3-2
Special-Status Animal Species Known to Occur or with Potential to Occur within the vicinity of the Plan Area

Scientific Name Common Name	Status Fed/State Global Rank/ State Rank CDFW	Habitat Requirements
Arachnids		
Microcina lumi Lum's micro-blind harvestman	—/— G1/S1 —	Serpentine grasslands.

Sources: CNDDB (CDFW, 2014; USFWS ECOS IPaC (2015).

FT = Federally Threatened *SE = State Endangered*

FC = Federal Candidate Species *ST = State Threatened*

FE = Federally Endangered *SR = State Rare*

FS = Federally Sensitive *SS = State Sensitive*

DL = Delisted *WL = State Watch List*

SC = State Candidate Species

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind 5.
SSC = CDFW Species of Special Concern FP = Fully Protected

Table 4.3-3
Special-Status Plant Species Known to Occur or with Potential to Occur within the vicinity of the Plan Area

Scientific Name Common Name	Status Fed/State Global Rank/ State Rank CRPR	Habitat Requirements
Amsinckia lunaris Bent-flowered fiddleneck	__/__ G2?/S2? 1B.2	Bloom period: March-June. Coastal bluff scrub, cismontane woodland, valley and foothill grassland.
Astragalus tener var. *tener* Alkali milk-vetch	__/__ G2T2/S2 1B.2	Bloom period: March-June. Playas, valley and foothill grassland (adobe clay), vernal pools. Alkaline.
Balsamorhiza macrolepis Big-scale balsamroot	__/__ G2/S2 1B.2	Bloom period: March-June. Chaparral, cismontane woodland, valley and foothill grassland. Sometimes serpentinite.
Calochortus umbellatus Oakland star-tulip	__/__ G4/S4 4.2	Bloom period: March-May. Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Often serpentine.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	__/__ G3T2/S2 1B.1	Bloom period: May-November. Valley and foothill grassland (alkaline)
Erysimum capitatum var. *angustatum* Contra Costa wallflower	FE/CE G5T1/S1 1B.1	Bloom period: March-July. Inland dunes.
Fritillaria liliacea Fragrant fritillary	__/__ G2/S2 1B.2	Bloom period: February-April. Cismontane woodland, coastal prairie, coastal scrub, calley and foothill grassland.
Helianthella castanea Diablo helianthella	__/__ G2/S2 1B.2	Bloom period: March-June. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.

Table 4.3-3
Special-Status Plant Species Known to Occur or with Potential to Occur within the vicinity of the Plan Area

Scientific Name Common Name	Status Fed/State Global Rank/ State Rank CRPR	Habitat Requirements
Holocarpha macradenia Santa Cruz tarplant	FT /SE G1/S1 1B.1	Bloom period: June-October. Coastal prairie, coastal scrub, valley and foothill grassland. Often clay, sandy.
Lasthenia conjugens Contra Costa goldfields	FE/__ G1/S1 1B.1	Bloom period: March-June. Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. Mesic.
Monolopia gracilens Woodland woolythreads	__/__ G2G3/S2S3 1B.2	Bloom period: February-July. Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), valley and foothill grassland. Serpentine.
Oenothera deltoides ssp. *howellii* Antioch Dunes evening-primrose	FE /CE G5T1/S1 1B.1	Bloom period: March-September. Inland dunes.
Piperia michaelii Michael's rein orchid	__/__ G3/S3 4.2	Bloom period: April-August. Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, cower montane coniferous forest.
Plagiobothrys glaber Hairless popcornflower	__/__ GH/SH 1A	Bloom period: March-May. Meadows and seeps (alkaline), marshes and swamps (coastal salt).
Polygonum marinense Marin knotweed	__/__ G2Q/S2 3.1	Bloom period: April-October. Marshes and swamps (coastal salt or brackish).
Ranunculus lobbii Lobb's aquatic buttercup	__/__ G4/S3 4.2	Bloom period: February-May. Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools.
Streptanthus albidus ssp. *peramoenus* Most beautiful jewel-flower	__/__ G2T2/S2 1B.2	Bloom period: March-October. Chaparral, cismontane woodland, valley and foothill grassland.
Suaeda californica California seablite	FE /__ G1/S1 1B.1	Bloom period: July-October. Marshes and swamps (coastal salt).

Source: CNDDB (2014); CNPS (2015); USFWS IPaC (2015)

FT = Federally Threatened *SE = State Endangered*

FC = Federal Candidate Species *ST = State Threatened*

FE = Federally Endangered *SR = State Rare*

FS = Federally Sensitive *SS = State Sensitive*

DL = Delisted *WL = State Watch List*

SC = State Candidate Species

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind5.
CRPR (California Rare Plant Rank):
1A = Presumed Extinct in California
1B = Rare, Threatened, or Endangered in California and elsewhere
2 = Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (a Review List)
4 = Plants of Limited Distribution (a Watch List)

As shown in Figure 4.3-2, two special status plant species and two special status animal species are known to occur within the Plan Area or the immediate vicinity. These species include:

Congdon'sTarplant. *Hemizonia parryi* ssp. *congdonii*, also known as Congdon's tarplant, is a dicot in the family Asteraceae and is an annual herb that is native to California, while being endemic (limited) to California alone. Furthermore, it is included by the California Native Plant Society on list 1B which refers to plant species that are rare, threatened, or endangered in CA and elsewhere. This species occurs in alkaline, often heavy clay soils in mesic areas within grassland communities with ruderal and native alkali-tolerant plants (Eden Area General Plan EIR, 2006). Congdon's tarplant occurs in the Ashland portion of the Plan Area along East 14th Street from SR 238, through the Specific Plan's northeastern boundary, to Thomas Avenue to the northwest.

Santa Cruz Tarplant. *Holocarpha macradenia*, also known as Santa Cruz tarplant, is a dicot in the family Asteraceae and is an annual herb that is native to California, while being endemic (limited) to California alone. This species normally occurs in costal prairies and valley grasslands. Furthermore, it is included by the California Native Plant Society on list 1B which refers to plant species that are rare, threatened, or endangered in CA and elsewhere. It is also listed by the State of California as Endangered (listed Sep 1979) and by the Federal Government as Threatened (Eden Area General Plan EIR, 2006). The Santa Cruz tarplant occurs in the Cherryland portion of the Plan Area along the southeastern arm of the plan area, surrounding Mission Boulevard.

Western Mastiff Bat. *Eumops perotis*, also known as western mastiff bat (generally called the greater bonneted bat), is in the family Molossidae. The western mastiff bat occurs in a wide variety of habitats, including chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland, but in areas associated with roosting sites. This species is listed as a species of special concern. The western mastiff bat occurs in the Cherryland portion of the Specific Plan at the southeastern tip of the plan area, surrounding Mission Boulevard.

Pallid Bat. *Antrozous pallidus*, also known as pallid bat, a member of the family Vespertilionidae. In California, the species occurs throughout the state in a variety of habitats including low desert, oak woodland and coastal redwood forests, extending up to 3,000 meters elevation in the Sierra Nevada. This species is listed as a species of special concern. The pallid bat occurs in the Cherryland portion of the Specific Plan at the southeastern tip of the plan area, surrounding Mission Boulevard.

Wildlife Movement Corridors. Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large and small scale. Riparian corridors, waterways, and flood control channels, including San Lorenzo Creek, may provide local scale opportunities for wildlife movement throughout the Plan Area. The CDFW BIOS (2015) mapped one essential connectivity area immediately north of the Plan Area. The corridor extends from the foothills southeast of San Pablo bay southeast paralleling the San Francisco Bay and connecting with the Diablo Range east of Fremont.

b. Regulatory Framework. Federal, state, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority for general biological resources lies within the land use control and planning authority of local jurisdictions, which in this instance is the County of Alameda. The CDFW is a trustee agency for biological resources throughout the state under the California Environmental Quality Act (CEQA) and also has direct jurisdiction under the California Fish and Game Code, which includes, but is not limited to, resources protected by the State of California under the CESA.

Federal and State Jurisdictions.

United States Fish and Wildlife Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC § 153 et seq.). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any federally listed threatened or endangered species are required to obtain permits from the USFWS and/or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

United States Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetlands. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge into wetlands or other "waters of the United States" that are hydrologically connected and/or demonstrate a significant nexus to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met through compensatory mitigation involving creation or enhancement of similar habitats.

California Department of Fish and Wildlife (formerly the California Department of Fish and Game). The CDFW derives its authority from the Fish and Game Code of California. The CESA (Fish and Game Code Section 2050 et. seq.) prohibits "take" of state-listed threatened and endangered species. Take under CESA is restricted to direct harm of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFW additionally prohibits take for species designated as Fully Protected under the CFGC under various sections. Projects that would result in take of any state listed threatened or endangered species are required to obtain an incidental take permit (ITP) pursuant to Fish and Game Code Section 2081. The issuance of an ITP is dependent upon the following: 1) the authorized take is incidental to an otherwise lawful activity; 2) the impacts of the authorized take are minimized and fully mitigated; 3) the measures required to minimize and fully mitigate the impacts of the authorized take are roughly proportional in extent to the impact of the taking on the species, maintain the applicant's objectives to the greatest extent possible, and are capable of successful implementation; 4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and 5) issuance of the permit will not jeopardize the continued existence of a state-listed species.

California Fish and Game Code sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (CFGC Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Species of Special Concern (SSC) is a category used by the CDFW for those species that are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except those afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands, and these species are consider sensitive as described under the CEQA Appendix G questions. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCB) has jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction). The local RWQCB (San Francisco Bay RWQCB) enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the CWA for waters subject to federal jurisdiction.

California Department of Transportation - California Streets and Highways Code Section 156.3. Assessments and remediation of potential barriers to fish passage for transportation projects using state or federal transportation funds are required. Such assessments must be conducted for any projects that involve stream crossings or other alterations and must be submitted to the CDFW.

Regional and Local. Although the Eden Area General Plan does not contain measures addressing protection of biological resources, the policies set forth by the *Conservation Element of the Alameda County General Plan* (1994) apply to the Plan Area.

Alameda County General Plan. The Conservation Element of the Alameda County General Plan includes goals and objectives to protect vegetation and wildlife resources found within the County. Goals and objectives that are applicable to the Plan Area are listed in Table 4.3-4.

Table 4.3-4
Local General Plan Goals and Objectives, Policies and Implementation Measures

Vegetation and Wildlife Resources	
Goal: To protect and enhance wildlife habitats and natural vegetation areas in Alameda County.	
Objective 1	To identify areas of critical or sensitive concern for wildlife and vegetation.
Objective 2	To maintain and, if necessary, restore deteriorating environments to a level of diversity appropriate in this area of California.
Objective 3	To identify the principles of resource management as criteria for resource evaluation.
Objective 4	To education government, business and citizens to conserve and protect wildlife resources.

Source: Alameda County, Conservation Element of the Alameda County General Plan, 1994

Alameda County Tree Ordinance. The Alameda County Tree Ordinance (no. 0-2004-23) and Chapter 12.11 (Regulation of Trees in County Right-of-Way) of the Alameda County Code of

Ordinances finds that the preservation of trees within the County right-of-way enhances the natural scenic beauty, sustains the long term potential increase in property values, protects the surrounding area from soil erosion, moderates the effects of extreme weather conditions and temperatures, improves air quality including increasing the oxygen output of the area which is needed to combat air pollution, creates the identity and quality of the County's businesses and residences, and improves the attractiveness of the County to visitors. The ordinance provides protection to any tree in the public right-of-way (ROW) within the Eden Area which meets the following criteria:

> "Any woody perennial plant characterized by having a single trunk or multi-trunk structure at least ten feet high and having a major trunk that is at least two inches in diameter taken at breast height (DBH) taken at 4.5 feet from the ground. It shall also include those plants generally designated as trees and any trees that have been planted as replacement trees under the County Tree Ordinance or any trees planted by the County."

Under the Tree Ordinance and Chapter 12.11 of the County Code, any tree removed from the County ROW must be authorized by a permit issued by the Director and must be mitigated through efforts to replace an existing tree or trees with one or more trees of a type consistent with the character of the neighborhood. Development and redevelopment activities within the Plan Area would be required to adhere to this ordinance in order to minimize the impact that development or redevelopment of the Plan Area may have on local trees.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. It should be noted that the following analysis is programmatic, and encompasses the broader Plan Area because specific development projects are not included in the Specific Plan. Thus specific impacts to biological resources are unknown. Data used for this analysis include aerial photographs, topographic maps, the CNDDB, the CNPS online inventory of rare and endangered plants, and accepted scientific texts to identify species. Federal special status species inventories maintained by the USFWS were reviewed in conjunction with the CNDDB and CNPS online inventory. Other data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special status species and sensitive habitat information obtained from the CDFW CNDDB (2015a), CDFW BIOS (CDFW, 2015b), the California Native Plant Society (CNPS) online *Inventory of Rare, Threatened, and Endangered Plants of California* (2015), and the USFWS ECOS IPaC (2015a). The USFWS Critical Habitat Mapper (2015b) and National Wetlands Inventory (2015c) were also queried.

Evaluation Criteria. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed Specific Plan would result in any of the following:

1) *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.*

2) *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.*

3) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
4) *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.*
5) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

Potential impacts associated with the significance criteria 4-6 were dismissed in the Initial Study (Appendix A of this EIR) as not significant. Therefore, for the purposes of this EIR, the impact analysis below is focused on significance criteria 1-3.

b. Impacts and Mitigation Measures.

Impact BIO-1 Implementation of development facilitated by the proposed Specific Plan may result in impacts to special status plant and animal species. Impacts would be *significant but mitigable*.

For the purposes of this analysis, special status plant and animal species include those described under 4.3.1.a above, as well as locally important species including protected trees. Most of the development facilitated by the proposed Specific Plan would occur within existing urbanized areas and would not likely involve construction in environmentally sensitive habitat areas. As mentioned above and presented in Tables 4.3-2 and 4.3-3, there are 49 special status species known to occur or with potential to occur within the vicinity of the Plan Area. Eighteen of these species (14 animal species and 4 plant species) are given high levels of protection by the federal government through listing under FESA and/or by the state government through listing under CESA or Fully Protected. The remaining species shown in Tables 4.3-2 and 4.3-3 are protected through CEQA and/or through local ordinances. Most special status species have very limited ranges within the County and have specific habitat requirements. Special status species may also tend to be associated with sensitive habitats, such as riparian habitats and drainages.

Because of the broad-scale nature of the proposed Specific Plan, a precise, project-level analysis of the specific impacts of individual development projects on special status species is not possible at this time and the level of analysis is maintained at the Specific Plan level. Some special status species likely would be encountered at the locations where projects administered under the proposed Specific Plan would occur. Thus, it is assumed that some resources would not be avoided and that potentially significant impacts would occur.

Projects that occur over or in the vicinity of San Lorenzo Creek are within suitable habitat for species such as California red-legged frog (*Rana draytonii*) (Federally Threatened and State

Species of Special Concern), California least tern (*Sterna antillarum brownii*) (Federally and State Endangered), and steelhead trout (Federally Threatened).

In addition to San Lorenzo Creek that may be impacted, future development projects under the proposed Specific Plan could impact upland habitats and the sensitive plant and animal species that may occupy them. For example, Santa Cruz tarplant (Federally Threatened and State Endangered) and Congdon's tarplant (CRPR 1B.1) may be present in undeveloped areas of the Plan Area where development could occur. Several special status bat species may be affected by proposed projects where they occur under bridges, buildings or similar structures, or in native habitat adjacent to construction areas. Trees and other vegetation within the Plan Area may support species of nesting birds, including sensitive species such as the northern harrier (*Circus cyaneus*) (California SSC) and burrowing owl (*Athene cunicularia*) (California SSC).

Direct impacts to special status species include injury or mortality occurring during implementation and/or operation of development facilitated by the proposed Specific Plan. Direct impacts also include habitat modification and loss such that it results in the mortality or otherwise alters the foraging and breeding behavior substantially enough to cause injury. Indirect impacts could be caused by the spread of invasive non-native species that out-compete native species and/or alter habitat towards a state that is unsuitable for special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats, potentially eliminating special status plant species and reducing the availability of suitable forage and breeding sites for special status animal species.

In addition to direct and indirect impacts that may result from development facilitated by the proposed Specific Plan, the ACBD Specific Plan would increase density and intensity of existing land uses within the Plan Area. This land use scenario focuses future development within existing urbanized areas. As a result, encroachment into undisturbed habitat would be reduced when compared to a land use scenario that did not focus future development with existing urbanized areas. This would limit impacts to sensitive plant and animal species. However, it is possible that sensitive plant and animal species could be located on future development sites. As a result, development facilitated by the Specific Plan could impact plant and animal species that may be present on or in proximity to undeveloped parcels. Many special status animal species are associated with creeks even in the most densely developed urban areas. Both native and non-native trees and shrubs throughout urban areas may support nesting birds and other sensitive species. Impacts would be potentially significant.

Mitigation Measures. The following mitigation measures will reduce Impact BIO-1 below a level of significance:

B-1(a) **Biological Resources Screening and Assessment.** For projects associated with the proposed Specific Plan, the project applicant shall hire a County-approved biologist to perform a preliminary biological resource screening as part of the environmental review process to determine whether the project has any potential to impact biological resources. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact

biological resources, prior to construction, a County-approved biologist shall conduct a biological resources assessment (BRA) or similar type of study to document the existing biological resources within the project footprint plus a buffer and to determine the potential impacts to those resources. The BRA shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement, sensitive plant communities, critical habitats, and other resources judged to be sensitive by local, state, and/or federal agencies. Pending the results of the BRA, design alterations, further technical studies (e.h., protocol surveys) and/or consultations with the USFWS, NMFS, CDFW and/or other local, state, and federal agencies may be required. The following mitigation measures [B-1(b) through B-1(k)] shall be incorporated, only as applicable, into the BRA for projects where specific resources are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the BRA where suitable habitat is present.

B-1(b) **Special Status Plant Species Surveys.** If completion of the project-specific BRA determines that special status plant species may occur on-site, surveys for special status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. All plant surveys shall be conducted by a County-approved biologist no more than two years before initial ground disturbance. All special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and/or topographic map and/or mapped with the use of Global Positioning System (GPS) unit. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the implementing agency, and the CDFW and/or USFWS, as appropriate, for review and approval.

B-1(c) **Special Status Plant Species Avoidance, Minimization, and Mitigation.** If state listed or CRPR List 1B or 2 species are found during special status plant surveys [pursuant to mitigation measure B-1(b)], then the project shall be re-designed to avoid impacting these plant species, if feasible. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a County-approved biologist, to protect them from harm.

B-1(d) **Restoration and Monitoring.** If special status plants species cannot be avoided and will be impacted by development under the Specific Plan, all impacts shall be mitigated by the project applicant at a minimum ratio of 2:1 (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. A restoration plan shall be prepared by the project applicant and submitted to the County for approval. (Note: if a state listed plant species will be impacted, the restoration plan shall be submitted to the CDFW for approval). The restoration plan shall include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type).
- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved].
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values).
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan).
- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule).
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports).
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type.
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria.
- Notification of completion of compensatory mitigation and agency confirmation.
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

B-1(e) **Endangered/Threatened Species Habitat Assessments and Protocol Surveys**. Specific habitat assessments and survey protocols are established for several federally and state

endangered or threatened species. If the results of the BRA determine that suitable habitat may be present for any such species, protocol habitat assessments/surveys shall be completed in accordance with CDFW and/or USFWS protocols prior to issuance of any construction permits. If through consultation with the CDFW and/or USFWS it is determined that protocol habitat assessments/surveys are not required, said consultation shall be documented prior to issuance of any construction permits. Each protocol has different survey and timing requirements. The applicants for each project shall be responsible for ensuring they understand the protocol requirements and shall hire a County-approved biologist to conduct protocol surveys.

B-1(f) **Endangered/Threatened Species Avoidance and Minimization.** The habitat requirements of endangered and threatened species are highly variable. The potential impacts from any given project implemented under the Specific Plan are likewise highly variable. However, there are several avoidance and minimization measures that can be applied for a variety of species to reduce the potential for impact, with the final goal of no net loss of the species. The following measures may be applied to aquatic and/or terrestrial species. The County shall select from these measures as appropriate and the project applicant shall be responsible for implementing selected measures.

- Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance.
- All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, if feasible, to avoid impacts to sensitive aquatic species.
- All projects occurring within or adjacent to sensitive habitats that may support federally and/or state listed as endangered/threatened species shall have a CDFW- and/or USFWS-approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW and/or USFWS, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are begin fully implemented.

- No endangered/threatened species shall be captured and relocated without expressed permission from the CDFW and/or USFWS.
- If at any time during construction of the project an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and/or USFWS as appropriate.
- For all projects occurring in areas where endangered/ threatened species may be present and are at risk of entering the project site during construction, exclusion fencing shall be placed along the project boundaries prior to start of construction (including staging and mobilization). The placement of the fence shall be at the discretion of the CDFW/USFWS-approved biologist. This fence shall consist of solid silt fencing placed at a minimum of 3 feet above grade and 2 feet below grade and shall be attached to wooden stakes placed at intervals of not more than 5 feet. The fence shall be inspected weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete.
- All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.
- No equipment shall be permitted to enter wetted portions of any affected drainage channel.
- All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access.
- If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.
- If water is to be diverted around work sites, a diversion plan shall be submitted (depending upon the species that may be present) to the CDFW, RWQCB, USFWS, and/or NMFS for their review and approval prior to the start of any construction activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.

- At the end of each workday, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.
- All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.
- The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.
- If any federally and/or state protected species are harmed, the CDFW/USFWS-approved biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours.
- Considering the potential for projects to impact federal and state listed species and their habitat, the County shall contact the CDFW and USFWS to identify mitigation banks within Alameda County during development of the proposed Specific Plan. Upon implementation of development projects included in the proposed Specific Plan, but on a project-by-project basis, if the results of the BRA determines that impacts to federal and state threatened or endangered species habitat are expected, the applicant shall explore species-appropriate mitigation bank(s) servicing the County for purchase of mitigation credits.

B-1(g) **Non-Listed Special Status Animal Species Avoidance and Minimization**. Several State Species of Special Concern may be impacted by development facilitated by the Specific Plan. The ecological requirements and potential for impacts is highly variable among these species. Depending on the species identified in the BRA, several of the measures identified under B-1(f) shall be applicable to the project. In addition, the County shall select measures from among the following to be implemented by the project applicant to reduce the potential for impacts to non-listed special status animal species:

- For non-listed special status terrestrial amphibians and reptiles, coverboard surveys shall be completed within three months of the start of construction. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground. The coverboards shall be checked by a County-approved biologist once per week for each week after placement up until the start of vegetation

removal. All non-listed special status and common animals found under the coverboards shall be captured and placed in five-gallon buckets for transportation to relocation sites. All relocation sites shall be reviewed by the project applicant and shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by construction of the project. Relocation shall occur on the same day as capture. CNDDB Field Survey Forms shall be submitted to the CFDW for all special status animal species observed.

- Pre-construction clearance surveys shall be conducted within 14 days of the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 200-foot buffer, if feasible, and shall identify all special status animal species that may occur on-site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion (e.g., burrowing owl). A report of the pre-construction survey shall be submitted to the County for their review and approval prior to the start of construction.
- A County-approved biologist shall be present during all initial ground disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities.
- Upon completion of the project, a County-approved biologist shall prepare a Final Compliance Report documenting all compliance activities implemented for the project, including the pre-construction survey results. The report shall be submitted within 30 days of completion of the project.
- If special status bat species may be present and impacted by the project, a County-approved biologist shall conduct within 30 days of the start of construction presence/absence surveys for special status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a roost is determined by a County-approved biologist to be used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultations with the CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a County-approved biologist that the young have dispersed. Once it has

been determined that the roost is clear of bats, the roost shall be removed immediately.

B-1(h) **Pre-construction Surveys for Nesting Birds for Construction Occurring within Nesting Season.** For projects that may result in tree felling or removal of trees or vegetation that may contain a nesting bird, if feasible, construction activities should occur generally between September 16 to January 31 (thus outside of the nesting season). However, if construction activities must during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a County-approved biologist no more than 14 days prior to vegetation removal. The surveys shall include the entire segment disturbance area plus a 200-foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the County-approved biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A County-approved biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. A report of these preconstruction nesting bird surveys shall be submitted by the project applicant to the County to document compliance.

B-1(i) **Worker Environmental Awareness Program (WEAP)**. Prior to initiation of construction activities for applicable projects (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a County-approved biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to the County to document compliance.

B-1(j) **Tree Protection.** If it is determined that construction may impact trees protected by the Alameda County Tree Ordinance (trees within the County ROW) or trees within the Caltrans ROW, the applicant shall procure all necessary tree removal permits. A certified arborist shall develop a tree protection and replacement plan as appropriate. The plan shall include, but would not be limited to, an inventory of trees to within the construction site, setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, direction regarding pruning and digging within root zone of trees, and requirements for replacement and maintenance of trees. If protected trees will be removed, replacement tree plantings of like species in accordance with local agency standards, but at a minimum ratio of 2:1 (trees planted to trees impacted), shall be installed on-site or at an approved off-site location and a restoration and monitoring program shall be developed in accordance with B-1(d) and shall be implemented for a minimum of seven years or until stasis has been determined by certified arborist. If a protected tree shall be encroached upon but not removed, a certified arborist shall be present to oversee all trimming of roots and branches.

Significance After Mitigation. Mitigation measures B-1(a) through (j) would assure that impacts to special status species would be less than significant because the measures require that specific analyses and studies are performed to identify and evaluate project impacts to special status species potentially affected by development facilitated by the proposed Specific Plan. Compliance with the above mitigation measures and all existing state, local and/or federal regulations would reduce impacts to a less than significant level.

Impact BIO-2 **Implementation of development facilitated by the proposed Specific Plan may result in impacts to sensitive habitats, including San Lorenzo Creek, a federally protected riverine wetland. This impact would be *significant but mitigable*.**

Because of the programmatic nature of the proposed Specific Plan, a precise, project-level analysis of the specific impacts associated with individual projects on sensitive habitats is not possible at this time. However, projects implemented under the proposed Specific Plan may have the potential to impact sensitive habitats. The extent and severity of the impacts is not known at this time.

In addition, projects in the vicinity of San Lorenzo Creek may involve development along riparian corridors. Riparian areas provide wildlife habitat, and movement corridors, enabling both terrestrial and aquatic organisms to move along river systems between areas of suitable habitat. Development facilitated by the proposed Specific Plan could have both direct impacts associated with the disturbance of riparian flora and fauna and indirect impacts caused by increased erosion, sedimentation, and sunlight and wind penetration.

Direct impacts to sensitive habitats include loss of habitat during construction of the project. Indirect impacts include habitat degradation caused by the introduction of invasive plant species incidentally from construction equipment and through selection of invasive landscape plants, as well as erosion of disturbed areas.

In addition to direct and indirect impacts that may result from development facilitated by the proposed Specific Plan, the ACBD Specific Plan would increase density and intensity of existing land uses within the Plan Area. This land use scenario focuses future development within existing urbanized areas. As a result, future development would likely result in only limited impacts to riparian habitat, drainages or other sensitive habitats, though some parcels that have been relatively free of ground disturbance may contain remnants of sensitive native habitats. Furthermore, some areas of disturbed habitats, such as annual grasslands, may be considered sensitive due to the unique assemblage of native plants, such as areas dominated by native wildflowers, which are protected by CDFW as sensitive natural communities. Impacts would be potentially significant.

Mitigation Measures. The following mitigation measures will reduce Impact BIO-2 below a level of significance:

B-2(a) **Jurisdictional Delineation**. For projects implemented under the proposed Specific Plan within or adjacent to San Lorenzo Creek, or other wetland, drainage, riparian habitat, or other areas that may fall under the jurisdiction of the CDFW, USACE, and/or RWQCB, a County-approved biologist shall complete a jurisdictional delineation. The jurisdictional delineation shall determine the extent of the jurisdiction for each of these agencies and shall be conducted in accordance with the requirement set forth by each agency. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the implementing agency, USACE, RWQCB, and CDFW, as appropriate, for review and approval. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirements (WDR) permit and/or Section 401 Water Quality Certification (depending upon whether or not the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Streambed Alteration Agreement pursuant to Section 1600 *et seq.* of the California Fish and Game Code would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the Clean Water Act would likely be required.

B-2(b) **Wetland and Riparian Habitat Restoration.** Impacts to jurisdictional wetland and riparian habitat shall be mitigated by the project applicant at a minimum ratio of 2:1 (acres of habitat restored to acres impacted), and shall occur on-site or as close to the impacted habitat as possible (e.g., within the same watershed). A mitigation and monitoring plan shall be developed by a

biologist in accordance with mitigation measure B-1(d) above and shall be implemented for no less than five years after construction of the segment, or until the County and/or the permitting authority (e.g., CDFW or USACE) has determined that restoration has been successful. Alternately, mitigation may occur through the purchase of credits at a USACE-approved mitigation bank or contribution to the USACE in-lieu fee program.

B-2(c) **Landscaping Plan.** If landscaping is proposed for projects occurring within or adjacent to sensitive habitats, a County-approved biologist/landscape architect shall prepare a landscape plan for that project. This plan shall indicate the locations and species of plants to be installed. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Lists 1, 2, and 4 shall not be permitted. Species selected for planting shall be similar to those species found in adjacent native habitats.

B-2(d) **Invasive Weed Prevention and Management Program.** Prior to start of construction for projects occurring within or adjacent to sensitive habitats, an Invasive Weed Prevention and Management Program shall be developed by a County-approved biologist to prevent invasion of native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a County-approved biologist and in accordance with the restoration plan.

Significance After Mitigation. Mitigation measures B-2(a) through (d) would assure that substantial adverse changes to wetland resources would be less than significant because measures would be taken to either avoid the impacts or minimize the impacts. Compliance with the above mitigation measures and existing state, local and/or federal regulations would reduce impacts to a less than significant level.

c. Cumulative Impacts. Cumulative development in the area may contribute to the loss of foraging and breeding habitat for special status species, contribute to the decline of special status species, fragmentation of habitat and isolation of populations, and decreased movement opportunities. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses, adding up to: (1) 167 single-family units, (2) 771 multi-family units, and (3) 570,000 square feet of non-residential development. Conversion of remaining

undeveloped habitats to urban land would occur in the cumulative study area over time, and would constitute considerable cumulative impacts to biological resources. However, the proposed Plan Area is zoned for urban uses and is located in a highly urbanized and developed area, surrounded by existing development and highly travelled transportation corridors which limits the habitat value and potential for presence of sensitive biological resources. Furthermore, potential impacts to biological resources associated with the proposed Specific Plan would be less than significant with incorporated mitigation Therefore, the proposed Specific Plan's incremental contribution to cumulative impacts associated with biological resources would not be cumulatively considerable, and cumulative impacts would be *less than significant.*

This page intentionally left blank.

4.4 CULTURAL AND HISTORIC RESOURCES

4.4.1 Setting

a. Physical Setting.

History. The following information relating to the historical overview of the Plan Area, and surrounding Eden Area, contains information found in the Eden Area General Plan EIR, published by the County of Alameda on September 15, 2006.

The original occupants of the area were Native Americans of the Chochenyo-speaking tribes, which are related to the "Costanoan" language family. These populations were attracted to the creeks, lush vegetation and abundant game of the area. The first Spanish settlement occurred in 1797 with the establishment of Mission San Jose in the present Fremont area. Following the granting of its independence from Spain, Mexico controlled the area and awarded numerous grants of land.

The gold rush and American annexation in the mid-nineteenth century, brought the first U.S. settlers to the area. In 1853, a landing was established at the mouth of the San Lorenzo Creek, providing regular freight and passenger schooner service to San Francisco and bringing new settlers into the area. The area quickly became a major agricultural district in the East Bay, specializing in fruit production. Agriculture-supporting industrial and manufacturing companies also began to locate in the area and several small trading centers, serving the agricultural industry, were established in Hayward, San Leandro and San Lorenzo. According to the Hayward Area Historical Society, the original town of San Lorenzo was located at the intersection of Hesperian Boulevard (then called Telegraph) and Lewelling Boulevard (then called Main) and was called "The Four Corners." This intersection (and historic location of San Lorenzo) is located at the western end of the Plan Area.

Beginning in the 1870s, several railroad companies began to build rail lines through the area to provide service from Santa Cruz to the Oakland waterfront. By 1898, more fruit was shipped out of the San Lorenzo Railroad Station than from any other station in the state. During the 1890s, the area became part of the East Bay's rail transit network with construction of the Oakland, San Leandro and Hayward Electric Railway. Rail and transit lines stimulated new development. Farmlands and orchards were subdivided into town lots and much of the area became accessible for recreational users attracted by the agricultural beauty of the area. San Lorenzo became a small resort town that boasted two fine hotels in addition to the Grove Pavilion, which was a particularly popular regional destination for day trips.

Numerous immigrant groups joined earlier settlers as part of the growing population of the area. The largest numbers were Portuguese from the Azores, many of whom began to raise vegetables and poultry for commercial purposes. German and Danish immigrants also settled in the area in the 1860s and by the 1900s, a growing number of Japanese immigrants were also living in the area, working on farms as laborers and, in subsequent years, owning and operating plant nurseries.

In the 1920s, large ranches and farms were subdivided into one and two acre farm sets, more homes were built in the area and the landscape began to change to accommodate new roads for automobiles and trucks. East 14th Street/Mission Boulevard (then called County Road) became the major north-south highway for the East Bay.

Although population growth in the cities of Hayward and San Leandro slowed during the 1930s, the unincorporated area population continued to grow, due in large part to the strong demand for the area's agricultural products resulting from World War II. The area's role as a major agricultural area started declining in the late 1940s, when extensive farmlands began to be displaced by large, single-family subdivisions, and more recently by major commercial and industrial development.

The most ambitious and widely publicized development was the planned community of San Lorenzo Village (located in the western-most portion of the Plan Area), conceived and built by the Bohannon Organization, which greatly benefited from the support of the U.S. War Production Board. Government support meant that general restrictions on the availability of building materials for housing production were lifted for what was one of the largest home developments ever insured by the Federal Housing Agency. Bohannon used pre-assembly and streamlined mass construction methods, which they called "the California Method," to produce finished three-bedroom homes at a rate of one or more an hour between 1944 and 1945. The Village also included a shopping and entertainment center with a movie theater, restaurants, clothing stores, post office, fire house, the Homes Association office, a library and a community center.

Other important transportation infrastructure projects that have greatly affected the area within and surrounding the Plan Area include Interstate 880 (SR 17), which was opened in the late 1950s, and Highway 238 and Interstate 580, which were completed in the 1960s. The Plan Area is located between Interstate 800 and Interstate 580, and is intersected by Highway 238 where is crosses over East 14th Street/Mission Boulevard. These freeways effectively divided the Ashland, Cherryland and San Lorenzo communities, while providing improved automobile access to the greater Bay Region. In the 1970s, the Bay Area Rapid Transit System was built as an elevated line over the Union Pacific Railroad tracks, and the Bayfair station was located at the north edge of Ashland (approximately 1,500 feet southwest of the northwest arm of the Plan Area), providing an additional level of transit service to the overall area.

Existing Cultural and Historic Resources. Several buildings in the area survive from the late 1880s. More common in the area are the larger number of bungalows with low-pitched roofs and porches. There are also many examples of houses, such as the Bohannon Company houses in San Lorenzo and in the southeastern part of Cherryland, built following Federal Housing Authority guidelines for small, inexpensive houses with modern amenities in the post-World War II era. Several of the schools in the area are significant examples of public architecture from the 1940s and 50s and are among the few buildings that were designed by architects. In addition, there are several significant Quonset hut buildings, which are known for being preassembled, demountable and easily moved buildings which became quite popular during the WWII period. Several Quonset hut commercial buildings are found in the Plan Area, along East 14th Street/Mission Boulevard, and the community church in San Lorenzo Village is made of three Quonset huts.

Within the Plan Area, there is one historic resource listed on the National Register of Historic Places and two listed on the List of California State Points of Historical Interest. These resources are listed below and mapped on Figure 4.4-1.

- Meek Estate – The Meek Mansion and Carriage House in the Cherryland community is listed on the National Register. The surrounding Meek Estate Park is a designated California State Point of Historical Interest.
- San Lorenzo Cemetery – The San Lorenzo Cemetery, which is in the Four Corners area of Ashland, is a designated California State Point of Historical Interest (SPHI-ALA-021).

Additionally, professionally prepared inventories of potentially historic buildings, including identification of potentially significant properties, have been prepared for portions of the Ashland and Cherryland areas. The following is a summary of potentially significant historical resources within and immediately surrounding the Plan Area (see Figure 4.4-1).

- Juan Bautista DeAnza Trail – The Juan Bautista DeAnza Trail is generally thought to pass through the Ashland and Cherryland communities, probably crossing San Lorenzo Creek at the intersection of Mattox Road and Mission Boulevard. The DeAnza Trail is one of several recognized National Recreational Trail and extends, from Mexico, through Arizona to the San Francisco Bay Area. The location of the DeAnza Trail route through the Eden Area is the subject of ongoing research.
- San Lorenzo Four Corners Area – The blocks adjacent to the San Lorenzo Cemetery, bordered by Sycamore Street, Albion Avenue, Hesperian Boulevard and Sharon Street contain a significant collection of historic buildings from the 1880s to 1920s and may be considered as remnants of the San Lorenzo Four Corners area.
- San Lorenzo Community Church – The San Lorenzo Community Church at 955 Paseo Grande was designed by Bruce Goff, an architect of recognized national significance, in the 1940s while he was serving in the Navy Construction Battalion.
- San Lorenzo Village – The San Lorenzo Village planned model community, which in addition to the shopping center, theater and community buildings comprises a core community of over five thousand homes built between 1944 and 1947, remains intact with few alterations as are many of the surrounding San Lorenzo sub-divisions that were built on the Village model. In addition, the schools from this era also retain a high degree of design integrity.
- 2033 Miramonte – House located at 2033 Miramonte Avenue (in El Portal Ridge).
- Eden Congregational Church – Historic church building located just north of the southeast arm of the Plan Area. The church was listed by the National Park Service as a Nationally Registered Historic Place in 2007. The church is currently in use by the Eden United Church of Christ (Congregational).

This page intentionally left blank.

Imagery provided by ESRI and its licensors © 2015.

Recorded Cultural and Historic Resources

Figure 4.4-1

- Portuguese IDES Hall – The Ashland Holy Ghost Association Hall is located at 16490 Kent Avenue. The Holly Ghost Association was incorporated on March 26, 1897 in order to continue traditions of the Portuguese from the Azores and Maderia Islands who settled in the Ashland area. The hall is most known for its Annual Holy Ghost Celebration, held yearly in June. The IDES, Irnandade do Divino Espirito Santo, a Portuguese fraternal society, also had meetings in the hall (Doris Marciel and the Hawyward Area Historical Society, 2006).

The Eden Area has two known archaeological resource sites:

- Native American Village – Prehistoric archaeological site CA-Ala-6, identified as a former Native American village site, recorded within an area along San Lorenzo Creek near the Southern Pacific Railroad. Near the site is a bay tree (at 9 Lewelling Boulevard, across from San Lorenzo High School) which contains the ashes of William Meek's sister and niece and has been determined "eligible for local listing only." The tree, because of its age and role as a burial site, has been cited in "Ripley's Believe It or Not."
- San Leandro Indian Adobe Rancheria – The San Leandro Indian Adobe Rancheria, dating to 1837, which is reported to have been located on a small hill 200 feet west of Foothill Boulevard between 155th and 159th Streets in the Ashland area. There is no visible evidence of this adobe house but the probability of below grade archeological resources is considered high.

Existing Paleontological Resources. The Plan Area crosses several distinct geologic units, spanning the last 150 million years. Though the geology and soils of the Plan Area are discussed in more detail in Section 4.6, *Geology and Soils*, most of the units within the Plan Area are unlikely to produce paleontological resources of importance.

Like much of the near-bay, low-lying areas of Alameda County, the Plan Area is heavily underlain by artificial fill and Quaternary (Holocene) alluvium. Neither of these units have been found to contain fossils, either in the Plan Area or along the northwest-southeast trend of Alameda County's bay shoreline. These areas have been shown to contain prehistoric and historic cultural resources, but they apparently lack paleontological resources and thus have virtually no potential of yielding any significant fossils.

Further east, towards the East Bay Hills, the Plan Area transects a portion of older Quaternary (Late Pleistocene) unconsolidated alluvial deposits. These deposits occur within the Plan Area along East 14th Street/Mission Boulevard generally between 163rd Avenue and Paradise Boulevard. These deposits consist primarily of stream deposited sands, gravels, silts, clays, and Aeolian (windblown) sands. These are in turn underlain by plutonic rocks of the Great Valley complex, which represent Jurassic age volcanism. The Jurassic plutonics have no potential to yield fossil resources. However, the Pleistocene deposits have a relatively high potential and alluvium in Alameda County and elsewhere around San Francisco Bay of a similar age has yielded a mixed assemblage of vertebrates and invertebrates (Late Pleistocene, Rancholabrean). These include, but are not limited to, ground sloths, mammoths, bison, saber toothed cats, and shelly marine fauna like bivalves (clams and oysters) and gastropods (snails).

b. Regulatory Setting.

Federal.

National Historic Preservation Act (NHPA). The NHPA, enacted in 1966, established the National Register of Historic Places, which serves as the official designation of historical resources. Districts, sites, buildings, structures and objects are eligible for listing in the Register. Nominations are listed if they are significant in American history, architecture, archeology, engineering and/or culture. The National Register is administered by the National Park Service. To be eligible for the NRHP, a property must be significant under criterion A (history), B (persons), or C (design/construction); possess integrity; and ordinarily be 50 years of age or more.

Listing in the National Register does not entail specific protection or assistance for a property, but it does guarantee recognition in the planning for Federal or federally assisted projects (see Section 106), eligibility for Federal tax benefits, and qualification for Federal historic preservation assistance. The National Register is influential beyond its statutory role because it achieves uniform standards of documentation and evaluation. Additionally, project effects on properties listed in the National Register must be evaluated under CEQA.

State.

California Register of Historical Resources (CRHR). The California Register is an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change (Public Resources Code Section 5024.1(a)). The CRHR is overseen and administered by the State Historical Resources Commission. The criteria for listing resources on the CRHR are based on those developed by the National Park Service for listing on the National Register of Historic Places with modifications in order to include a broader range of resources which better reflect the history of California. A resource is considered historically significant if it:

- *Is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.*
- *Is associated with the lives of persons important to the nation or to California's past.*
- *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*
- *It has yielded, or may be likely to yield, information important to the prehistory or history of the State and the Nation.*

The Register includes properties that are listed or have been formally determined to be eligible for listing in the National Register, State Historical Landmarks and eligible Points of Historical Interest. Other resources require nomination for inclusion in the Register. These may include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic resource surveys conducted in accordance with State Historic Preservation Office

(SHPO) procedures, historic resources or districts designated under a local ordinance consistent with Commission procedures, and local landmarks or historic properties designated under local ordinance.

California Public Resources Code. Section 5097.9 of the California Public Resources Code (PRC) stipulates that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine.

Section 5097.5 of the PRC prohibits excavation or removal of any "vertebrate paleontological site or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." PRC 30244 requires reasonable mitigation of adverse impacts to paleontological resources from development on public land. Penal Code Section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no "material" (including all or any part of any paleontological item) will be removed from any natural geologically formed cavity or cave.

California Health and Safety Code. Section 7052 of the California State Health and Safety Code states that the disturbance of Native American cemeteries is a felony. If human remains are discovered or exposed during construction, Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then contact the most likely descendent of the deceased Native American, who will serve as a consultant on how to proceed with the remains (i.e., avoid, rebury).

California Native American Historical, Cultural and Sacred Sites Act. The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies those persons most likely to be related to the Native American remains. The Act stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

Regional/Local.

Alameda County Historic Preservation Ordinance. The Alameda County Planning Department and the Alameda County Parks, Recreation and Historical Commission (PRHC) prepared a Historic Preservation Ordinance (adopted 2012) that, among other things, established consistent, well defined process for the County to use in making determinations of historical significance. The Preservation Ordinance codified how the Alameda County Register of Historic Resources is defined and maintained; how properties can be added to the Register; how properties can be removed from the Register; which alterations to historic properties are subject to review; and which incentives may apply to historic properties.

Eden Area General Plan. The Eden Area General Plan includes the following policies relevant to cultural and historic resources:

LU-16, Policy P1. Historic or culturally significant buildings and other resources in the Eden Area should be preserved.

LU-16, Policy P2. To the extent possible, the County shall cause no substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5 of the California Environmental Quality Act (Title 14. California Code of Regulations) through its direct or indirect actions.

LU-16, Policy P3. To the extent possible, unique paleontological resources, sites or unique geologic features shall not be directly or indirectly destroyed or significantly altered.

LU-16, Policy P4. The County should make the Eden Area a top priority when conducting historic and cultural resources inventories in the county.

LU-16, Policy P5. Prior to the completion of a professionally-prepared historic survey, property owners of potentially significant historic resources shall be required to prepare professional historic surveys prior to demolition of any structure. Potentially significant historic resources may be defined as those resources identified in professionally prepared surveys or where additional evidence suggests that the property or structure may be significant.

LU-16, Policy P6. New development, alterations and remodeling projects on or adjacent to historic properties should be sensitive to historic resources and should be compatible with the surrounding historic context.

LU-16, Policy P7. The County should support the development of local history projects, including the collection of oral histories from local residents.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. CEQA provides guidelines for mitigating impacts to archaeological and historical resources in Section 15126.4. Preservation in place is the preferred manner of mitigating impacts to archaeological resources (14 CCR 15126.4(b)(3)). Preservation in place may be accomplished by planning construction to avoid the resource, incorporating sites within parks or open space, covering sites with chemically stable and culturally sterile fill, or deeding the site into a permanent conservation easement. When data recovery excavation of an archaeological site is the only feasible mitigation, a detailed data recovery plan must be prepared and adopted prior to any excavation.

For buildings and structures, maintenance, repair, restoration, preservation, conservation, or reconstruction consistent with the Secretary of Interior's Standards and Guidelines for the Treatment of Historic Properties is considered mitigation of impacts to a less than significant level (14 CCR 15126.4(b)(1)). Simply documenting a historical resource, however, will not mitigate the effects of demolition to a less than significant level (14 CCR 15126.4(b)(2)).

The following criteria are based on Appendix G of the *State CEQA Guidelines*. The effects of the proposed Specific Plan on recreation are considered to be significant if the proposed Specific Plan would:

1) *Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5;*
2) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5;*
3) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; and/or*
4) *Disturb any human remains, including those interred outside of formal cemeteries.*

b. Impacts and Mitigation Measures.

Impact CR-1 The Plan Area contains existing designated historic resources, as well as other properties that could be eligible for listing historic resources. These resources could be affected by future development allowed under the proposed Specific Plan. However, adopted Eden Area General Plan policies, existing regulations, and proposed Specific Plan policies would ensure that this impact would be *less than significant.*

As described in the *Physical Setting* section above and shown on Figure 4.4-1, there is one historic resource listed on the National Register of Historic Places and two historic resources listed on the List of California State Points of Historical Interest within the Plan Area. Additionally, professionally prepared inventories of potentially historic buildings, including identification of potentially significant properties, have been prepared for portions of the Ashland and Cherryland areas. These have indicated other potentially significant historical resources as also listed under *Physical Setting.*

While some of the development that may be facilitated by adoption of the proposed Specific Plan would take place on vacant land, most projects would occur in areas containing existing buildings. For properties with an identified or potentially eligible resource, changes to building exteriors or demolition of buildings could result in impacts to historic resources.

As noted above under *Regulatory Setting*, the County's Historic Preservation Ordinance (adopted 2012) includes a defined process for the County to use in making determinations of historical significance. A project that could adversely affect a historic would be subject to project-specific CEQA review at such time as such a project is proposed and reviewed through the County's land use permitting process.

In addition, the Eden Area General Plan policies listed above under *Regulatory Setting* would apply to development within the Plan Area. These policies include clear direction that historic resources should be preserved and requiring professional historic surveys prior to demolition of any structure that could be eligible as a resource. Implementation of these policies would further reduce potential impacts to historic resources.

Finally, the proposed Specific Plan itself includes the following policies that directly address specific historic resources within the Plan area:

> *Policy 5.4: Identify, conserve, and restore historic resources, including buildings and places such as the cemetery in the Four Corners Neighborhood, that have value and importance to the identity of the community.*
>
> *Program 5.4.1: Initiate an historic preservation program for both the church and cemetery in the College Street area.*

With required adherence to these existing and proposed policies and regulations, impacts would be less than significant.

Mitigation Measures. As impacts would be less than significant, no mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact CR-2 The Plan Area includes known prehistoric and historic archaeological resources. In addition, ground disturbance associated with new construction could uncover previously unknown buried archeological deposits or human remains. However, adopted County policies and existing regulations would ensure that this impact would be *less than significant.*

As described in the *Physical Setting* section above, the Plan Area includes known prehistoric and historic archaeological resources. The vast majority of the Plan Area where new or more intense development could be facilitated by the proposed Specific Plan has been disturbed by previous development over many decades, and by farming before development. Therefore, archeological resources that may have existed at or near the surface have likely been disturbed by past farming and development. As a result, the uppermost sediments are not likely to contain archeological resources. However, given the well-documented occupation of the area by indigenous tribes and others both prehistorically and historically, there is a reasonable potential that the development that could occur under the proposed Plan could be located on sites with previously unknown archaeological resources.

Effects on archeological resources are only knowable once a specific project has been proposed, because the effects are highly dependent on both the individual project site conditions and the characteristics of the proposed ground-disturbing activity. Pursuant to adopted County policies, ordinances and procedures as described above under *Regulatory Setting*, projects that include excavation below levels of past disturbance for such things as deep foundations, subterranean parking or other uses, or soil remediation would be required to undergo project-specific review by the County, which would include CEQA review where appropriate and, if warranted, archaeological resources investigations and mitigation programs.

If human remains are unearthed during excavation for projects under the proposed Specific Plan, State Health and Safety Code Section 7050.5 requires that no further disturbance may occur until the County Coroner has made the necessary findings as to origin and disposition

pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the California Native American Heritage Commission.

With required adherence to existing policies and regulations, impacts would be less than significant.

Mitigation Measures. As impacts would be less than significant, no mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact CR-3 Paleontological resources may be present in portions of the Specific Plan area. Ground disturbance associated with new construction in these areas could disturb unrecorded paleontological resources, which may occur at or near the surface. This impact would be *significant but mitigable.*

As described in the *Physical Setting* section above, most of the Plan Area is unlikely to contain paleontological resources that could be disturbed by development facilitated under the proposed Specific Plan. However, the Pleistocene deposits in parts of the eastern portion of the Plan Area have a relatively high potential to yield such resources. These deposits occur within the Plan Area along East 14th Street/Mission Boulevard generally between 163rd Avenue and Paradise Boulevard.

The East 14th Street/Mission Boulevard corridor between 163rd Avenue and Paradise Boulevard has been highly disturbed by previous development over many decades, and by farming before development. Therefore, paleontological resources that may have existed at or near the surface have likely been disturbed by past farming and development. As a result, paleontological resources are not likely to have remained intact at or near the ground surface.

Effects on paleontological resources are only knowable once a specific project has been proposed, because the effects are highly dependent on the characteristics and depth of the proposed ground-disturbing activity. Due to the paleontological sensitivity of the Plan area along East 14th Street/Mission Boulevard between 163rd Avenue and Paradise Boulevard, mitigation is required to avoid significant impacts.

Mitigation Measures. The following mitigation measures would reduce Impact CR-3 below a level of significance.

CR-3 **Paleontological Monitoring.** Prior to the commencement of grading below a depth of six inches for any project along East 14th Street/Mission Boulevard between 163rd Avenue and Paradise Boulevard, applicants shall retain a qualified paleontologist approved by the County to monitor grading and excavation. Monitoring onsite shall occur whenever grading activities are occurring. Additional monitors in addition to one full-time monitor may be required to provide adequate coverage if earth-

moving activities are occurring simultaneously. Any cultural resources discovered by construction personnel or subcontractors shall be reported immediately to the paleontologist. In the event undetected buried resources are encountered during grading and excavation, work shall be halted or diverted from the area and the paleontologist shall evaluate the resource and propose appropriate mitigation measures. Measures may include testing, data recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution. All testing, data recovery, reburial, archival review or transfer to research institutions related to monitoring discoveries shall be determined by the qualified paleontologist and shall be reported to the County.

Significance After Mitigation. Impacts would be less than significant with implementation of Mitigation Measure CR-3.

c. Cumulative Impacts. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses, adding up to: (1) 167 single-family units, (2) 771 multi-family units, and (3) 570,000 square feet of non-residential development. Potential impacts to cultural and historic resources associated with the proposed Specific Plan would be less than significant with mitigation; similar findings were made for implementation of the Eden Area General Plan, which encompasses the Plan Area. Cumulative impacts to these resources would not be significant. Existing Alameda County General Plan policies, Eden Area General Plan policies, and County and state regulations would protect historic and archaeological resources on a case-by-case basis as projects are considered. Therefore, the proposed Specific Plan would not result in a cumulatively considerable contribution to a significant cumulative impact relative to cultural resources.

4.5 GEOLOGY AND SOILS

This section assesses potential impacts related to geologic and soil hazards.

4.5.1 Setting

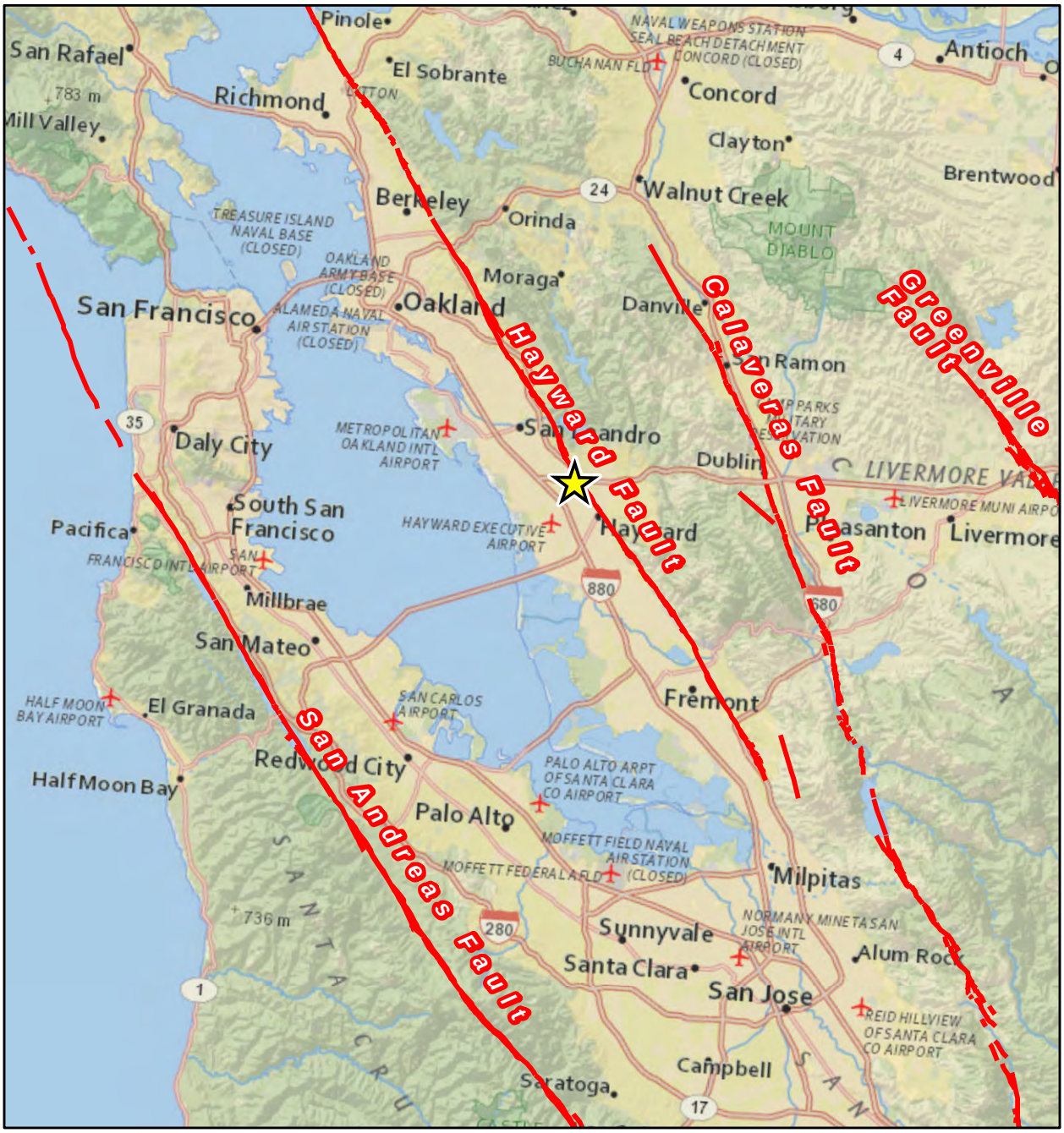
a. Topography and Geology.

Topography. Alameda County is located in the East Bay area of the San Francisco Bay Area region of Central Coastal California. Principal physiographic features include the Bay plain and Diablo Range. Alameda County lies within the bounds of the Coast Ranges geomorphic province. The Coast Range geomorphic province includes the northwest trending belt of mountain ranges, valleys, and basins that parallel the California coastline from Point Conception north to the Oregon border. It is bounded on the north by the south flank of Mount Diablo, one of the highest peaks in the Bay Area, reaching an elevation of 3,849 ft. San Francisco Bay forms the western boundary, the San Joaquin Valley borders it on the east and an arbitrary line from the Bay into the Diablo Range forms the southern boundary (Alameda County General Plan Safety Element, 2013).

The communities of Ashland and Cherryland are located approximately 0.5 mile west of Castro Valley, between San Leandro to the north and Hayward to the south, accessible from State Routes 238, 580, and 880. Ashland and Cherryland are centrally located in the western portion of unincorporated Alameda County, in the low-lying coastal area just west of the foothills of the Diablo Range. The Plan Area is located within the County of Alameda's Eden Area planning unit and encompasses 246 acres along East 14th Street/Mission Boulevard between 150th Avenue and Grove Way, and along East Lewelling Boulevard between East 14th Street/Mission Boulevard and Hesperian Boulevard (refer to Figure 2-2 in Section 2.0, *Project Description*).

Regional topography is variable and includes steeper slopes of the Coastal Ranges, with gentler slopes and more level terrain in the San Joaquin Valley to the east and in the East Bay Area to the west. The Plan Area is relatively flat with elevations on-site ranging from a high of about 35 to 85 feet above mean sea level (amsl).

The Plan Area is located in proximity to the San Andres and Hayward fault zones, one of the most seismically active regions in the United States. This area has been the location of numerous moderate to strong earthquakes. Due to the high level of seismic activity, the entirety of the Plan Area has been classified as seismic risk Zone 4, the highest risk category specified under the California Building Code. The Hayward Fault, one of ten major faults that comprise the San Andreas Fault Zone, runs along the eastern edge of the SP area and links with the Rodgers Creek Fault to the north. Other active faults within the plan area vicinity include the Calaveras, Greenville, and Las Positas faults, as well as several potentially active faults and unnamed secondary faults adjacent to these faults (Eden Area General Plan Public Safety Element, 2010). Plan Area faults are discussed in greater detail in Section 4.5.1(d) (Seismic Hazards). Figures 4.5-1 and 4.5-2 show faults within the vicinity of the Plan Area and the Hayward Fault Alquist-Priolo fault zone, respectively.



Imagery provided by ESRI and its licensors © 2015.
Additional data provided by the USGS, 2008.

Project Area

Fault Location

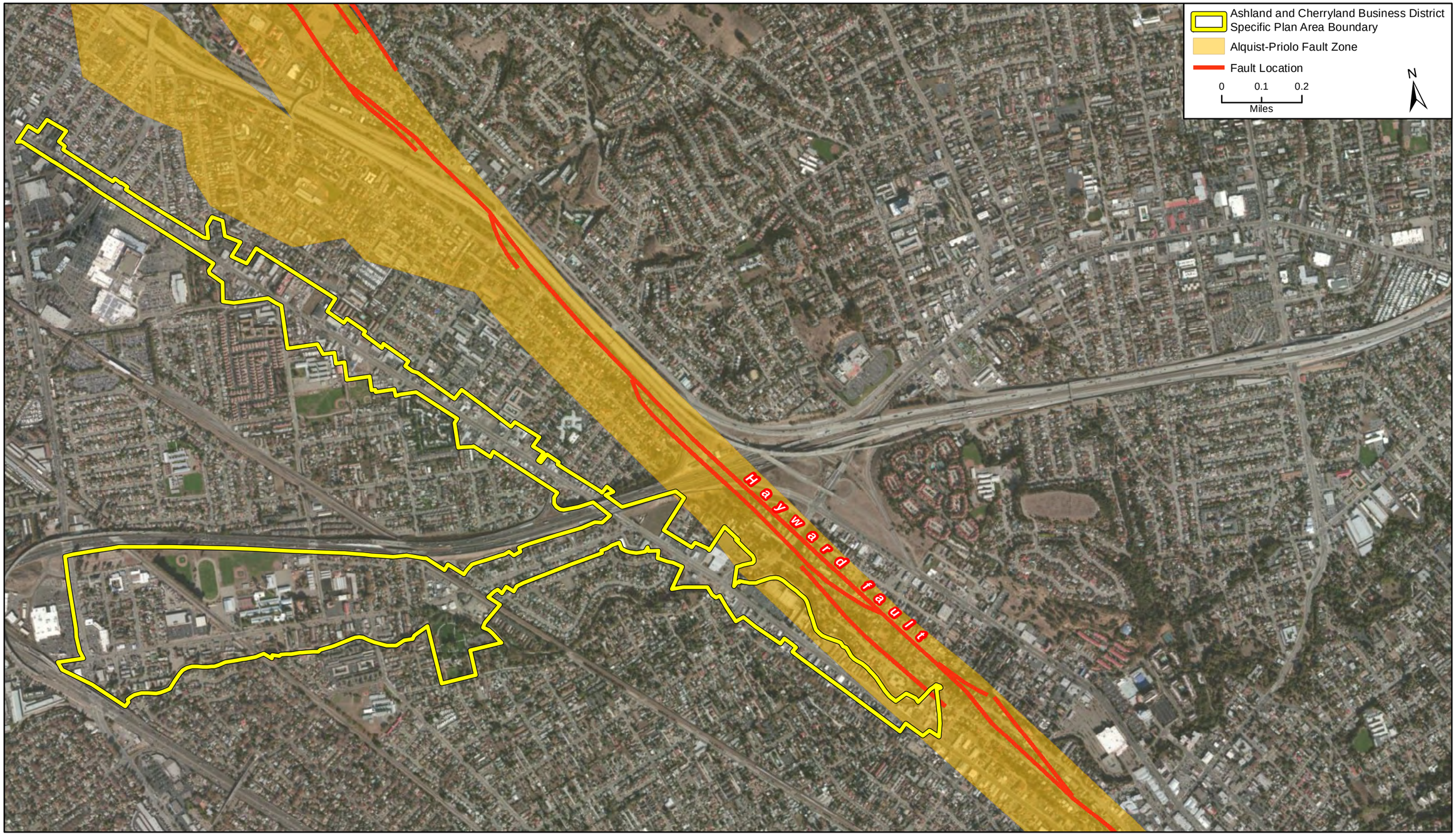
N

0 5 10

Miles

Active Faults in Plan Area Vicinity

Figure 4.5-1



Imagery provided by ESRI and its licensors © 2013.

Alquist-Priolo Fault Zone

Figure 4.5-2

Geology. The bay plain and the valley areas of Alameda County are underlain by Quaternary (from the present to 2 to 3 million years ago) unconsolidated deposits which in turn, are underlain by sedimentary metamorphic and igneous rocks of up to 150 million years in age. The Quaternary deposits consist primarily of alluvial and estuarine sediments. The alluvial ranges from stream deposited sands, gravel, silts, clays and intermixtures to fine windblown sand. Estuarine sediments consists of silty clays and some sand and shell layers deposited in the bay and marshlands. Adjacent to the San Francisco Bay the younger alluvial deposits grade into younger bay mud, a variable, semi-fluid to firm silty clay with lenses of water saturated fine sand. Younger bay mud is covered by landfills that vary from dense, engineered fills to trash accumulations of uncertain geotechnical properties (Alameda County General Plan Safety Element, 2013).

Soils. As mapped by the Natural Resource Conservation Service (NRCS), 5 soil types are located in the Plan Area (Natural Resources Conservation Service, Web Soil Survey Alameda County, 2013). The Plan Area is comprised primarily of Yolo silt loam 0-2% slopes (226.9 acres). The remainder of the Plan Area is comprised of Danville silty clay loam 0-2% (73.3 acres), Clear Lake clay 0-2% drained (32.8 acres), Botella loam 0-2% (14.3 acres), and Los Osos silty clay loam 9-30% (0.2 acres). Plan Area soils are shown in Figure 4.5-3 and soil characteristics for the Plan Area soils related to water holding capacity, permeability, shrink-swell potential, rate of surface runoff, and erosion hazard are listed below in Table 4.5-1.

Table 4.5-1
Plan Area Soil Parameters

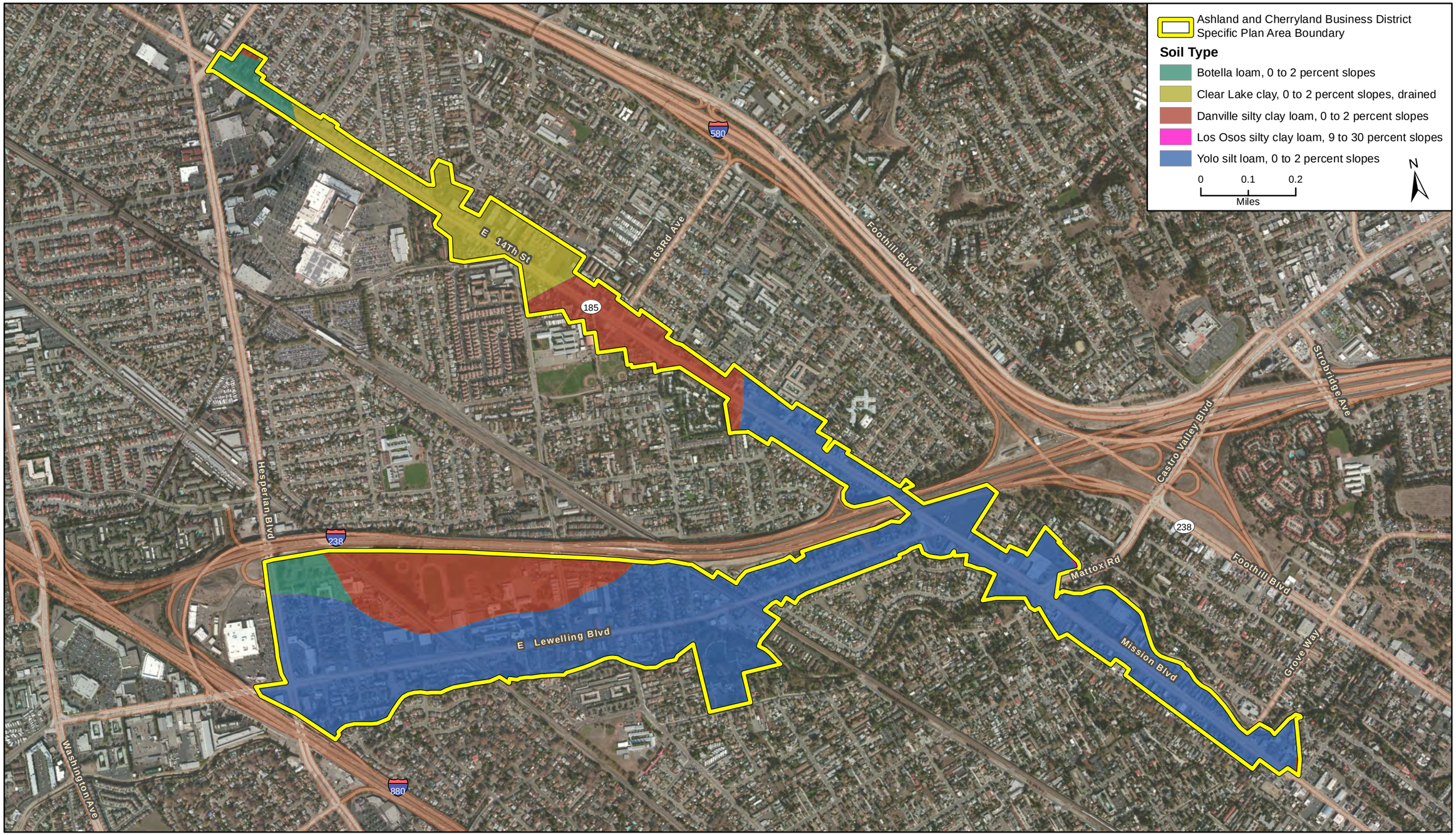
Map Unit #	Name	Water Holding Capacity (in.)	Permeability (in/hr)	Shrink-Swell Potential	Rate of Surface Runoff	Erosion Hazard
106	Botella loam, 0 to 2 percent slopes	9-11	Moderately slow	Moderate	Slow	Slight
107	Clear Lake clay, 0 to 2 percent slopes, drained	7-9.5	Slow	High	Slow	None
111	Danville silty clay loam, 0 to 2 percent slopes	8.5-10.5	Slow	Moderate to High	Slow	None
120	Los Osos silty clay loam, 9 to 30 percent slopes	3.5-6.5	Slow	Moderate to High	Medium to Rapid	Moderate to High
161	Yolo silt loam, 0 to 2 percent slopes	9.5-11	Moderate	Moderate	Slow	None

Source: U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey 2.1 of Alameda County, California, August 16, 2013.
Source: U.S. Department of Agriculture (USDA), Soil Conservation Service, Soil Survey of Alameda County, California, Western Part, March, 1981.

b. Geologic Hazards. Similar to much of California, the Plan Area is located within a seismically active region. The seismic hazards relevant to the Plan Area are described below.

Faulting and Seismically Induced Ground Shaking. The U.S. Geological Survey (USGS) defines active faults as those that have had surface displacement within Holocene time (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in

This page intentionally left blank.



Imagery provided by ESRI and its licensors © 2013.
Additional Data provided by the USDA NRCS, 2013.

Soils Map

Figure 4.5-3

alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are faults that have had surface displacement during the last 1.6 million years. Inactive faults have not had surface displacement within the last 1.6 million years. Several faults are located in the vicinity of the Plan Area (refer to Figure 4.5-1). These major faults and fault zones are described in the paragraphs below:

San Andreas Fault. The San Andreas Fault, which is the most likely source of a major earthquake in California, is located approximately 15 miles southwest of the Plan Area. The San Andreas Fault is the primary surface boundary between the Pacific and the North American plates. There have been numerous historic earthquakes along the San Andreas Fault, and it generally poses the greatest earthquake risk to California. In general, the San Andreas Fault is likely capable of producing a Maximum Credible Earthquake (MCE) of 8.0 (California Seismic Hazard Map, Caltrans, 1996).

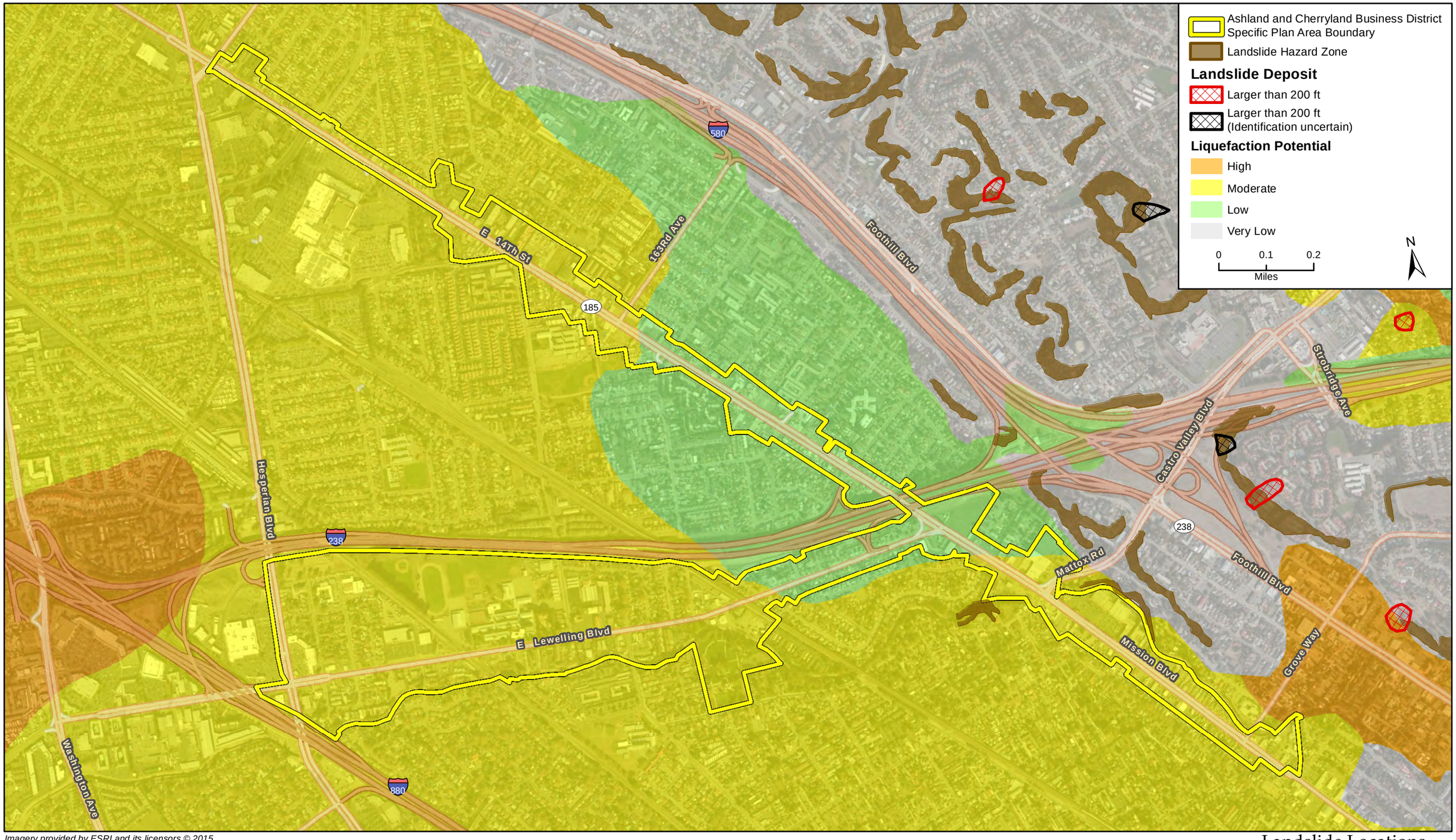
Hayward Fault. The Hayward Fault, one of ten major faults that comprise the San Andreas Fault Zone, runs through the southeastern corner of the Plan Area and links with the Rodgers Creek Fault to the north. Although the last major earthquake generated by the Hayward Fault was in 1868, pressure is slowly building again and will begin to overcome the friction and other forces that are causing the fault zone to stick. According to the Working Group on California Earthquake Probabilities (established by the U.S. Geological Survey), the fault system that includes the Hayward and Rodgers Creek faults has a 31 percent probability of generating an earthquake with a magnitude greater than or equal to 6.7 on the Mercalli Richter Scale in the next 30 years. It is also the most likely fault in the Bay Area to be the site of a major earthquake in this time period (Alameda County General Plan Safety Element, 2013). The Hayward Fault would likely cause extensive damage throughout the Plan Area due to its close proximity to urban communities and infrastructure. The Hayward Fault and surrounding area is a designated Alquist-Priolo Zone, and as such a portion of the Plan Area is subject to the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (see Figure 4.5-2).

Other active faults within the Plan Area vicinity include the Calaveras, Greenville, and Las Positas faults, as well as several potentially active faults and unnamed secondary faults adjacent to these faults. There are few or no studies pertaining to these additional secondary faults; therefore it is unknown if these faults may or may not experience secondary ground rupture during a large earthquake.

In addition to the primary hazard of surface rupture, earthquakes often result in secondary hazards that may cause widespread damage. The three most likely secondary earthquake hazards in the Eden Area are ground shaking, liquefaction and landslides (Eden Area General Plan Public Safety Element, 2010). Figure 4.5-4 shows liquefaction and landslide risk within the Plan Area.

Surface Rupture. Faults generally produce damage in two ways: ground shaking and surface rupture. Surface rupture is limited to very near the fault. As discussed above, the Hayward Fault runs through the southeastern corner of the Plan Area, and as such an earthquake on the fault could cause surface rupture within the Plan Area. The Alquist-

This page intentionally left blank.



Imagery provided by ESRI and its licensors © 2015.
Additional data provided but USGS, 2013 and the
California Department of Conservation (Hayward Quadrangle), 2013.

Landslide Locations
and Liquefaction Potential
Figure 4.5-4

Priolo Act was developed by the State of California to regulate development occurring near active faults and to mitigate the risks associated with surface rupture. The Hayward Fault and surrounding area is a designated Alquist-Priolo Zone, and as such a portion of the Plan Area (approximately 21.56 acres) is subject to the Alquist-Priolo Act (see Figure 4.5-2).

Ground Shaking. Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. The USGS and the Association of Bay Area Governments (ABAG) have worked together to map the likely intensity of ground-shaking throughout the Bay Area under various earthquake scenarios. The most intense ground-shaking scenario mapped in the Plan Area assumes a 6.9 magnitude earthquake on the Hayward Fault system. The predicted ground-shaking from such an earthquake would be "very violent" or "violent" throughout most of the Plan Area (Eden Area General Plan Public Safety Element, 2010).

Hazards associated with seismically induced ground shaking include liquefaction, seismically induced settlement, and earthquake-triggered landslides. Movement along any of the faults shown in Figure 4.5-1 could potentially generate substantial ground shaking in the plan area leading to these secondary hazards, as discussed below.

Liquefaction and Seismically-Induced Settlement. Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture.

Seismically induced settlement occurs in loose to medium dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can also result solely from human activities including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

The Plan Area spans an area of "low" and "moderate" liquefaction potential, as defined by the USGS. A small portion (approximately 0.13 acre) of the southwest arm of the Plan Area is located in a "high" liquefaction zone. Based on the plan area's close proximity to the San Francisco Bay, the potential for liquefaction or seismically induced settlement/bearing loss is considered a possibility, although not likely due to the aforementioned soil conditions. Ground failure, in the form of cracking, is extremely likely in the event of a large earthquake on the San Andreas or Hayward Faults. Due to the presence of unconsolidated alluvial material and water-saturated soils, liquefaction and seismically-induced settlement are geologic hazards throughout the Plan Area and could occur in response to a large earthquake (refer to Figure 4.5-4); however, these are not considered likely events due to soil conditions throughout the area.

Slope Stability and Landslides. Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards.

Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units which have a record of previous slope failure. There are numerous factors that affect the stability of the slope, including: slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking.

According to the Safety Element of the Alameda County General Plan (2013), landslide risk is low throughout the majority of the Eden Area. However, localized areas of instability exist along San Lorenzo Creek. Landslide hazard zones, defined by the California Department of Conservation, border the Creek where it emerges from the unground culvert immediately north and south of Mission Boulevard. The Plan Area is generally flat with elevations ranging from 35 to 85 feet amsl. According to USGS, no landslide deposits larger than 200 feet have occurred within the Plan Area (USGS, 1999) (refer to Figure 4.5-4). Therefore, landslides within the Plan Area are unlikely.

Expansive Soils. As shown in Table 4.5-1, all Plan Area soils are characterized with moderate, moderate to high, or high potential for shrink swell. During periods of water saturation, these soils tend to expand, and during dry periods, the soils tend to shrink. These volume changes with moisture content can cause cracking of structures built on expansive soils. Areas characterized by moderate to high shrink-swell potential are a geologic hazard in the Plan Area.

Erosion. The majority of on-site soils have "none" or a "slight" potential for erosion-related hazards. There is, however, a small portion of the site where soils may be susceptible to "moderate to high" erosion hazards. This area occupies less than 0.06% of the total area (approximately 0.2 acres) and is located just north of Mattox Road.

c. Regulatory Setting.

Federal. The International Building Code, published by the International Code Council (ICC), covers major aspects of construction and design of structures and buildings, except for three-story one and two-family dwellings and town homes. The 2006 International Building Code replaces the 1997 Uniform Building Code and contains provisions for structural engineering design. Published by the International Conference of Building Officials, the 2006 International Building Code addresses (IBC) addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire- and life-safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

State. State geotechnical regulations applicable to the plan area include the Alquist-Priolo Act, the Seismic Hazards Mapping Act, and the California Building Code (CBC). The Alquist-Priolo Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults. Under the Act, development of a building for human occupancy is generally restricted within 50 feet of an identified fault. Approximately 21.56 acres of the Plan Area are located within the Alquist-Priolo Fault Zone and subject to the Alquist-Priolo Act.

The Seismic Hazards Mapping Act addresses geo-seismic hazards, other than surface faulting, and applies to public buildings and most private buildings intended for human occupancy. The Seismic Hazards Mapping Act identifies and maps seismic hazard zones to assist cities and counties in preparing the safety elements of their general plans and encourages land use management policies and regulations that reduce seismic hazards. The Act mandated the preparation of maps delineating "Liquefaction and Earthquake-Induced Landslide Zones of Required Investigation." The Plan Area contains land designated as both liquefaction and landslide risk areas according to the Eden Area General Plan (Alameda County, 2010).

The California Building Code (CBC) requires, among other things, seismically resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities, and requires the implementation of erosion control measures. The County is responsible for enforcing the 2013 CBC.

Local. Local regulations include Alameda County General Ordinance Code Section 15.08.240. Projects built under the proposed Specific Plan would also be required to comply with the requirements of the Alameda County General Plan and the Eden Area General Plan. Specifically, the County's Safety Element and Eden Area's Public Safety Element provide criteria for evaluation of geologic hazards and geotechnical requirements related to new development. Consistency with specific geotechnical policies that apply to the plan area is evaluated in Section 4.9, *Land Use and Planning*.

Alameda County General Ordinance Code, Section 15.08.240. Section 15.08.240 of the Alameda County Building Ordinance requires applicants for new construction to submit soils or geologic reports for sites affected by a number of seismic and geologic hazards. In addition, new structures are required to incorporate design elements to reduce building failures. The Grading, Erosion and Sediment Control Ordinance (Alameda County General Ordinance Code, Chapter 15.36) establishes standards for grading, construction and the control of erosion and sediments. In addition, Section 15.36.110 of the County Grading Ordinance gives the Director of Public Works the authority to require a soils and geologic investigation in support of any proposed development on private property. Chapter 16, the Subdivision Ordinance, contains various provisions relating to the investigation of seismic and geologic hazards, and the design and construction of improvements relating to the subdivision of property.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds. Assessment of impacts is based on review of site information and conditions and County information regarding geologic issues. In

accordance with Appendix G of the *State CEQA Guidelines*, a project would result in a significant impact if it would:

1) *Expose people or structures to 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?*
    ii. *Strong seismic ground shaking,*
    iii. *Seismic-related ground failure, including liquefaction, or*
    iv. *Landslides;*
2) *Result in substantial soil erosion or the loss of topsoil;*
3) *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;*
4) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; and/or*
5) *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.*

As discussed in the Initial Study (Appendix A of this EIR), the Plan Area is generally flat and is not subject o landslide hazards. In addition, substantial erosion or loss of topsoil would not occur with adherence to existing regulations and the Plan Area is served by the County's sewer system. Therefore, impacts related to checklist items 1(iv), 2, and 5 would be less than significant and are not discussed below.

b. Impacts and Mitigation Measures.

Impact GEO-1 **A portion of the Plan Area is located within the Hayward Fault zone. Therefore, the Plan Area is subject to seismically-induced ground shaking and other seismic hazards, including liquefaction, which could damage structures in the Plan Area and result in loss of property and risk to human health and safety. However, implementation of State-mandated building standards and compliance with the Earthquake Fault Zoning Act and Eden Area General Plan policies would reduce impacts to a *less than significant* level.**

Seismic Activity. The Plan Area is located in a seismically active region of California, and is subject to potential ground shaking associated with seismic activities. Specifically, the Hayward Fault runs along the eastern edge of the Plan Area (see Figure 4.5-1) and links with the Rodgers Creek Fault to the north. As discussed above under "Geologic Hazards", the Hayward Fault and surrounding area is a designated Alquist-Priolo Zone, and approximately 21.56 acres of the Plan Area is subject to the Alquist-Priolo Earthquake Fault Zoning Act. Also as previously mentioned, this fault system has been assessed to have a 31% probability of generating an earthquake with a magnitude greater than or equal to 6.7 on the Mercalli Richter Scale in the next 30 years (Alameda County General Plan Safety Element, 2013). As described in

the *Alameda County General Plan Safety Element,* a seismic event of that scale would be expected to cause a range of effects, including but not limited to those described below.

- Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
- Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
- Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.

With consideration to the types of effects described above, a seismic event with magnitude 6.7 or greater would be substantial, and would have potential to damage structures and result in loss of property and risk to human health and safety. These risks exist throughout the Plan Area, regardless of development proposed under the Specific Plan. The area is currently developed and populated. Full build-out of the Plan Area would increase population of the area, structural development, and infrastructure that would be exposed to these hazards.

Unstable Soils**.** Seismic hazards in the Plan Area also include the potential for unstable soils to result in damage to existing or proposed infrastructure, and/or to introduce potential hazards to human health and safety. Unstable soils may include any materials not capable of supporting a selected land use. It is anticipated that site-specific geotechnical evaluations would be conducted for individual development projects as the Plan Area builds out. Compliance with CBC standards as well as policies identified in the Eden Area General Plan and the proposed Specific Plan would minimize potential adverse effects. Applicable goals and policies are discussed below. Nevertheless, full build-out of the Plan Area would increase population of the area, structural development, and infrastructure that would be exposed to these hazards.

Liquefaction**.** As mentioned, liquefaction is a potential hazard associated with certain types of soils and subsurface conditions. Liquefaction occurs when saturated or partially saturated and unconsolidated soils lose strength in response to a stress, typically on earthquake. This phenomenon can result in damage to infrastructure and foundations. Similarly, seismically-induced settlement, or the potential for the ground surface to lower/settle, is an existing geologic hazard that typically occurs where loose- to medium-density unconsolidated soils are located above groundwater; settlement can also be induced or exacerbated by the improper placement of artificial fill, or the placement of structures on soils or bedrock with differential settlement rates. Figure 4.5.4 portrays liquefaction potential throughout the Plan Area. The majority of the Plan Area is identified as having "Moderate" liquefaction potential, while the West Eden Corridor (central portion of the Plan Area) is identified as having "Low" liquefaction potential. The Plan Area does not traverse any areas identified as having "High" liquefaction potential, although such areas are located adjacent to the east/north of the Cherryland Corridor (southeastern portion of the Plan Area), and within 0.2 mile west of the Four Corners Neighborhood (southwestern portion of the Plan Area). Full build-out of the Plan Area would increase population of the area, structural development, and infrastructure that would be exposed to these hazards.

Laws, Policies, and Regulations**.** Subsection 4.5.1(c), Regulatory Environment, of this section describes federal, state, and local laws, policies, and regulations relevant to potential impacts associated with geology and soils. This discussion identifies how certain laws, policies, and regulations would minimize or avoid potential hazards associated with development under the proposed Specific Plan, as relevant to the geologic issues described above.

- *Alquist-Priolo Earthquake Fault Zone Act*. Under this Act, development of a building for human occupancy is generally restricted within 50 feet of an identified fault. This restriction would not completely remove such a structure from potential damage if a major seismic event were to occur along the identified fault, but it would minimize potential for habitable structures to receive the most direct damage potentially associated with a major seismic event.

- *California Building Code (2013)*. The CBC requires, among other things, that structures be designed and constructed to resist seismic hazards, including through foundation design and the completion of soil investigations prior to construction. The CBC also specifies grading requirements for excavation and fill activities, and requires the implementation of erosion control measures. The County will ensure that any development occurring under the proposed Specific Plan will be consistent with the current CBC, thereby ensuring that appropriate investigations and design measures have been employed to effectively minimize or avoid potential hazards associated with redevelopment and/or new building construction.

  It is likely that a number of structures currently situated within the Plan Area were built prior to 1970, when the CBC was originally established (the most recent version of the CBC became effective in 2013). Existing structures may not meet current CBC design standards for seismic hazards. Implementation of the proposed Specific Plan would likely replace some of these older structures with current, CBC-compliant structures, thereby reducing existing potential for earthquake-related damage in the area. In addition, new development that would occur within the Plan Area would conform to the CBC (as amended at the time of permit approval) as required by law. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with potential seismic activity in the area.

- *Eden Area General Plan.* The Eden Area General Plan includes policies and actions to address seismic hazards, as presented below. Compliance with these policies and actions would minimize the potential for construction and development included under the proposed Specific Plan to experience damage in the case of a major seismic event by ensuring appropriate and modern design of structures, while also minimizing the potential for health and safety hazards to occur in association with any such damage.

  Safety Element, Goal SAF-1. Minimize the risks to lives and property due to seismic and geologic hazards.

  - *Policy SAF-1.* Site specific geologic hazard assessments, conducted by a licensed geologist, shall be completed prior to development approval in areas with landslide and liquefaction hazards … and for development proposals submitted in Alquist-

Priolo Zones ... Hazards to be mapped include: seismic features, landslide potential, and liquefaction potential. Mitigation measures needed to reduce the risk to life and property from earthquake induced hazards should be included.

Future development included under the proposed Specific Plan would be consistent with this policy, meaning that development located in areas with identified hazards such as those associated with liquefaction potential and expansive soils would be appropriately designed to withstand associated hazards.

- *Policy SAF-2.* Buildings shall be designed and constructed to withstand ground shaking forces of a minor earthquake without damage, of a moderate earthquake without structural damage, and of a major earthquake without collapse of the structure. The County shall require that critical facilities and structures (e.g. hospitals, emergency operations centers) be designed and constructed to remain standing and functional following an earthquake.

  Future development included under the proposed Specific Plan would be consistent with this policy, meaning that development would be appropriately designed to withstand seismic hazards to the maximum extent feasible.

Compliance with the Alquist-Priolo Act Earthquake Fault Act, the CBC, and Eden Area General Plan policies would ensure that potential impacts associated with strong seismic groundshaking, expansive or otherwise unstable soils, and potential liquefaction events, would be *less than significant*.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-2 The Plan Area is located on expansive soils. Proper soils engineering practices would be required to ensure that soil conditions would not result in significant adverse impacts. With required implementation of standard engineering practices, impacts associated with unstable or expansive soils would be *less than significant*.

Expansive soils are characterized by high clay content which expands when saturated with water and shrinks when dry, potentially threatening the integrity of buildings and infrastructure foundations. Figure 4.5-3 shows that soil types in the proposed Plan Area include the following: Botella loam (0 to 2 percent slope), Clear Lake clay (0 to 2 percent slopes), Danville silty clay loam (0 to 2 percent slope), Los Osos silty clay loam (9 to 30 percent slope), and Yolo silt loam (0 to 2 percent slope); as indicated in Table 4.5-1, all of these soil types are identified as having Medium, High, or Medium-High potential for shrink-swell behavior, or expansiveness. The presence of expansive soils throughout the proposed Plan Area would make it necessary to conduct geologic investigations for all future development projects and ensure that soils for foundation support are sound. Building on unsuitable soils would have the potential to create future subsidence or collapse issues that could result in the settlement of Specific Plan infrastructure, and/or the disruption of utility lines and other services.

For future development within the Plan Area associated with implementation of the Specific Plan, a site-specific evaluation of soil conditions would be required per Alameda County's Building Code; such evaluation must contain recommendations for ground preparation and earthwork specific to the site, which become an integral part of the construction design. Expansive and otherwise weak soils may be re-engineered for stability prior to the construction or rebuild of buildings and other infrastructure; such re-engineering may include but would not be limited to: soil replacement (excavation of unsuitable soil followed by filling with stable/suitable material), grouting (cementing the soil particles together), compaction/ recompaction (watering and compressing the soils), and/or drainage control. The County's Building Code requires that each soils evaluation is conducted by registered soil professional and measures to eliminate inappropriate soil conditions must be applied, depending on the soil conditions.

The following is an overview of existing County regulations that would address concerns associated expansive soils:

- Section 15.08.240 of the Alameda County Building Ordinance – applicants for new construction must submit soils or geologic reports for sites affected by various geologic hazards (including expansive soils), and new structures are required to incorporate design elements to reduce building failures.

- Chapter 15.36 of the Alameda County General Ordinance Code (Grading, Erosion and Sediment Control Ordinance) – establishes standards for grading, construction, and the control of erosion and sediments.

- Section 15.36.110 of the County Grading Ordinance – provides the Director of Public Works with the authority to require a soils and geologic investigation in support of any proposed development on private property.

- Chapter 16 of the Subdivision Ordinance – contains various provisions relating to the investigation of seismic and geologic hazards, and the design and construction of improvements relating to the subdivision of property.

With adherence to the County's regulations presented above, as well as ACBD Specific Plan Policy SAF-1 of Safety Element Goal SAF-1, described above under Impact GEO-1, potential impacts associated with expansive soils that could occur with implementation of future development under the proposed Specific Plan would be minimized or avoided because specified studies and design considerations would be employed as relevant and feasible. The proposed Specific Plan would not locate structures on geologic units that are unstable or would become unstable as a result of proposed activities. Impacts associated with expansive or otherwise unstable soils would be *less than significant*.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in the Eden Area would gradually increase population and therefore gradually increase the number of people exposed to potential geological hazards, including effects associated with seismic events such as ground rupture and strong shaking. The EIR for the Eden Area General Plan, which includes the ACBD Plan Area, accounts for expected growth in this Plan Area; as described, conformance with the CBC and County General Plan policies, as well as other laws and regulations mentioned above, would ensure than project-specific impacts associated with geology and soils would be less than significant. Potential impacts associated with geology and soils would not be cumulatively considerable, and cumulative impacts related to geologic hazards would be *less than significant.*

This page intentionally left blank.

4.6 GREENHOUSE GAS EMISSIONS

4.6.1 Setting

a. Climate Change and Greenhouse Gases. Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2013), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC, 2013).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is 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.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Observations of CO_2 concentrations, globally-averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in CH_4 and N_2O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted

multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO_2 are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (United States Environmental Protection Agency [U.S. EPA], April 2014). CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the second half of the 20th century. Concentrations of CO_2 in the atmosphere have risen approximately 40 percent since the industrial revolution. The global atmospheric concentration of CO_2 has increased from a pre-industrial value of about 280 parts per million (ppm) to 391 ppm in 2011 (IPCC, 2007; Oceanic and Atmospheric Administration [NOAA], 2010). The average annual CO_2 concentration growth rate was larger between 1995 and 2005 (average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates (NOAA, 2010). Currently, CO_2 represents an estimated 74 percent of total GHG emissions (IPCC, 2007). The largest source of CO_2 emissions, and of overall GHG emissions, is fossil fuel combustion.

Methane. Methane (CH_4) is an effective absorber of radiation, though its atmospheric concentration is less than that of CO_2 and its lifetime in the atmosphere is limited to 10 to 12 years. It has a GWP approximately 25 times that of CO_2. Over the last 250 years, the concentration of CH_4 in the atmosphere has increased by 148 percent (IPCC, 2007), although emissions have declined from 1990 levels. Anthropogenic sources of CH_4 include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (U.S. EPA, April 2014).

Nitrous Oxide. Concentrations of nitrous oxide (N_2O) began to rise at the beginning of the industrial revolution and continue to increase at a relatively uniform growth rate (NOAA, 2010). N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N_2O emissions. The GWP of nitrous oxide is approximately 298 times that of CO_2 (IPCC, 2007).

Fluorinated Gases (HFCS, PFCS and SF_6). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexafluoride (SF_6), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-

depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical transmission and distribution systems account for most SF_6 emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO_2, CH_4, and N_2O, but these compounds have much higher GWPs. SF_6 is the most potent GHG the IPCC has evaluated.

b. Greenhouse Gas Emissions Inventory. Worldwide anthropogenic emissions of GHGs were approximately 46,000 million metric tons (MMT, or gigatonne) CO_2e in 2010 (IPCC, 2014). CO_2 emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, carbon dioxide was the most abundant accounting for 76 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while nitrous oxide and fluorinated gases account for 6 and 2 percent respectively (IPCC, 2014).

Total U.S. GHG emissions were 6,525.6 MMT CO_2e in 2012 (U.S. EPA, April 2014). Total U.S. emissions have increased by 4.7 percent since 1990; emissions decreased by 3.4 percent from 2011 to 2012 (U.S. EPA, April 2014). The decrease from 2011 to 2012 was due to a decrease in the carbon intensity of fuels consumed to generate electricity due to a decrease in coal consumption, with increased natural gas consumption. Additionally, relatively mild winter conditions, especially in regions of the United States where electricity is important for heating, resulted in an overall decrease in electricity demand in most sectors. Since 1990, U.S. emissions have increased at an average annual rate of 0.2 percent. In 2012, the transportation and industrial end-use sectors accounted for 28.2 percent and 27.9 percent of CO_2 emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 16.3 percent and 16.4 percent of CO_2 emissions, respectively (U.S. EPA, April 2014).

Based upon the California Air Resources Board (ARB) California Greenhouse Gas Inventory for 2000-2012 (ARB, March 2014), California produced 459 MMT CO_2e in 2012. The major source of GHG in California is transportation, contributing 36 percent of the state's total GHG emissions. Electric power is the second largest source, contributing 21 percent of the state's GHG emissions (ARB, March 2014). The industrial sector accounted for approximately 19 percent of the total emissions. California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The ARB has projected statewide unregulated GHG emissions for the year 2020 will be 507 MMT CO_2e (ARB, August 2013). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change. Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental

record, and the decade from 2000 through 2010 has been the warmest. The global combined land and ocean temperature data show an increase of about 0.89°C (0.69°C–1.08°C) over the period 1901–2012 and about 0.72°C (0.49°C–0.89°C) over the period 1951–2012 when described by a linear trend. Several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations are in agreement that LSAT as well as sea surface temperatures have increased. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC, 2013).

According to the CalEPA's *2010 Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA, April 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Sea Level Rise. According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. Sea levels are rising faster now than in the previous two millennia, and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report (2013) predicts a mean sea–level rise of 11-38 inches by 2100. This prediction is more than 50 percent higher than earlier projections of 7-23 inches, when comparing the same emissions scenarios and time periods. The previous IPCC report (2007) identified a sea level rise on the California coast over the past century of approximately eight inches. Based on the results of various climate change models, sea level rise is expected to continue. The California Climate Adaptation Strategy (December 2009) estimates a sea level rise of up to 55 inches by the end of this century.

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Energy Commission [CEC], March, 2009).

Water Supply. Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher

elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR], 2008; CCCC, May 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. Based upon historical data and modeling DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR, 2008).

Hydrology. As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (World Meteorological Organization [WMO], 2013). As a result, sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO, 2013). Sea level rise may be a product of climate change through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to salt water intrusion. Increased CO_2 emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a $30 billion annual agricultural industry that produces half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the average global surface temperature could rise by 1.0-4.5°F (0.6-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan, August 2006).

Effects Within Alameda County. Increasing temperatures in California would indirectly affect the County through changes in water supply, sea levels, water quality, agriculture, and energy consumption rates. Although various climate change models predict some increase in variability of weather patterns and an increasing incidence of extreme weather events, there is no consistency among the model results, with some predicting increased incidents of droughts and others predicting increased frequency of severe storm events. Given the uncertainty associated with projecting the type and extent of changes in climatic variability and the speculative nature of predicting incidents of extreme weather events, the effect on the county of changing patterns of storms and other extreme weather remains unclear. Water agencies in the Bay Region have relied for nearly a century on imported water supplies from the Sierra Nevada to supply their customers with reliable water. Based on the results of a variety of regional climate models and literature, it is reasonably foreseeable that snowpack will be reduced and/or will melt earlier or more rapidly in the Sierra Nevada. Consequently, changes in snowpack could affect the County indirectly by altering the timing and volume of runoff that supplies much of the Bay Area's water supply.

d. Regulatory Setting. The following regulations address both climate change and GHG emissions.

International Regulations. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was produced in 1992. The UNFCCC is an international environmental treaty with the objective of, "stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." This is generally understood to be achieved by stabilizing global GHG concentrations between 350 and 400 ppm, in order to limit the global average temperature increases between 2 and 2.4°C above pre-industrial levels (IPCC, 2007). The UNFCCC itself does not set limits on GHG emissions for individual countries or enforcement mechanisms. Instead, the treaty provides for updates, called "protocols," that would identify mandatory emissions limits.

Five years later, the UNFCCC brought nations together again to draft the *Kyoto Protocol* (1997). The Kyoto Protocol established commitments for industrialized nations to reduce their collective emissions of six GHGs (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) to 5.2 percent below 1990 levels by 2012. The United States is a signatory of the Kyoto Protocol, but Congress has not ratified it and the United States has not bound itself to the Protocol's commitments (UNFCCC, 2007). The first commitment period of the Kyoto Protocol ended in 2012. Governments, including 38 industrialized countries, agreed to a second commitment period of the Kyoto Protocol beginning January 1, 2013 and ending either on December 31, 2017 or December 31, 2020, to be decided by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its seventeenth session (UNFCCC, November 2011).

In Durban (17th session of the Conference of the Parties in Durban, South Africa, December 2011), governments decided to adopt a universal legal agreement on climate change as soon as possible, but not later than 2015. Work will begin on this immediately under a new group called the Ad Hoc Working Group on the Durban Platform for Enhanced Action. Progress was also made regarding the creation of a Green Climate Fund (GCF) for which a management framework was adopted (UNFCCC, December 2011; United Nations, November 2011).

Federal Regulations. The United States Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act.

The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports for these sources were due in March 2011.

On May 13, 2010, the U.S. EPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 tons CO_2e per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the U.S. EPA published the "PSD and Title V Permitting Guidance for Greenhouse Gases." The U.S. EPA's guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the U.S. EPA's new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other large pollution point sources.

On January 2, 2011, the U.S. EPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 tons CO_2e per year. Under Phase 1, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time new sources were subject to GHG Title V permitting if the source emits 100,000 tons CO_2e per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 tons CO_2e per year.

On July 3, 2012 the U.S. EPA issued the final rule that retains the GHG permitting thresholds that were established in Phases 1 and 2 of the GHG Tailoring Rule. These emission thresholds determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

California Regulations. California Air Resources Board (ARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. California has a numerous regulations aimed at reducing the state's GHG emissions. These intitiatives are summarized below.

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires ARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would

reach 22 percent reduction from 2009 levels by 2012 and 30 percent by 2016. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (ARB, 2011).

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc. In April 2015 Governor Brown issued EO B-30-15, calling for a new target of 40% below 1990 levels by 2030.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by ARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years. Implementation activities are ongoing and ARB is currently the process of updating the Scoping Plan.

In May 2014, ARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines ARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 goals set forth in EO S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (ARB, June 2014).

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

ARB Resolution 07-54 establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005 percent of California's total inventory of GHG emissions for 2004.

Senate Bill (SB) 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing ARB to develop regional GHG emission reduction targets to be achieved from vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, ARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments and Metropolitan Transportation Commission were assigned targets of a seven percent per capita reduction by 2020 and a 15 percent reduction per capita reduction by 2035.

In April 2011, Governor Brown signed SB 2X requiring California to generate 33 percent of its electricity from renewable energy by 2020.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

California Environmental Quality Act. Pursuant to the requirements of SB 97, the Natural Resources Agency has adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. As noted previously, the adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), the San Luis Obispo Air Pollution Control District (SLOAPCD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. On March 5, 2012 the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds contained in the BAAQMD's 2010 *Updated CEQA Guidelines*. The BAAQMD was ordered to set aside the thresholds and is no longer recommending that these thresholds be used as a general measure of a project's significant air quality impacts. In August 2013, the First District Court of Appeal overturned the trial court and held that the thresholds of significance adopted by the BAAQMD were not subject to CEQA review. The California Supreme Court has agreed to hear an appeal of this case. The case is currently being briefed and

the matter is still pending. Thus, BAAQMD will not issue a further recommendation until this litigation is complete.

Local Regulations. In 2005, the BAAQMD initiated a Climate Protection Program. On June 1, 2005 the Air District Board of Directors adopted a resolution establishing a Climate Protection Program and acknowledging the link between climate protection and programs to reduce air pollution in the Bay Area. On April 2, 2014, the Board of Directors of the BAAQMD voted to approve the 10-Point Climate Action Work Program which includes policy approaches and a technical program focused on reducing GHG emissions.

In 2009, County of Alameda adopted a Green Building Ordinance for residential and commercial properties in unincorporated communities (Alameda County Sustainability, website http://www.acgov.org/sustain/what/greenbuilding/gbouc.htm). Anyone applying for a building permit is required to submit documentation of how the project meets specific green building standards ("GreenPoint Rated," "LEED®," or certification from a qualified third party), which is reviewed by the County's Building and/or Planning Departments. All new or rebuilt residential construction greater than 1,000 square feet and all new or rebuilt non-residential construction greater than 3,000 square feet located in the unincorporated areas of Alameda County are required to comply with the Green Building Ordinance. Certain industrial or agricultural uses along with qualified historical building are exempt.

4.6.2 Impact Analysis

a. Methodology and Significance Thresholds. The *State CEQA Guidelines* provides for the analysis and feasible mitigation of GHG emissions or the effects of GHG emissions. Section 15064.4, and Appendix G of the *State CEQA Guidelines* provide guidance regarding the criteria that may be used to assess whether a project's impacts on climate change are significant. These guidelines are used in evaluating the cumulative significance of GHG emissions from the proposed project. Section 15064.4(a) provides lead agencies with the discretion to determine, in the context of a particular project, whether to:

1) *Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or*
2) *Rely on a qualitative analysis or performance based standards.*

Section 15064.4(b) states that a lead agency should consider the following factors when assessing the significance of impacts from GHG emissions:

1) *The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.*
2) *Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.*
3) *The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.*

According to the adopted Appendix G of the *State CEQA Guidelines*, impacts related to GHG emissions from the proposed project would be significant if the project would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The issue of climate change for an individual project typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

Neither the State, BAAQMD, nor Alameda County have adopted GHG emissions thresholds, and no GHG emissions reduction plan with established GHG emissions reduction strategies has yet been adopted. As discussed under "Regulatory Setting" above, the BAAQMD adopted significance thresholds for GHGs in June 2010, however, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the air quality and greenhouse gas emissions thresholds contained in the BAAQMD's Draft CEQA Guidelines (BAAQMD, May 2010). In light of the court's order, BAAQMD recommends that lead agencies determine appropriate GHG thresholds of significance based on substantial evidence in the record.

In April 2012 SLOAPCD, adopted quantitative emissions thresholds for carbon dioxide equivalent (MT CO_2e) for most land use projects (SLOAPCD *CEQA Handbook*, Section 3.5.1, Significance Thresholds for Project-Level Operational Emissions, April 2012). The SLOAPCD *CEQA Handbook* includes a bright-line threshold of 1,150 MT CO_2e, as well as an efficiency threshold of 4.9 MT CO_2e per service population per year (service population is the total residents and employees accommodated by the proposed project). As identified in §15064.7(c) of the CEQA Guidelines, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence. Due to the programmatic nature of the proposed Specific Plan, the most appropriate threshold available to evaluate potential GHG emissions impacts is the SLOAPCD's adopted efficiency threshold of 4.9 MT CO_2e per service population per year. The efficiency threshold is the most appropriate threshold option for large projects such as specific plans, because it avoids penalizing large projects that incorporate emissions-reducing features and/or that are located in a manner that results in relatively low vehicle miles traveled. The efficiency threshold was designed to ensure that new development would be in compliance with the state's emissions reduction goals, as embodied in AB 32's goal of reducing GHG emissions to 1990 levels by 2020 and the Scoping Plan's strategies for achieving this reduction. Therefore, the proposed Specific Plan's contribution to cumulative impacts related to GHG emissions and climate change would be cumulatively considerable if the Specific Plan would produce more than 4.9 MT CO_2e per service population per year.

As discussed in Section 4.11, *Population and Housing,* buildout of the proposed Specific Plan would increase the population by 2,768 persons and increase jobs in the area by 1,900 by 2040. Therefore, the service population for the Project is 4,668.

Study Methodology. Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential Specific Plan effects. The analysis focuses on CO_2, CH_4, and N_2O because these GHGs comprise 98.9 % of all GHG emissions by volume (IPCC, 2007) and are the GHG emissions that the proposed Specific Plan would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, fluorinated gases are primarily associated with industrial processes, and the proposed Specific Plan does not include an industrial component. Emissions of all GHGs are converted into their equivalent weight in CO_2 (CO_2e). Minimal amounts of other main GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the calculated CO_2e amounts. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper (January 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (January 2009).

Construction Emissions. The BAAQMD has not established a threshold of significance for construction-related GHG emissions. Nevertheless, air districts such as the SLOACPD (2012) have recommended amortizing construction-related emissions over a 25-year period for commercial projects and a 50-year period for residential projects in conjunction with the proposed project's operational emissions. In order to estimate the annual emissions that would result from construction activity associated with the proposed Specific Plan, GHGs from construction projects are quantified and amortized over a 25-year period, as the project includes both residential and commercial components and amortizing over 25 years would provide the most conservative estimate. The amortized construction emissions are added to the annual average operational emissions and then compared to the applicable operational threshold. As discussed in Section 4.2, *Air Quality*, it was assumed that grading would be balanced within the Plan Area, and that no off-site import or export of soil would be required during construction under the proposed Specific Plan. Construction activities are assumed to begin in January of 2016 and to occur over approximately 15 years. Annualizing total construction GHG emissions using this methodology accurately accounts for temporary construction emissions as part of the project's annual GHG emissions, which are compared to the applicable annual GHG threshold. Emissions associated with the construction period were estimated using the California Emissions Estimator Model (CalEEMod) software model, based on the projected maximum amount of equipment that would be used onsite at one time. Complete CalEEMod results and assumptions can be viewed in Appendix C.

On-Site Operational Emissions. Operational emissions from energy use (electricity and natural gas use) for buildout under the proposed Specific Plan were estimated using CalEEMod (see Appendix C for calculations). The default values on which CalEEMod are based include the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) for non-residential land uses and Residential Appliance Saturation Survey (RASS) for residential land uses. Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating, were calculated in CalEEMod based on standard emission

rates from ARB, U.S. EPA, and district supplied emission factor values (CalEEMod User's Guide, 2013).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User's Guide, 2013). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California.

Direct Emissions from Mobile Combustion. Emissions of CO_2 and CH_4 from transportation sources for the proposed Specific Plan were quantified using CalEEMod. Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the California Climate Action Registry General Reporting Protocol (January 2009) direct emissions factors for mobile combustion (see Appendix C for calculations). Emission rates for N_2O emissions were based on the vehicle mix output generated by CalEEMod and the emission factors contained in the California Climate Action Registry General Reporting Protocol. The estimate of total daily trips associated with the proposed Specific Plan was based on vehicle trip data provided in Section 4.14, *Transportation and Circulation*, which includes a 21% mixed-use development (MXD) reduction in daily vehicle trips generated along the East 14th/Mission Boulevard Corridor and a 24% MXD reduction in daily vehicle trips generated along the Lewelling Boulevard Corridor. As the location of future development under the Specific Plan is not known, the average of the MXD reductions, or 23%, was used. The overall vehicle fleet mix used in the analysis is the default fleet mix provided in the CalEEMod software.

b. Project Impacts and Mitigation Measures.

Impact GHG-1 Development under the proposed Specific Plan would generate additional GHG emissions beyond existing conditions due to construction activity and long-term operations. Total estimated GHG emissions would exceed the efficiency threshold. Impacts related to GHG emissions would be *significant but mitigable*.

As discussed above, GHG emissions for proposed buildout of the Specific Plan were estimated using CalEEMod. The following summarizes the Project's overall GHG emissions (see Appendix C for detailed CalEEMod worksheets). Tables 4.6-1 and 4.6-2 show emissions expected from the proposed Project.

Construction Emissions. Construction under the Specific Plan would generate temporary GHG emissions primarily due to the operation of construction equipment and truck trips. Construction activity is assumed to occur over a period of approximately 15 years. Based on the CalEEMod results, construction activity under the proposed Specific Plan would generate an estimated 19,939 MT of CO_2e units (as shown in Table 4.6-1). Amortized over a 25-year period, construction under the Specific Plan would generate an estimated 665 MT of CO_2e

per year. Construction assumptions used to calculate the emissions are shown in the CalEEMod output tables in Appendix C.

Table 4.6-1
Estimated Construction Emissions of Greenhouse Gases

Emission Source	Annual Emissions
Construction	19,939 MT CO_2e
Amortized over 25 years	**798 MT CO_2e/year**

[1] See Appendix C for calculations and for GHG emission factor assumptions.

On-Site Operational Emissions. Operational emissions from energy use (electricity and natural gas use) for the proposed project were estimated using CalEEMod (see Appendix C for calculations). As discussed above, annual electricity and natural gas emissions were calculated using default values from the CEC sponsored CEUS and RASS studies which are built into the CalEEMod model. Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod based on standard emission rates from ARB, U.S. EPA, and air district supplied emission factor values (CalEEMod User's Guide, 2013). Emissions from waste generation were also calculated in CalEEMod based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User's Guide, 2013). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle). Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California.

Direct Emissions from Mobile Combustion. Emissions from vehicles driving to and from and within the Project Site were based on ITE vehicle trip rates and trip reduction percentages from Section 4.14, *Transportation and Circulation*. Emissions of CO_2 and CH_4 from transportation sources were quantified using CalEEMod. Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the California Climate Action Registry General Reporting Protocol (January 2009) direct emissions factors for mobile combustion (refer to Appendix C for calculations). Emission rates for N_2O emissions were based on the vehicle mix output generated by CalEEMod and the emission factors found in the California Climate Action Registry General Reporting Protocol.

Combined Construction, Stationary and Mobile Source Emissions. Table 4.6-2 combines the construction, operational, and mobile GHG emissions associated with development under the proposed Specific Plan. As described above, emissions associated with total construction activity are amortized over 25 years.

Table 4.6-2
Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions
Construction	798 MT CO_2e
Operational	
Area	12 MT CO_2e
Energy	6,757 MT CO_2e
Solid Waste	1,957 MT CO_2e
Water	444 MT CO_2e
Mobile	
CO_2 and CH_4	14,705 MT CO_2e
N_2O	908 MT CO_2e
Total	**25,581 MT CO_2e**
Service Population	4,668
Total / service population	**5.5 MT CO_2e**
Threshold	4.9 MT CO_2e/service population/year
Threshold Exceeded?	**YES**

Sources: See Appendix C for calculations and for GHG emission factor assumptions.

As shown in Table 4.6-2, the combined annual emissions would total approximately 25,581 MT per year of CO_2e. Therefore, the combined annual emissions would result in per-service-population emissions of 5.5 MT CO_2e/service population/year. These emissions would exceed the applicable threshold of 4.9 metric tons CO_2e/service population/year. Therefore, GHG emissions from buildout of the proposed Specific Plan would result in a potentially significant impact.

The Eden Area General Plan includes goals and policies that would reduce greenhouse gas emissions. Goal GH-3 is to "Improve the energy efficiency of new and remodeled buildings in the Eden Area," and includes five policies that address energy efficiency in public and private development. Policy 2 requires new privately-developed construction and remodels above a certain size (residential construction greater than 1,000 square feet and all new or rebuilt non-residential construction greater than 3,000 square feet) to achieve certification under LEED, Build It Green GreenPoint Rated, or equivalent rating system through the County's Green Building Ordinance. The policy also encourages new construction and remodels not required to achieve certification under the Green Building Ordinance to incorporate green building techniques designed to reduce the energy and water use of new or remodeled buildings. Policy 3 encourages the adaptive reuse of existing buildings, if they can be remodeled for energy-efficient operations. Policy 4 encourages the planting of trees on the south- and west- facing sides of new buildings to reduce energy usage, unless trees would interfere with existing solar equipment. Policy 5 states that new development projects should be designed to maximize passive solar energy techniques, including house orientation, street and lot layout, vegetation and protection of solar access. The proposed Specific Plan would be subject to these policies and the Green Building Ordinance and adherence to them would reduce GHG emissions.

Nonetheless, emissions would exceed the threshold of 4.9 metric tons CO_2e/service population/year, therefore, mitigation would be required.

Mitigation Measures. The proposed Specific Plan exceeds the 4.9 metric tons CO_2e/service population/year threshold by 0.6 metric tons CO_2e/service population/year. Though no specific development projects are proposed at this time, individual projects associated with the proposed Specific Plan may exceed recommended project-level GHG thresholds. The following mitigation measure would be required to reduce GHG emissions impacts and ensure that individual projects do not exceed GHG thresholds.

GHG-1 **GHG Reduction.** Projects within the Plan Area that exceed the recommended operational GHG screening level sizes shown in Table 3-1 in the BAAQMD's May 2010 *California Environmental Quality Act Air Quality Guidelines* (i.e., low-rise apartments over 78 units, strip mall over 19,000 square feet, quality restaurant over 9,000 square feet, general office building over 53,000 square feet) shall quantify estimated GHG emissions associated with the project. If the project exceeds the recommended BAAQMD threshold of 4.9 metric tons CO_2e per service population per year, then one of the following shall be implemented:

A. Prior to permit issuance, such projects shall develop a GHG Reduction Plan to ensure that project-related emissions are below 4.9 metric tons CO_2e per person per year over the operational life of the project. The plan shall be implemented on site by the project applicant and may include, but is not be limited to, the following components:
   1. Alternative fuel vehicles
   2. Energy conservation policies
   3. Energy efficient equipment, appliances, heating and cooling
   4. Energy efficient lighting
   5. Green building and roofs
   6. Water conservation and recycling
   7. Renewable energy production
   8. Trip reduction
   9. Carbon sequestration;

   or

B. If GHG emissions cannot be reduced through compliance with the County Green Building Ordinance, a Climate Action Plan, other County GHG reduction plan, or project GHG Reduction Plan as described above, the project proponent shall purchase carbon offsets to reduce GHG emissions below threshold levels demonstrated to the satisfaction of the County.

Significance After Mitigation. Implementation of Mitigation Measure GHG-1 would reduce GHG emission impacts to a less than significant level.

Impact GHG-2 The proposed Specific Plan would be generally consistent with Alameda County's draft Community Climate Action Plan, the Climate Action Team GHG reduction strategies, and the 2008 Attorney General Greenhouse Gas Reduction Measures. As a result, the proposed Specific Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be *less than significant.*

Alameda County adopted a Climate Action Plan for Government Services and Operations in 2010, but has not adopted a Climate Action Plan or other GHG reduction plan for communities in unincorporated Alameda County as of April 2015, although a draft Community Climate Action Plan has been developed. The draft Community Climate Action Plan suggests a variety of possible actions to reduce GHG emissions, including sustainable land use, mobility and connectivity, energy efficiency and renewable energy, waste reduction and recycling, water conservation and wastewater efficiency, and green infrastructure. These actions are intended to bring the community in line with the AB 32 Statewide goal of reducing GHG emissions to 1990 levels by 2020. Consistent with the draft Community Climate Action Plan, the Specific Plan includes a Multimodal Access Plan that provides recommendations that would improve bicycle, pedestrian, and transit facilities within the Plan Area. As discussed in Section 4.14, *Transportation and Circulation*, the unique mixed use nature of the Specific Plan would reduce vehicle trips and vehicle miles traveled within the Plan Area. Additionally, all development projects within the Specific Plan Area would be required to comply with California Building Code Title 24 Green Building Standards.

CalEPA's Climate Action Team (CAT) published the 2006 CAT Report which includes GHG emissions reduction strategies intended for projects emitting less than 10,000 tons CO_2e/year. In addition, the California Attorney General's Office has developed *Global Warming Measures* (2008) and OPR's *CEQA and Climate Change* (CAPCOA, 2008) document includes greenhouse gas reduction measures intended to reduce GHG emissions in order to achieve statewide emissions reduction goals. All of these measures aim to curb the GHG emissions through suggestions pertaining to land use, transportation, renewable energy, and energy efficiency. Several of these actions are already required by California regulations, such as:

- AB 1493 (Pavley) requires the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks.
- In 2004, ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.
- The Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989) established a 50% waste diversion mandate for California.
- Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).

- California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 33 percent of retail electricity sales from renewable energy sources by 2020, within certain cost constraints.
- Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.

The Specific Plan would be required to comply with these existing State regulations, which have been adopted to achieve the overall GHG emissions reduction goals identified in AB 32. As the Specific Plan would comply with existing State regulations and includes recommendations that are consistent with the draft Alameda County Community Climate Action Plan, it would not conflict with any applicable or reasonable foreseeable plan, policy or regulation intended to reduce GHG emissions. Therefore, this impact would be less than significant.

Mitigation Measures. No mitigation would be required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. GHG and climate change are by definition cumulative impacts, as they affect the accumulation of greenhouse gases in the atmosphere. As indicated above in Impact GHG-1, GHG emissions associated with the proposed project would be less than significant with mitigation, and the project's impacts are therefore also cumulatively less than significant with mitigation.

4.7 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates potential impacts relating to hazardous materials in the soil and groundwater on and around the Plan Area. Geologic hazards are discussed in Section 4.5, *Geology and Soils*, of this EIR.

4.7.1 Setting

a. Plan Area Hazardous Materials Setting. The majority of the Plan Area consists of various industrial and commercial uses, including automotive fueling, repair, and storage yards. Some residential units as well as educational and institutional uses such as San Lorenzo High School, St. John Elementary School, and the REACH Ashland Youth Center are also located within the Specific Plan area. According to the Public Safety Element of the Eden Area General Plan (2010), nearly all businesses and residences in the Eden Area generate some amount of hazardous wastes. The most common industrial hazardous wastes in the Eden Area are generated from gasoline service stations, dry cleaners, automotive mechanics, auto body repair shops, machine shops, printers and photo processors. Most of these wastes are petroleum-based or hydrocarbon hazardous waste and include cleaning and paint solvents, lubricants, and oils. Moreover, medical wastes, defined as potentially infectious waste from sources such as laboratories, clinics and hospitals, are also included among the hazardous wastes found in the Eden Area (Alameda County, 2010).

In addition to existing uses, there are properties in the Eden Area where past uses could have produced localized contamination or concentrations of hazardous substances. According to the Eden Area General Plan Draft EIR (2006), use or storage of petroleum-based or inorganic chemicals, solvents, or other substances may have left residues in soils, which could expose people to those substances if the site were to be redeveloped or excavated. A search of the California Department of Toxic Substance Control's (DTSC's) EnviroStor database (conducted on May 1, 2015), which contains information on properties in California where hazardous substances have been released or where the potential for a release exists, identified seven "open" Leaking Underground Fuel Tank (LUFT) and Spills, Leaks, Investigation, and Cleanups (SLIC) sites, of which three are eligible for closure and four are under site assessment. LUFT and SLIC sites are regulated by the California State Water Resources Control Board. Table 4.7-1 and Figure 4.7-1 show all DTSC listed cleanup sites within the Specific Plan area.

The EnviroStor Database did not identify any Superfund (NPL) or State Response sites within the Specific Plan area; however, it did identify one site with land use restrictions. The Holland Oil/Holland Park site, located at 16301 East 14th Street, has been contaminated by diesel and gasoline, and while the cleanup status was closed in January 2012, the site remains listed with various site management requirements. In addition, the following land uses are restricted at this site: day care centers, elder care centers, hospitals, public or private school for persons under 21, and raising of food.

Table 4.7-1
DTSC Cleanup Sites within the Plan Area

Project Type	Name	Address	Status
Evaluation	East 14th Street Auto Wreckers	16552 East 14th St.	Refer: Other Agency No Further Action
School Investigation	FMR National Guard Armory	16501 Ashland Ave.	Inactive - Withdrawn
LUFT Site[1]	Hayward Motors	21450 Mission Blvd.	Completed – Case Closed
LUFT Site	Bloomers Flowers	21305 Mission Blvd.	Completed – Case Closed
LUFT Site	Hop Sinh Restaurant/Speed-O-Meter Electric	21101 Mission Blvd.	Completed – Case Closed
LUFT Site	Peterson Metal Manufacturing	20478 Mission Blvd.	Completed – Case Closed
LUFT Site	Sherwood Dawson & Company	19100 Mission Blvd.	Completed – Case Closed
LUFT Site	ABE Petroleum	17715 Mission Blvd.	**Open – Site Assessment**
LUFT Site	EBMUD South Area Service Center	589 East Lewelling Blvd.	Completed – Case Closed
LUFT Site	Max's Auto Repair	508 East Lewelling Blvd.	**Open – Site Assessment**
LUFT Site	New Performance	186 East Lewelling Blvd.	Completed – Case Closed
LUFT Site	San Lorenzo High School	50 East Lewelling Blvd.	Completed – Case Closed
LUFT Site	Beacon #3721	44 East Lewelling Blvd.	Completed – Case Closed
LUFT Site	Southland #1903	44 East Lewelling Blvd.	Completed – Case Closed
LUFT Site	Unocal #5760	376 East Lewelling Blvd.	**Open – Eligible for Closure**
LUFT Site	Chevron #9-2384/Jolly Roger's Car Wash	15526 Hesperian Ave.	Completed – Case Closed
LUFT Site	CA Army National Guard Facility	16501 Ashland Ave.	Completed – Case Closed
LUFT Site	CA Army National Guard/San Lorenzo School District	16501 Ashland Ave.	Completed – Case Closed
LUFT Site	Kawahara Nursery	16550 Ashland Ave.	Completed – Case Closed
LUFT Site	167th Gas Station	16690 East 14th St.	Completed – Case Closed
LUFT Site	Ashland Youth Center	16335 East 14th St.	Completed – Case Closed
LUFT Site	Holland Oil/Holland Park	16301 East 14th St.	**Completed – Case Closed (Land Use Restrictions)**
LUFT Site	L&D Scaffold Inc.	1420 162nd Ave.	Completed – Case Closed
LUFT Site	Petsas, Mary	16035 East 14th St.	Completed – Case Closed
LUFT Site	ABC Auto Repair	15960 East 14th St.	Completed – Case Closed
LUFT Site	Unocal #6277	15803 East 14th St.	Completed – Case Closed
LUFT Site	Clyde's Corner	15796 East 14th St.	**Open – Eligible for Closure**
LUFT Site	Private Residence	Thrush Ave.	Completed – Case Closed
LUFT Site	Unocal #3292	15008 East 14th St.	**Open – Eligible for Closure**
SLIC Site[2]	AutoMax	20535 Mission Blvd.	Completed – Case Closed
SLIC Site	See the Doctor Transmission	16611 East 14th St.	**Open – Site Assessment**
SLIC Site	Ashland Housing Project	16309 Kent Ave.	**Open – Site Assessment**
SLIC Site	Fairmont Shopping Center	15065-15399 East 14th St.	Completed – Case Closed

[1] An LUFT site is an undergoing cleanup due to an unauthorized release from an UST system. An underground storage tank system (UST) is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances.
[2] The SLIC program investigates and regulates non-permitted discharges.
Source: EnviroStor Database, 2015

Imagery provided by ESRI and its licensors © 2015. Additional information provided by the Department of Toxic Substances Control Envirostore database: http://www.envirostor.dtsc.ca.gov/, 2013.

Hazardous Materials and Contamination Sites

Figure 4.7-1

Sites outside of the Plan Area not identified above could also have releases that may affect the Plan Area. In addition to hazardous materials used and generated within the Plan Area, hazardous materials and waste also pass through the community en route to other destinations via the railroads and major regional routes, including I-880, I-580 and I-238. The County does not have direct authority over the transport of hazardous materials on the major roads and rail lines within the Plan Area. As mentioned in Section 4.7.2(b) below, transportation of hazardous materials by truck and rail is regulated by the DOT (Eden Area General Plan EIR, 2006).

b. Regulatory Setting. The management of hazardous materials and hazardous wastes is regulated at the federal, state, and local levels through programs administered by the U.S. Environmental Protection Agency (U.S. EPA), agencies within the California Environmental Protection Agency (CalEPA), such as the DTSC, federal and state occupational safety agencies, the Bay Area Air Quality Management District (BAAQMD), and Alameda County Department of Environmental Health.

Federal. At the federal level, the Environmental Protection Agency (EPA) is the principal regulatory agency. The Occupational Safety and Health Administration (Fed/OSHA) regulates the use of hazardous materials, including hazardous building materials, insofar as these affect worker safety through a delegated State program. Furthermore, at the federal level, the Department of Transportation (DOT) regulates transportation of hazardous materials.

Resource Conservation and Recovery Act of 1974 (RCRA). RCRA was enacted in 1974 to provide a general framework for the national hazardous waste management system, including the determination of whether hazardous waste are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities.

The Hazardous and Solid Waste Amendments. The Hazardous and Solid Waste Amendments were enacted in 1984 to better address hazardous waste; this amendment began the process of eliminating land disposal as the principal hazardous waste disposal method.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). CERCLA, also known as Superfund, was enacted in 1980 to ensure that a source of funds were available to clean up abandoned hazardous waste sites, compensate victims, address releases of hazardous materials , and establish liability standards for responsible parties.

The Superfund Amendments and Reauthorization Act of 1986 (SARA). SARA amended CERCLA in 1986 to increase Superfund budget, modify contaminated site cleanup criteria and schedules, and revise settlement procedures. SARA also provides a regulatory program and fund for underground storage tank clean ups.

State. At the State level, agencies such as Cal/OSHA, the Office of Emergency Services (OES), and the Department of Health Services (DHS) have rules governing the use of hazardous materials that parallel federal regulations and are sometimes more stringent. The Department of Toxic Substances Control (DTSC) is the primary State agency governing the storage, transportation and disposal of hazardous wastes. DTSC is authorized by the U.S. EPA to enforce and implement federal hazardous materials laws and regulations. DTSC has oversight

of Annual Work Plan sites (commonly known as State Superfund sites), sites designated as having the greatest potential to affect human health and the environment.

The primary California State laws for hazardous waste are: the California Hazardous Waste Control Law (HWCL), the State equivalent of RCRA, and the Carpenter-Presley-Tanner Hazardous Substance Account Act (HSAA), the State equivalent of CERCLA. State hazardous materials and waste laws are contained in the California Code of Regulations, Titles 22 and 26. The State regulation concerning the use of hazardous materials in the workplace is included in Title 8 of the California Code Regulations.

One key State law, which requires special assessment under CEQA, relates to Hazardous Waste and Substance Sites (Cortese) List which is a planning document used by State and local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires that an updated list be prepared at least annually by the California EPA.

Regional and Local. The Regional Water Quality Control Board (RWQCB) is authorized by the State Water Resources Control Board to enforce provisions of the Porter-Cologne Water Quality Control Act of 1969. This act gives the RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the State is threatened and to require remediation of the site, if necessary. Both of these agencies are part of the Cal EPA. In the Bay Area, the Bay Area Air Quality Management District (BAAQMD) may impose specific requirements on remediation activities to protect ambient air quality from dust or other airborne contaminates.

Administration and enforcement of the major environmental programs were transferred to local agencies as Certified Unified Program Agencies (CUPAs) beginning in 1996. The purpose of this was to simplify environmental reporting by reducing the number of regulatory agency contacts a facility must maintain and requiring the use of more standardized forms and reports.

The Alameda County Department of Environmental Health has primary responsibility for enforcing most regulations pertaining to hazardous materials in the Eden Area. The Alameda County Fire Department acts as first responder to hazardous materials incidents within the Eden Area. Hazardous waste programs in the Eden Area are also governed by the *Alameda County Hazardous Waste Management Plan* and the *Alameda County Integrated Waste Management Plan*. These plans include forecasts for the generation of hazardous waste and provide policies for the management of this waste in Alameda County. The primary focus of both plans is to reduce the amount of hazardous waste generated in the County and to safely reuse, recycle or store any waste that is generated (Eden Area General Plan, 2010).

In addition to the programs and plans mentioned above, the Alameda County Household Hazardous Waste Program is operated as a partnership between the Alameda County Department of Environmental Health and the Alameda County Waste Management Authority. Eden Area residents may take their household hazardous waste to any of three collection facilities located in either Hayward, Oakland or Livermore. Approximately 233,982 tons of waste (or 9.53 percent of total non-commercial hazardous waste) were received by the Alameda

County Household Hazardous Waste program from households living in Eden Area zip codes in fiscal year 2003(Eden Area General Plan, 2010).

Eden Area General Plan. Goal SAF-5 of the plan seeks to minimize Eden Area residents' from exposure to the harmful effects of hazardous materials and waste. This Goal is supported by various policies and action, one of them, Policy 1 of this Goal, being the requirement of the County to strive to reduce hazardous waste using the following hierarchy of waste management strategies:

- Reduce the sources of hazardous waste.
- Recycle and reuse hazardous waste.
- Treat or incinerate residual hazardous waste.
- Place reduced or untreatable waste in secure land disposal units.

Additionally, under Policy P6 of this Goal, developers would be required to conduct the necessary level of environmental investigation to ensure that soil, groundwater and buildings affected by hazardous material releases from prior land uses and lead or asbestos in building materials will not have a negative impact on the natural environment or health and safety of future property owners or users. This would be required to occur as a pre-condition for receiving building permits or planning approvals for development on historically commercial or industrial parcels.

As for the promotion of safe transport of hazardous materials through the Eden Area, Policy P7 of this Goal would require the implementation of the following measures:

- Maintain formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas
- Prohibit the parking of legally designated empty or full vehicles marked for transporting hazardous materials on County streets.
- Require new pipelines and other channels carrying hazardous materials to avoid residential areas and other immobile populations to the extent possible.

For any large generators of hazardous waste, emergency response plans would be required to be submitted as part of all use applications (Policy P8 of this Goal).

The Eden Area General Plan also provides a policy that would require that adequate separation be provided between areas where hazardous materials are present and sensitive uses, such as schools, residences and public facilities (Policy P5 under Goal SAF-5A).

4.7.2 Impact Analysis.

a. Methodology and Significance Thresholds. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. A significant impact would occur if the proposed project would result in any of the following conditions:

1) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
2) *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;*
3) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*
4) *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 create a significant hazard to the public or the environment;*
5) *Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area;*
6) *Be located within the vicinity of a private airstrip, and result in a safety hazard for people residing or working in the project area;*
7) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or*
8) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

As discussed in the Initial Study (Appendix A of this EIR), the Plan Area is not located within an airport land use plan or within the vicinity of a private airstrip, is not located within a wildland fire hazard zone, and the proposed Specific Plan would not interfere with any existing emergency or evacuation plan. Therefore, impacts related to checklist items 5, 6, 7, and 8 would be less than significant and are not discussed below.

b. Project Impacts and Mitigation Measures.

Impact HAZ-1 **Implementation of the proposed Specific Plan would include development of residential or commercial land uses that could involve the use, storage, disposal or transportation of hazardous materials. In addition, upset or accident conditions within the Plan Area could involve the release of hazardous materials into the environment. However, required adherence to existing regulations would ensure that this is a *less than significant* impact.**

Impacts related to hazardous materials relate to operation of residential and commercial uses, construction activity, and mixed-use residential development. Each of these issues is described below.

Operational Activities. The proposed Specific Plan would facilitate the construction of new residential or commercial land uses that could involve the use, storage, disposal or transportation of hazardous materials. The potential residential and most of the potential commercial uses do not generally involve the use, storage, disposal, or transportation of significant quantities of hazardous materials. They may involve use and storage of some materials that are considered hazardous, though these materials would be primarily limited to

solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be substantially different from household chemicals and solvents already in general and wide use throughout the Plan Area.

Currently, there are no areas within the Plan Area zoned for industrial uses. The proposed Specific Plan would not establish any new industrial or manufacturing zones within the Plan Area. However, uses such as gas stations and auto services are permitted uses within the T4-MUC zone and are allowed by conditional use permit (CUP) in other zones. These motor vehicle-related uses would involve the use, storage, disposal and transportation of hazardous materials. As with any auto-related uses, on-site activity involving hazardous substances (such as diesel fuel, oil, lubricants, etc.), and the transport, storage, handling, and retail sale of these substances, must adhere to applicable local, state, and federal safety standards, ordinances, or regulations. Businesses engaged in the use, sale, storage, or transport of hazardous substances are monitored by various local (e.g., Alameda County and the Alameda County Fire Department) and State (e.g., Department of Toxic Substance Control) entities. Potential future auto uses would be required to store hazardous materials in designated areas designed to prevent accidental release into the environment. Oil and other potentially hazardous waste produced during operation would also be collected, stored and disposed of in accordance with applicable laws and regulations.

Construction Activities. Construction associated with future development within the Plan Area may also include the temporary transport, storage, and use of potentially hazardous materials including fuels, lubricating fluids, cleaners, solvents or contaminated soils. However, the transport of such materials would be subject to federal, state and local regulations pertaining to the transport of hazardous materials, which would assure that risks associated with the transport hazardous materials are minimized. In addition, construction activities that transport hazardous materials would be required to transport such materials along designated roadways within the County, thereby limiting risk of upset.

Mixed-Use Residential Development. The proposed Specific Plan would permit mixed-use development in the T5-MUD-O, T4-MU-BC, T4-MUC, and T4-NC zones. Residential uses within mixed-use or commercial areas be exposed to the transport of hazardous materials through the area. In addition, certain allowed uses in these zones in proximity to mixed residential uses may use or create hazardous materials. For example, laudromat/dry cleaning services are allowed in these zones except for the T4-NC zone. Laundry cleaning establishments could be located in the mixed-use areas and generally handle significant quantities of hazardous cleaning materials. Medical offices would also be permitted in these zones and may result in the transport and use of medical supplies or other medically related materials, some of which could be biohazards.

However, the numerous hazardous material regulations detailed in the *Regulatory Setting* section above would minimize any impacts from the transport of hazardous materials within the Plan Area. In addition, in accordance with the Eden Area General Plan, any large generators of hazardous waste would be required to submit emergency response plans as part of all use applications (Policy P8 of this Goal SAF-4). Eden Area General Plan Policy P5 under Goal SAF-5A also require that adequate separation be provided between areas where hazardous materials are present and sensitive uses, such as schools, residences and public facilities.

Compliance with existing laws and regulations governing the transport, use, release and storage of hazardous materials and wastes and Eden Area General Plan policies would reduce impacts related to exposure of the public or environment to hazardous materials to less than significant.

Mitigation Measures. No mitigation measures are necessary beyond adherence to applicable laws and regulations.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-2 Implementation of the proposed Specific Plan may involve the demolition or redevelopment of structures that could contain asbestos or lead based paints. Demolition of these buildings, if these materials are present, could potentially expose workers to hazards that would adversely affect human health and safety. However, compliance with both locally adopted Bay Area Air Quality Management District (BAAQMD) and State regulations regarding the handling and disposal of these materials would reduce these potential impacts to *less than significant.*

Implementation of the proposed Specific Plan could facilitate demolition or redevelopment of existing buildings within the Plan Area. The Plan Area contains numerous residential and commercial buildings which, due to their age, may contain asbestos and/or lead-based paint. Structures built before the 1970s typically contained asbestos containing materials (ACM). Demolition or redevelopment of these structures could result in health hazard impacts to workers if not remediated prior to construction activities. Therefore, impacts would be potentially significant.

The Eden Area General Plan Public Safety Element contains a policy to address ACM and lead based paint. Under Policy P6 of Goal SAF-4, developers would be required to conduct the necessary level of environmental investigation to ensure that lead or asbestos in building materials will not have a negative impact on the natural environment or health and safety of future property owners or users. This would be required to occur as a pre-condition for receiving building permits or planning approvals for development on historically commercial or industrial parcels.

In addition, future projects within the Plan Area would be required to adhere to BAAQMD Regulation 11, Rule 2, which governs the proper handling and disposal of ACM for demolition, renovation, and manufacturing activities in the Bay Area, and California Occupational Safety and Health Administration (CalOSHA) regulations regarding lead-based materials. The California Code of Regulations, §1532.1, requires testing, monitoring, containment, and disposal of lead-based materials, such that exposure levels do not exceed CalOSHA standards. With adherence to existing Eden Area General Plan policies as well as BAAQMD and CalOSHA policies regarding ACM and lead-based paint, impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-3 Implementation of the proposed Specific Plan would not involve facilities that would produce or emit hazardous materials near any schools. Impacts would be *less than significant*.

The proposed Specific Plan would involve intensification of development and redevelopment of existing uses within the Plan Area. San Lorenzo High School and St. John Elementary School are located within the Eastern arm of the Plan Area, just south of State Route 238 on East Lewelling Boulevard. The REACH Ashland Youth Center is also located within the Plan Area, along East 14th Street between 163rd and 164th Avenue.

As discussed above under Impact HAZ-1, the proposed Specific Plan would not involve any new industrial or manufacturing uses. The potential residential uses and most of the potential commercial uses would not generally involve the use, storage, disposal, or transportation of significant quantities of hazardous materials. They may involve use and storage of some materials that are considered hazardous, though these materials would be primarily limited to solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be substantially different from household chemicals and solvents already in general and wide use throughout the Plan Area.

San Lorenzo High School and St. John Elementary School are located in proximity to the Central Lewelling Neighborhood (which would be zoned T3-Resdiential under the proposed Specific Plan), the Central Lewelling Corridor (which would be zoned T4-Neighborhood Commercial) and the Four Corners District (which would be zoned T5-Mixed Use District Limited). As shown in Table 2-1 in Section 2.0, *Project Description,* no industrial or manufacturing facilities which may produce or emit hazardous materials would be allowed in these zones. All motor-vehicle related uses, such as gas stations or repair shops, would not be permitted in the T3-R, T4-NC, or T5-MUD-L zones. Only gas stations and parking facilities would be allowed in the T5-MUD-L zone with approval of a Conditional Use Permit (CUP). As discussed in Impact HAZ-1, all motor vehicle related uses within the Plan Area must adhere to applicable local, state, and federal safety standards, ordinances, or regulations.

Implementation of the proposed Specific Plan would not involve development of any facilities that would produce or emit hazardous materials near any schools. Any new auto-related uses would be required to adhere to applicable regulations to prevent the release of hazardous materials into the environment. Impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HAZ-4 **There are many properties within the Plan Area where past uses could have produced localized contamination or concentrations of hazardous substances. If these sites were redeveloped or excavated, workers or residents could be exposed to residual contaminants in the soils. However, development within the Plan Are would be subject to existing policies regarding development in contaminated areas. Therefore, impacts would be *less than significant.***

As discussed in *Setting,* there are no Superfund (NPL) or other State Response sites within the Plan Area. However, there is one site with land use restrictions. The Holland Oil/Holland Park site, located at 16301 East 14th Street, has been contaminated by diesel and gasoline, and while the cleanup status was closed in January, 2012, the site remains listed with various site management requirements. This site is currently developed with the Ashland Youth Center and Jack Holland Sr. Park. No new use or change in land use at this site would occur under the Proposed Specific Plan.

In addition, there are 23 "closed" and seven "open" Leaking Underground Fuel Tank (LUFT) and Spills, Leaks, Investigation, and Cleanups (SLIC) sites within the Plan Area. Table 4.7-1 and Figure 4.7-1 show all DTSC listed cleanup sites within the Specific Plan area. Sites that are "closed" indicate that clean up has occurred and no hazards remain. Of the seven "open" cases, three are eligible for closure and the remaining four are under site assessment. Exposure to hazardous waste materials from these sites could affect human health or the environment.

The Eden Area General Plan requires future developers in the Plan Area to conduct the necessary level of environmental investigation to ensure that soil, groundwater and buildings affected by hazardous materials releases from prior land uses would not have a negative impact on the natural environment or health and safety of future property owners or users. This would be required to occur as a pre-condition for receiving building permits or planning approvals for development on historically commercial or industrial parcels (Policy P6 under Goal SAF-5). This policy would ensure that future development in the Plan Area conduct investigations to determine the extent of potential site hazards and to remediate those hazards. Impacts would be less than significant.

Mitigation Measures. No mitigation required.

Significance After Mitigation. Less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in the Eden Area and the surrounding area has potential to expose future area residents, employees, and visitors to current and historical use of hazardous materials. As indicated in Section 3.0, *Environmental Setting*, build out of the Eden Area would involve 5,120 new housing units (4,491 multi-family, 629 single-family) by 2025. Continued urban development in the Eden Area will cumulatively increase the potential for exposure to existing hazards associated with hazardous materials. Therefore, an overall increase in the potential for human health hazards will occur as intensification of development occurs. However, the magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Implementation of appropriate mitigation measures, including remedial action

on contaminated sites, would avoid potential hazard impacts associated with cumulative development in the County.

Overall, hazards and hazardous materials impacts associated with individual developments are site specific in nature and must be addressed on a case-by-case basis. Since hazards and hazardous materials are required to be examined as part of the permit application and environmental review process, it is anticipated that potential impacts associated with individual projects will be adequately addressed and mitigated prior to permit approval. With adherence to existing Eden Area General Plan policies and other local, regional, state, and federal regulations, no significant cumulative human health impacts are anticipated.

This page intentionally left blank.

4.8 HYDROLOGY AND WATER QUALITY

This section analyses the proposed Specific Plan's impacts related to stormwater, water quality, and flooding.

4.8.1 Setting

a. Regional Hydrology. The communities of Ashland and Cherryland are located in the San Francisco Bay Hydrologic Region. This region covers approximately 4,500 square miles and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, Santa Cruz, and Alameda counties. Streams in the region flow into the bay estuary or the Pacific Ocean. Water agencies in the Bay Region have relied for nearly a century on imported water supplies from the Sierra Nevada to supply their customers with reliable water. Groundwater accounts for approximately 15% of the region's average annual total water supply. Water from the Mokelumne and Tuolumne rivers accounts for an estimated 38% of the region's average annual total water supply. Population growth and concerns over diminishing water quality have led to the development and re-development of local surface water supplies, recharge of existing groundwater basins, and incorporation of conservation guidelines in a continuing effort to sustain reliable, quality water for future generations (California Department of Water Resources [DWR], 2009).

The Plan Area partially overlays the San Lorenzo Creek Basin, which encompasses an expansive watershed in the hills east of San Leandro and Hayward. San Lorenzo Creek, the major water course in the basin, originates in the upper watershed near Route 580 and traverses the alluvial bay plain through Hayward and San Lorenzo before emptying into the San Francisco Bay. Important tributaries to San Lorenzo Creek are Palomares Creek which drains the canyon bounded by Sunol and Walpert Ridges, Hollis Creek, Eden Creek, Crow Creek, Cull Creek, Castro Valley Creek, Sulphur Creek, and Chabot Creek (County of Alameda, 2015a). Maximum elevation in the hill area which comprises the largest section of the basin is approximately 1,950 feet above mean sea level. Land development in the upper watershed of the basin is limited to ranches with some residences located adjacent to roads which parallel the major tributaries. In contrast to the rural nature of the upper basin, the lower section is being intensively developed for commercial, industrial, and residential use with some remnant of agricultural operations still evident. Other watercourses which drain small linear basins generally in an east-to-west direction in the Plan Area include the Estudillo Canal, Bockman Canal, and Sulphur Creek (the upper reaches of Sulphur Creek drain into San Lorenzo Creek, while Lower Sulphur Creek is its own watershed). These basins are essentially urban in nature and serve the developing areas between the bay and the base of the hills in the cities of San Leandro and Hayward (Alameda County General Plan Conservation Element, 1994).

Watersheds**.** The Bay Region includes numerous watersheds that drain directly into the San Francisco Bay downstream of the Delta and coastal creek watersheds in Marin and San Mateo counties that drain directly to the Pacific Ocean. The Plan Area is located in the San Lorenzo Creek Watershed and the Estudillo Canal Watershed.

The San Lorenzo Creek Watershed, located south of Lewelling Boulevard, encompasses 48 square miles and eight tributary creeks (listed above: Palomares Creek, Hollis Creek, Eden

Creek, Crow Creek, Cull Creek, Castro Valley Creek, Sulphur Creek, and Chabot Creek). This watershed, the second largest watershed in the East Bay, begins in Castro Valley at the headwaters of Chabot, Cull, Palomares, Crow, and Sulphur Creeks and all of their unnamed tributaries, and covers parts of north Hayward and San Lorenzo. Don Castro Reservoir is located on San Lorenzo Creek, approximately in the middle of the watershed. South of Interstate 580 near Crow Canyon Road, the watershed enters a highly urbanized area. East of Interstate 880 it flows freely before being tunneled into a channel directly under the freeway. From this point to the San Francisco Bay, the creek runs in a concrete-lined, trapezoidal channel. When it reaches the San Francisco Bay, the channel has a sandy bottom (Eden Area General Plan EIR, 2006; County of Alameda, 2015a).

The Estudillo Canal Watershed, located north of Lewelling Boulevard, encompasses 9.4 square miles. This watershed begins on the ridge between Lake Chabot and Fairmont Hospital in San Leandro, and directs flows to the west through a network of canals and underground culverts along East 14th Street in residential and commercial areas towards Estudillo Canal. The canal is a 4.8-mile-long engineered channel, beginning just west of I-580 near Halcyon Drive, where it receives flow from the ridge above the Fairmont Hospital and surrounding area. A small portion of the canal (0.15 mile) occurs as an open, natural creek just below the ridge; it then flows under Fairmont Boulevard and resurfaces for another 0.15 mile before being diverted underground and draining to Estudillo Canal. The canal terminates in the San Francisco Bay, connecting to the bay via a tide to Heron Bay Tidal Marsh (also known as San Leandro Shoreline March). The tide gate allows flows through when the tide moves in one direction, and retains flows by closing automatically when flows move in the opposite direction (County of Alameda, 2015b).

Surface Water. The primary surface water resource in the vicinity of the plan area is San Lorenzo Creek, which borders portions of the Specific Plan boundary and transects the Plan Area under Mission Boulevard, and again south of the East Lewelling Boulevard BART overpass (see Figure 4.8-1). San Lorenzo Creek drains westward where it discharges into the San Francisco Bay. San Lorenzo Creek is an impaired water body and is subject to a U.S. EPA approved total maximum daily loads (TMDL) (refer to *Water Quality* discussion below).

Groundwater. Local groundwater accounts for about 15% of the Bay region's average water year supply. Groundwater is a critically important component to water supply because it reduces the demand on imported water. Conjunctive use programs are used to optimize the use of groundwater and surface water resources. Water quality programs are also in place to monitor and protect groundwater quality. Throughout the region, additional groundwater resources continue to be investigated and developed to expand the role of conjunctive use programs.

The Ashland and Cherryland communities are underlain by an upper and lower zone of water bearing sand and gravel. The upper zone contains two major aquifers which are located at depths of sixty feet and two hundred fifty feet. The lower zone occupies a depth below 400 feet and contains a much higher percentage of permeable material than the low yield upper zone. Nearly all of the high yielding wells in the area utilize the deep zone. Southward sloping groundwater contours indicate that minor amounts of groundwater in the upper zone may migrate in a southerly direction to surrounding aquifers. Replenishment of these aquifers is

Imagery provided by ESRI and its licensors © 2013.
Additional data provided by the USGS National Hydrography Dataset, 2013.

Major Stormwater Facilities, Drainages, and Creeks
Figure 4.8-1

accomplished primarily through percolation from the streambeds of San Leandro and San Lorenzo Creeks (Alameda County General Plan Conservation Element, 1994).

Water Quality. The San Francisco Bay Region's immediate watershed is highly urbanized, resulting in contaminant loads from both point and nonpoint sources, as well as pollutants from the Delta and the Central Valley. The San Francisco Regional Water Quality Control Board (RWQCB) is the primary agency charged with protecting and enhancing surface and ground water quality in the region.

Water quality problems in the Ashland and Cherryland vicinity can be divided into three inter-dependent categories: bay water, land based surface water, and groundwater. The primary carriers of pollutants are surface creeks and lakes which replenish groundwater basins and subsequently discharge to the bay. Major sources of pollutants include wastewater treatment plants, direct sewage discharges, urban runoff, irrigation water, industrial effluent, accidental oil and chemical spills, and dredging. Water quality problems resulting from these sources include dissolved oxygen depletion, health hazards from high bacteriological concentrations, biostimulation, toxicity, pesticide accumulation, and excess floatable hydrocarbons (Alameda County General Plan Conservation Element, 1994).

As previously discussed, primary water bodies in the Plan Area include San Lorenzo Creek and the Estudillo Canal. The current Clean Water Act Section 303(d) List of Water Quality Limited Segments identifies eleven miles of San Lorenzo Creek as impaired for Diazinon, which is a pesticide pollutant that primarily comes from urban runoff and sewer systems (USEPA, 2007). Tributaries of San Lorenzo Creek are not identified on the current 303(d) List; however, due to the non-point-source nature of Diazinon contamination, and the similar nature of land uses surrounding the tributaries of San Lorenzo Creek as the main channel, it is reasonably assumed that San Lorenzo Creek tributaries and the encompassing watershed may also be affected by non-point-source urban runoff contaminants such as Diazinon. The 303(d) list does not identify the Estudillo Canal as having any water quality limited segments; as previously described, the Estudillo Canal defines a separate watershed area than San Lorenzo Creek.

b. Flood Hazards.

FEMA Flood Hazard Zones. The Federal Emergency Management Agency (FEMA) establishes base flood elevations (BFEs) for Special Flood Hazard Areas (SFHAs), which indicate 100-year flood zones, or areas that could be inundated by the flood which has a one percent probability of occurring in any given year. In addition, the Alameda County Public Works Agency, Flood Control Division, works with FEMA to map floodplains for the cities and unincorporated County areas, establishing BFEs on a case-by-case basis, where a BFE is equivalent to the SFHA or 100-year flood inundation area.

There are a few locations with the Plan Area which are subject to inundation under extraordinary circumstances including 100-year and 500-year flood events. These at-risk areas are located immediately adjacent to San Lorenzo Creek and southwest of East 14th Street between 159th and Ashland Avenue (see Figure 4.8-2). San Lorenzo Creek was originally designed by the U.S. Army Corps of Engineers for a Standard Project Flood of approximately 9,700 cubic feet per second (cfs). Previous studies have indicated 100-year discharge rates on the order of 15,000 cfs; however, the 2009 FEMA Flood Insurance Study, which provides the basis

for the currently defined SFHAs, indicates a 100-year flow rate of 9,940 cfs at Washington Boulevard, just downstream of the Plan Area (Eden Area General Plan EIR, 2006).

The Alameda County Public Works Agency, acting in its capacity as the Flood Control and Water Conservation District, is responsible for most major flood control operations in the Eden Area. The District owns and manages most storm drains in the Eden Area, and ensures that they are designed and constructed to meet existing and projected needs for the area to avoid flooding. Storm drainage infrastructure includes 500 miles of conduits, channels and natural creeks; four million linear feet of fencing and 22 pump stations within Alameda County that pump excess flood waters into the Bay (Eden Area General Plan EIR, 2006).

The Alameda County Building Inspection Division (BID) of the Public Works Agency (PWA), which reviews permits for compliance with its flood hazard abatement codes and regulations, addresses the potential for flooding from a 100-year flood at individual sites when specific development is proposed. Actual flood hazard determinations for a particular project site are made by the PWA Land Development, which also enforces the California Building Code (CBC) through permitting requirements. This includes CBC Section 1612A, *Flood Loads*, which specifies that any buildings and structures located within designated flood hazard areas shall be designed and constructed to resist the effects of flood hazards and flood loads.

Some areas within the Plan Area have the potential to be affected by dam failure inundation. No dams are located within the Plan Area; however, the following dams are located within the Plan Area vicinity and may pose inundation threat to the area:

- *South Reservoir Dam*
- *Almond Reservoir Dam*
- *San Lorenzo Creek Dam*
- *Cull Creek Dam*

Areas in Cherryland just south of Highway 238 would be at risk, as well as areas along San Lorenzo Creek. The areas which would potentially be inundated are highly urbanized, residential communities which are almost completely built out. Dam failure at Lake Chabot would not inundate the Plan Area (Eden Area General Plan EIR, 2006).

Tsunami and Seiche. A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean floor by fault movement displaces the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific can cause tsunamis around the entire Pacific basin. The United States Geological Survey has estimated that the San Francisco Bay will experience a 20-foot high tsunami at a frequency of every 200 years. The wave height would be reduced by half the height by the time it reaches the Albany/Berkeley shoreline and would decrease further as it travels south. According the Eden Area General Plan EIR (2006), the communities of Ashland and Cherryland would not be affected by a tsunami.

Imagery provided by ESRI and its licensors © 2015.
Additional data provided by the Federal Emergency Management Agency National Flood Hazard Layer (NFHL), August, 2013.

Flood Zones

Figure 4.8-2

Seiches are waves generated in an enclosed body of water, such as the San Francisco Bay, from seismic activity. Seiches are related to tsunamis for enclosed bays, inlets, and lakes. These tsunami-like waves can be generated by earthquakes, subsidence or uplift of large blocks of land, submarine and onshore landslides, sediment failures and volcanic eruptions. The strong currents associated with these events may be more damaging than inundation by waves. The largest seiche wave ever measured in the San Francisco Bay, following the 1906 earthquake, was four inches high. The Bay Area has not been adversely affected by seiches during its history within this seismically active region of California (Eden Area General Plan EIR, 2006).

c. Drainage. In the Plan Area, stormwater runoff that does not infiltrate into the subsurface is directed into a constructed stormwater drainage system consisting of crowned streets, curbside gutters, drainage inlets, subsurface pipes, and engineered canals and creeks. The Plan Area is located in the Alameda Count Water Conservation District's Zone 2, which serves the communities of Castro Valley, San Lorenzo, City of Hayward (partial), and City of San Leandro (partial), as well as the communities of Ashland and Cherryland, which constitute the proposed project area. Zone 2 facilities in the project area, including Line A and Line C, are indicated on Figure 4.8-1. Most stormwater in the Plan Area flows into the San Lorenzo Creek and eventually to the San Francisco Bay. Some stormwater in the Plan Area is drained by the Estudillo Canal, which also directs flows to the San Francisco Bay (Eden Area General Plan EIR, 2006).

d. Regulatory Setting.

Federal.

Federal Clean Water Act. In 1972, Congress passed the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), with the goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Section 319 mandates specific actions for the control of pollution from non-point sources. The EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program, to the SWRCB and the RWQCBs.

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Water quality standards applicable to the plan area are contained in the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan).

Section 303(d) of the CWA bridges the technology based and water quality-based approaches for managing water quality. Section 303(d) requires that states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the U.S. EPA administrator deems they are appropriate), states are to develop "total maximum daily loads" (TMDL). TMDLs are established at the level necessary to implement the applicable water quality standards. A TMDL must account for all sources of the pollutants that

caused the water to be listed. San Lorenzo Creek, which runs through the Plan Area, is an impaired water body and is subject to a U.S. EPA approved TMDL. The waters of San Lorenzo Creek are impaired due to exceedance of the pesticide pollutant Diazinon. The primary source of this pollution is urban runoff/storm sewers (USEPA, 2007).
Section 404 of the CWA prohibits the discharge of any pollutants into "waters of the United States," except as allowed by permit. 33 C.F.R. § 328.3(a)(3). Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (Corps) to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other waters of the United States. Under the CWA and its implementing regulations, "waters of the United States" are broadly defined to consist of rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands.

National Pollution Discharge Elimination System (NPDES). The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the "maximum extent practicable" through the use of best management practices (BMPs). The NPDES permit system was established in the CWA to regulate point source discharges (a municipal or industrial discharge at a specific location or pipe) and certain types of diffuse discharges, including urban stormwater and construction site runoff. Projects proposed under the Specific Plan would be subject to the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Order R2-2009-0074, NPDES Permit No. CAS612008), issued by the San Francisco Bay RWQCB; this permit covers the entire jurisdiction of the San Francisco Bay RWQCB, including Alameda County.

The NPDES permit requires that permanent post-construction stormwater quality control measures and treatment facilities be implemented on the site. Compliance with four main control measures (Treatment Control, Source Control, Site Design and Hydromodification Management) outlined by Alameda County involves construction best management practices (BMPs), erosion control standards, stormwater treatment, detainment and infiltration measures, as well as quantity controls. The Alameda Countywide Clean Water Program (ACCWP) administers the County's NPDES permit, which covers the each of the 14 cities, the Unincorporated Area and the two flood control districts. This is done through a consortium of 17 member agencies in Alameda County. Compliance of individual projects with the NPDES permit is determined by PWA Land Development and BID (Eden Area General Plan EIR, 2006).

State.

Porter-Cologne Water Quality Act. The Porter-Cologne Water Quality Control Act establishes the SWRCB and each RWQCB as the principal State agencies for coordinating and controlling water quality in California. Specifically, the Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and groundwater) and directs the RWQCBs to develop regional Basin Plans.

The San Francisco Bay RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters in its jurisdiction. Water quality objectives for receiving waters within Alameda County are specified in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) prepared by the RWQCB in compliance with the federal CWA and the State Porter Cologne Act. The principal elements of the Basin Plan are a statement of beneficial water uses protected under the plan; water quality

objectives necessary to protect the designated beneficial water uses; and strategies and time schedules for achieving the water quality objectives. Together, narrative and numerical objectives define the level of water quality that shall be maintained in the region. The water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements (WDRs).

The RWQCBs have primary responsibility for issuing WDRs. The RWQCBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders (CAOs) or Cease and Desist Orders (CDOs), assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

Local.

Alameda County General Plan. The Safety Element of the Alameda General Plan requires flood control measures that advance the goals of resource conservation (including water quality and soil conservation) and groundwater recharge:

> *Policy P11. The County shall promote flood control measures that advance the goals of recreation, resource conservation (including water quality and soil conservation), groundwater recharge, preservation of natural riparian vegetation and habitat, and the preservation of scenic values of the county's arroyos and creeks.*

Eden Area General Plan. The Plan Area is located within unincorporated Alameda County in the Eden Area planning unit. The Eden Area General Plan includes a description of the planning area, including a discussion of stormwater runoff and potential flood hazards. Applicable Eden Area General Plan policies and actions related to hydrology and water quality are included under Goal PF-11, *Collect, store, and dispose of stormwater in ways that are safe, sanitary, and environmentally acceptable*. Policies listed under Goal PF-11 identify Best Management Practices (BMPs) recommended by the ACCWP to provide pollution prevention, pollutant source control, and treatment. The applicable actions are as follows:

> *Action A2. Review County policies, implementation measures, legal authority provided in erosion control and stormwater management and discharge control ordinances that help preserve and enhance water quality and reduce erosion on a regular basis to ensure that they are consistent with the best management practices recommended by the Alameda Countywide Clean Water program.*

> *Action A3. Implement pollution prevention, pollutant source control and treatment Best Management Practices (BMPs) recommended by the Alameda Countywide Cleanwater Program. Such methods may include the establishment of small collection facilities located at, or close to, the point where water initially meets the ground in order to minimize the transport of urban runoff and pollutants off-site and into the stormwater system*

Stormwater Quality Management Plan. Alameda County, along with the other agencies participating in the ACCWP, has adopted a Stormwater Quality Management Plan in compliance with the Alameda Countywide NPDES Municipal Stormwater Permit. The Stormwater Quality Management Plan describes the ACCWP's approach to reducing stormwater pollution in the County. The current Plan is the ACCWP's third stormwater quality management plan and is intended to serve as the basis of the ACCWP's third stormwater discharge permit from the Regional Water Quality Control Board (Eden Area General Plan EIR, 2006).

The Stormwater Quality Management Plan includes performance standards that define a large part of what member agencies must do to implement the Plan and comply with the NPDES permit. Performance standards exist for the following areas of the Plan:

- *Public Information and Participation*
- *Municipal Maintenance Activities*
- *New Development and Construction Controls*
- *Illicit Discharge Controls*
- *Industrial and Commercial Discharge Controls (Eden Area General Plan EIR, 2006).*

4.8.3 Impact Analysis

a. Methodology and Significance Thresholds. Assessment of impacts is based on review of site information and conditions and County information regarding hydrology and water quality issues. In accordance with the *State CEQA Guidelines*, a project would result in a significant impact if it would:

1) *Violate any water quality standards or waste discharge requirements;*
2) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;*
3) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;*
4) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*
5) *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;*
6) *Otherwise substantially degrade water quality;*
7) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;*
8) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows;*
9) *Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam;*
10) *Result in inundation by seiche, tsunami, or mudflow.*

As discussed in the Initial Study (included as Appendix A to this EIR) impacts related to criteria 2, 3, 4, 9, and 10 were found to be less than significant and are not discussed further in this section. The following impact analysis is related to criteria 1, 5, 6, 7, and 8.

Criterion 8 addresses the potential for structures placed within areas prone to flooding to impede or redirect those flood flows; the impact analysis provided below further considers whether the placement of housing envisioned in the Specific Plan would result in one or more of the flood-related circumstances listed in the Alameda County General Plan, Goal SAF-2 (Policy P1). Flood hazards are discussed under Impact HYD-2.

b. Project Impacts and Mitigation Measures.

Impact HYD-1 Construction of future development under the Specific Plan would involve ground-disturbing activities and the use of heavy machinery that could release hazardous materials, including sediments and fuels. Operation of proposed development could also result in discharges of wastewater that could be contaminated and affect downstream waters. However, compliance with permits and regulations, and implementation of Best Management Practices contained therein would ensure that potential water quality impacts would be *less than significant.*

Implementation of development envisioned in the proposed Specific Plan would result in a significant impact if activities would conflict with applicable water quality permits or waste discharge requirements. Future development under the proposed Specific Plan would be subject to multiple permits and approvals associated with the protection of water quality, as discussed above, and actions included under the Specific Plan are expected to occur in compliance with all applicable standards and regulations.

A Clean Water Act §404 permit from the USACE would be required for potential effects to federally jurisdictional (Waters of the U.S.) inland waters, including the San Francisco Bay (to which San Lorenzo Creek drains). Assuming the need for CWA §404 compliance, future development would also require CWA §401 Water Quality Certification from the San Francisco Bay RWQCB. In addition, NPDES coverage would be required through implementation of a Stormwater Pollution Protection Plan (SWPPP), in order to comply with §402 of the CWA. The need for Waste Discharge Requirements to be issued by the San Francisco Bay RWQCB per the Porter-Cologne Act would likely be satisfied by requirements of the CWA §401 permit; however, this determination will be made by the San Francisco Bay RWQCB in their review of future development and associated permit applications.

Unincorporated Alameda County is subject to the Municipal Regional Stormwater NPDES Permit, issued by the RWQCB, with compliance determined by PWA Land Development and BID. The requirements of the permit include submitting a Stormwater Quality Management Plan (SWQMP) designed to reduce the discharge of pollutants in stormwater to the maximum extent possible (County of Alameda 2006). Compliance with the Municipal Regional Stormwater NPDES Permit will include implementation of BMPs designed to minimize or avoid potential impacts associated with water quality degradation during construction

activities, as well as during the long-term implementation of future projects. Construction-related BMPs may include but are not limited to the following:

- Construction Site Monitoring Program (CSMP) to ensure that BMPs are followed;
- Use of silt fences or other sediment containment methods placed around and/or down slope of disturbed areas prior to construction;
- Protection of drain inlets from receiving polluted stormwater through the use of filters, such as fabrics, gravel bags, or straw wattles;
- Construction of a stabilized entrance/exit to the work area, designed to prevent tracking onto roadway;
- Establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil, gas, and engine fluids;
- Use of oil pans under stationary vehicles;
- No overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks;
- Use of secondary containment for stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands, culverts, or creeks; and
- Worker education program for all field personnel to provide training in the appropriate application and construction of erosion and sediment control measures.

As noted above, compliance with the NPDES Permit will include operational and maintenance BMPs as well as construction-related BMPs. Provisions specified in the Municipal Regional Stormwater NPDES Permit that address long-term maintenance activities include: Provision C.3 (New Development and Redevelopment), Provision C.6 (Construction Site Control), and Provision C.15 (Exempted and Conditionally Exempted Discharges), as described below (San Francisco Bay RWQCB, 2009). Future projects within the Plan Area would be required to comply with all provisions of the Municipal Regional Stormwater NPDES Permit, including those listed below.

- Provision C.3 requires that low impact development (LID) techniques be utilized to employ appropriate source control, site design, and stormwater treatment measures to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects.
- Provision C.6 requires implementation of a CSMP (described above) and a Enforcement Response Plan (ERP) at all construction sites to prevent construction-related discharges of pollutants and impacts on beneficial uses of receiving waters. Inspections shall confirm implementation of appropriate and effective BMPs by construction site operators/developers, and Permittee reporting shall be used to confirm and demonstrate the effectiveness of the CSMP and ERP.
- Provision C.15 aims to exempt unpolluted non-stormwater discharges and to conditionally exempt non-stormwater discharges that are potential sources of pollutants. In order for non-stormwater discharges to be conditionally exempted, the Permittees must identify appropriate BMPs, monitor the non-stormwater discharges where necessary, and ensure implementation of effective control measures to eliminate adverse impacts to waters of the State consistent with the discharge prohibitions of the Order.

The Plan Area is currently developed, and future development included under the Specific Plan would not substantially alter land use types or drainage patterns, although alterations would be implemented. Operation of the proposed future development would not include the discharge of hazardous materials directly into the stormwater drainage system, and wastewater would be appropriately treated and discharged; please see Section 4.15, *Utilities and Service Systems*, for discussion of existing and planned wastewater treatment and conveyance facilities. Additionally, future development would be implemented in compliance with existing programs and permits, including the Alameda Countywide Cleanwater Program and the county's Stormwater Quality Management Plan, and the Municipal Regional Stormwater NPDES Permit (No. CAS612008); as such, development design would include BMPs to avoid adverse effects associated with stormwater runoff quality.

For instance, Provision C.3 (New Development and Redevelopment) of the Municipal Regional Stormwater NPDES Permit includes a Low Impact Development provision (C.3.c) to reduce runoff and mimic a site's predevelopment hydrology. This is to be accomplished by employing principles such as minimizing disturbed areas and imperviousness, and preserving and recreating natural landscape features, in order to "create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product" (San Francisco Bay RWQCB, 2009). These LID practices, as well as other provisions and BMPs specified in the Municipal Regional Stormwater NPDES Permit, may require long-term operational inspections and maintenance activities to ensure the effective avoidance of significant adverse impacts associated with water quality degradation. As stated in the HYD-1 impact statement above, "Operation of proposed development could also result in discharges of wastewater that could be contaminated and affect downstream waters." Individual future projects in the Plan Area will be required to comply with the NPDES Permit and other regulatory requirements described above; therefore, operation and maintenance of Specific Plan development would not result in significant impacts associated with the discharges of wastewater that could be contaminated and affect downstream waters.

During construction and implementation of future development, there is potential for water quality impacts to occur due to unanticipated leaks, spills, or releases of hazardous or potentially hazardous materials, and due to the encountering of existing contamination in the project area. It is anticipated that the permits and approvals summarized above will include standard BMPs and spill response measures to address any unanticipated occurrence that could potentially affect water quality in the Plan Area, or downstream areas. In addition, as indicated in an NOP comment letter submitted by EBMUD on May 12, 2015, where EBMUD's Standard Site Assessment Report indicates the potential for contaminated soils or groundwater to be present, no piping or other services will be provided until soil and groundwater quality data and remediation plans have been received and reviewed, and underground work will not commence until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. With the implementation of these policies, as well as compliance with the permits and regulations discussed above, potential impacts to water quality during construction and operation of future projects within the Plan Area would be minimized or avoided, and impacts would be less than significant.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact HYD-2 Development included under the proposed Specific Plan would place housing and other structures within FEMA-designated Flood Hazard Areas. However, compliance with County building standards would reduce potential effects associated with flood events. Impacts would be *less than significant.*

As shown on Figure 4.8-2, there is a FEMA-designated 100-year Flood Hazard Area along the southern portion of the Plan Area, associated with San Lorenzo Creek. The southwestern-most portion of the Four Corners District is proposed for Neighborhood development, indicating an area of residential development that could be located within a flood zone. There is also a small portion of both a FEMA-designated 100-year Flood Hazard Area and 500-year Flood Hazard Area located in the western portion of the Ashland District; this portion of the Plan Area is proposed for mixed use development, including office space, community gathering places, and retail. It is anticipated that the County will not approve permits for residential units within the Flood Hazard Area; parking areas and landscaping that are part of residential development would be permissible uses.

The Alameda County Building Code, Title 15 (Buildings and Construction), Chapter 15.40 (Floodplain Management) specifies permit standards for construction in floodplains and Flood Hazard Areas, including using building materials and techniques specified in FEMA Technical Memoranda as well as in the CBC, to ensure that flood-resistant design occurs per the most restrictive provisions available. In addition, the Eden Area General Plan, which reflects and is consistent with policies of the Alameda County General Plan, also includes the Plan Area and specifies goals and policies addressing flood-related hazards, as presented below.

Goal SAF-2: Reduce hazards related to flooding and inundation.

Policy P1. Development shall only be allowed on lands within the 100-year flood zone if it will not: Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use; Impede access of emergency vehicles during a flood; Create a safety hazard due to the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters at the site; Exacerbate costs of providing governmental services during and after flooding, including increased maintenance and repair of public utilities and facilities; Interfere with the existing water flow capacity of the floodway; Substantially increase erosion and/or sedimentation; Contribute to the deterioration of any watercourse or the quality of water in any body of water.

Policy P2. Both public and private service facilities and utilities in existing 100-year flood zones, such as the Oro Loma Wastewater Treatment Plant, shall be flood-proofed to a point at, or above, the base flood elevation.

Policy P3. The County shall prevent the construction of flood barriers within the 100-year flood zone that will divert flood water or increase flooding in other areas.

Policy P4. To the extent feasible, the County shall continue to improve its rating under the National Flood Insurance Program so that flood insurance premiums for residents in flood areas may be reduced.

Policy P5. Property owners should be encouraged to purchase National Flood Insurance, which reduces the financial risk from flooding and mudflows.

Goal SAF-3: Improve the ability of the San Lorenzo Creek to handle 100-year flood events.

Policy P1. The County shall ensure that any changes to the San Lorenzo Creek drainage channel will result in the continued ability to accommodate runoff from storms and to maintain a status outside the 100-year flood zone.

Policy P2. The County shall not permit the flow of the San Lorenzo Creek to be diverted in any way that results in flooding to adjacent property owners.

Future development envisioned under the proposed Specific Plan would be required to be consistent with the General Plan goals and policies listed above. New development that would occur under the Specific Plan would therefore be designed to withstand flooding hazards, including FEMA-designated Flood Hazard Areas. In addition, future development under the Specific Plan would require discretionary approval from the County, which would require compliance with the County's Building Code and the CBC, with compliance ensured by Alameda County PWA.

Some existing structures in the Plan Area that are also located within designated SFHAs are older structures that were not designed to the latest standards. For instance, in some SFHAs along San Lorenzo Creek, flood hazard protection requires a structure to have one to two feet of above-grade elevation, whereas many existing structures are built at-grade (not elevated above the BFE). The at-grade construction may have occurred because the structures were built prior to definition of existing BFEs and SFHAs, and/or because existing flood hazards were not present at the time of construction, as flood hazards became exacerbated over time with the expansion of impervious surfaces associated with city-wide development. Particularly for older structures, raising the foundation elevation may be physically impossible and/or financially prohibitive. Implementation of the proposed Specific Plan would not alter existing flood-related hazards in the Plan Area, and the implementation of future development under the Specific Plan would not introduce new flood-related hazards because future development would occur in compliance with current flood protection standards, including those discussed above. It is possible that existing flood-related hazards in the Plan Area could be reduced with Specific Plan implementation, if future flood-protected development replaces existing structures that are not protected from flood hazards.

Therefore, although development under the proposed Specific Plan would place housing and other structures within FEMA-designated Flood Hazard Areas, potential impacts would be *less than significant.*

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Potential cumulative impacts associated with water quality and flooding-related impacts are discussed below.

Water Quality. As discussed above, the potential for water quality degradation to result from future development in the Plan Area would occur during both construction and operational activities, and would be minimized or avoided through the implementation of BMPs required per compliance with existing laws and regulations. Potential water quality-related impacts would be less than significant, and would be localized due to the implementation of BMPs. The potential for water quality impacts of the proposed Specific Plan development to occur in the same temporal and geographic scope as potential water quality impacts of other projects in the cumulative scenario would be low, due to the aforementioned BMPs. Potential impacts associated with water quality would not be cumulatively considerable, and cumulative impacts would be *less than significant*.

Flooding Hazards. Cumulative development in the Plan Area would gradually increase population and therefore gradually increase the number of people potentially exposed to flooding-related hazards. The EIR for the Eden Area General Plan, which includes the ACBD Plan Area, accounts for expected growth in the Plan Area; as described, conformance with existing policies and building standards would ensure that project-specific impacts associated with hydrology and flooding would be less than significant. Potential impacts associated with flooding hazards would not be cumulatively considerable, and cumulative impacts would be *less than significant.*

4.9 LAND USE AND PLANNING

4.9.1 Setting

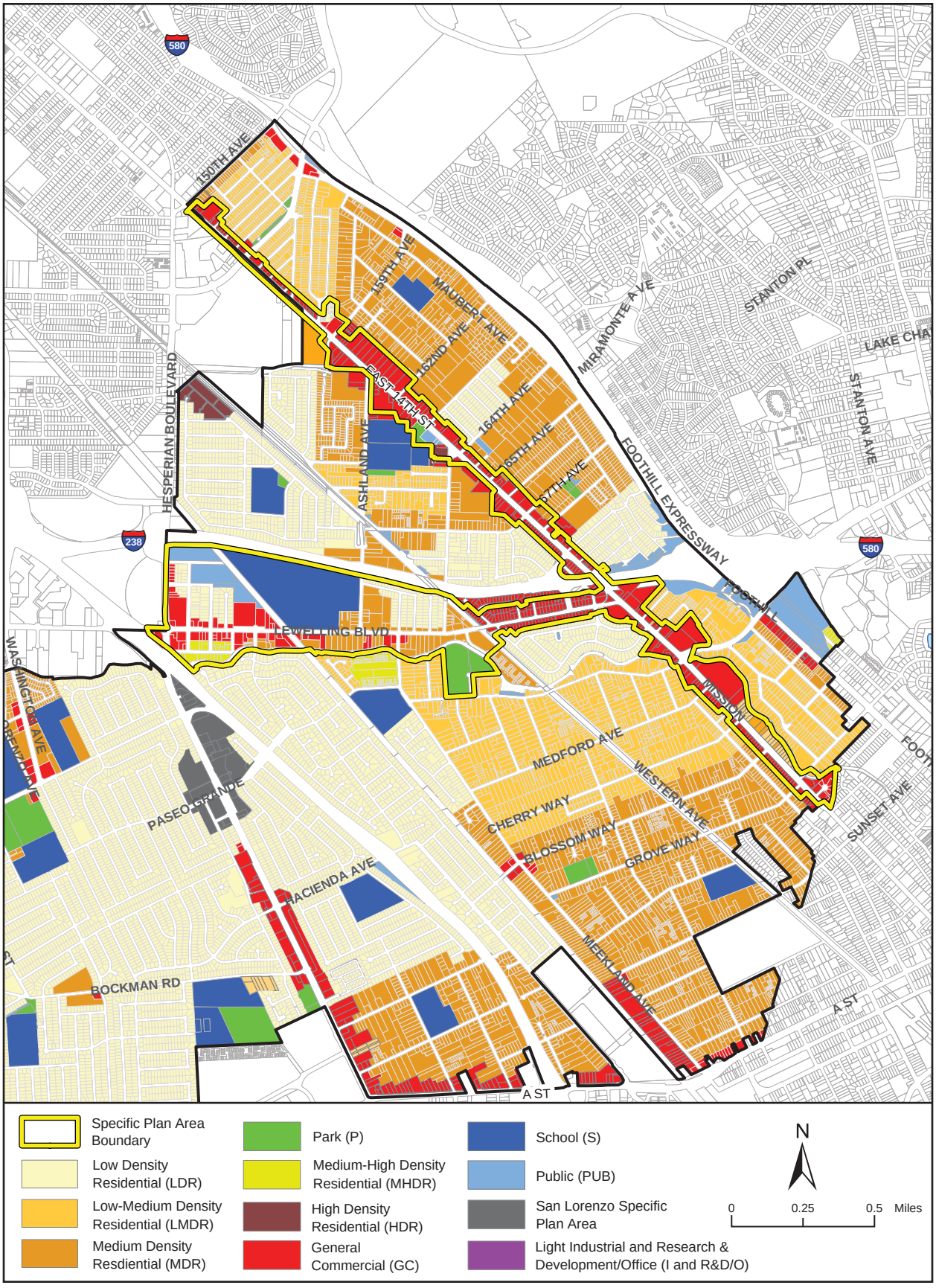
a. Land Uses in the Plan Area.

Character of Existing Land Uses. The Plan Area is an unincorporated part of Alameda County that rapidly urbanized following World War II (Alameda County, Eden Area General Plan, 2010). The Ashland portion of the Plan Area, which is located to the north of San Lorenzo Creek, was developed in the 1940s. Major road corridors in the Ashland community, including East 14th Street, have some higher-intensity development that surrounding single-family residences outside of the Plan Area. The Cherryland portion of the Plan Area, located to the south of San Lorenzo Creek, was developed in the 1940s and 1950s. Development since the 1950s ranges in style, quality of construction and building type, and include single-family homes, townhouses, multi-family buildings, community facilities, industrial and auto-oriented strip-commercial development along major roadways. The variety of land uses, parcel sizes, and eras in which development occurred has resulted in a built environment without a distinct urban form or identity.

Regional transportation routes serve as physical barriers within and around the Plan Area. Interstate 238 bounds the northern edge of the Four Corners and Central Lewelling areas, and its overpass of East 14th Street/Mission Boulevard separates the West Eden Corridor into two parts. The elevated Bay Area Rapid Transit System (BART) tracks, built in the 1970s, also divide the West Eden Corridor from the Central Lewelling Corridor.

Existing Land Use Designations. The proposed Specific Plan divides the Plan Area into nine "Character Areas," including three Districts, four Corridors, and two Neighborhoods. As shown in Figure 4.9-1, the majority of the Plan Area, including the Ashland, Cherryland, and Four Corners Districts, as well as the Bayfair and West Eden Corridors, has an existing Eden Area General Plan land use designation of General Commercial (GC). The GC land use designation allows for a wide range of commercial uses that encompass small offices, local and regional retail establishments and automobile-oriented uses. Commercial parcels with a GC land use designation have a maximum Floor Area Ratio (a ratio of the total building floor area to the size of the building's lot) of up to 1.0.

Other portions of the Plan Area currently allow for residential uses. In the Cherryland Corridor, the Eden Area General Plan designates the east side of Mission Boulevard as GC and the west side as Low-Medium to Medium Density Residential (LMDR). The LMDR land use designation allows a mix of single-family, detached housing and some duplexes and triplexes, at a density of seven to 12 dwelling units per acre. The Central Lewelling Corridor has Eden Area General Plan land use designations of GC and Medium Density Residential (MDR). The MDR land use designation allows for a mix of single-family, duplex, triplex, townhouse, and multi-family buildings with densities of ten to 22 dwelling units per acre. The Central Lewelling Neighborhood has land use designations of Low and Medium Density Residential. The Low Density Residential land use designation indicates single-family, detached houses with a maximum density of 9 dwelling units per acre. Finally, the Four Corners Neighborhood has land use designations of Low Density Residential to the north of Lewelling Boulevard and



Source: County of Alameda, Eden Area General Plan, 2006.

Existing Land Use Designations

Figure 4.9-1

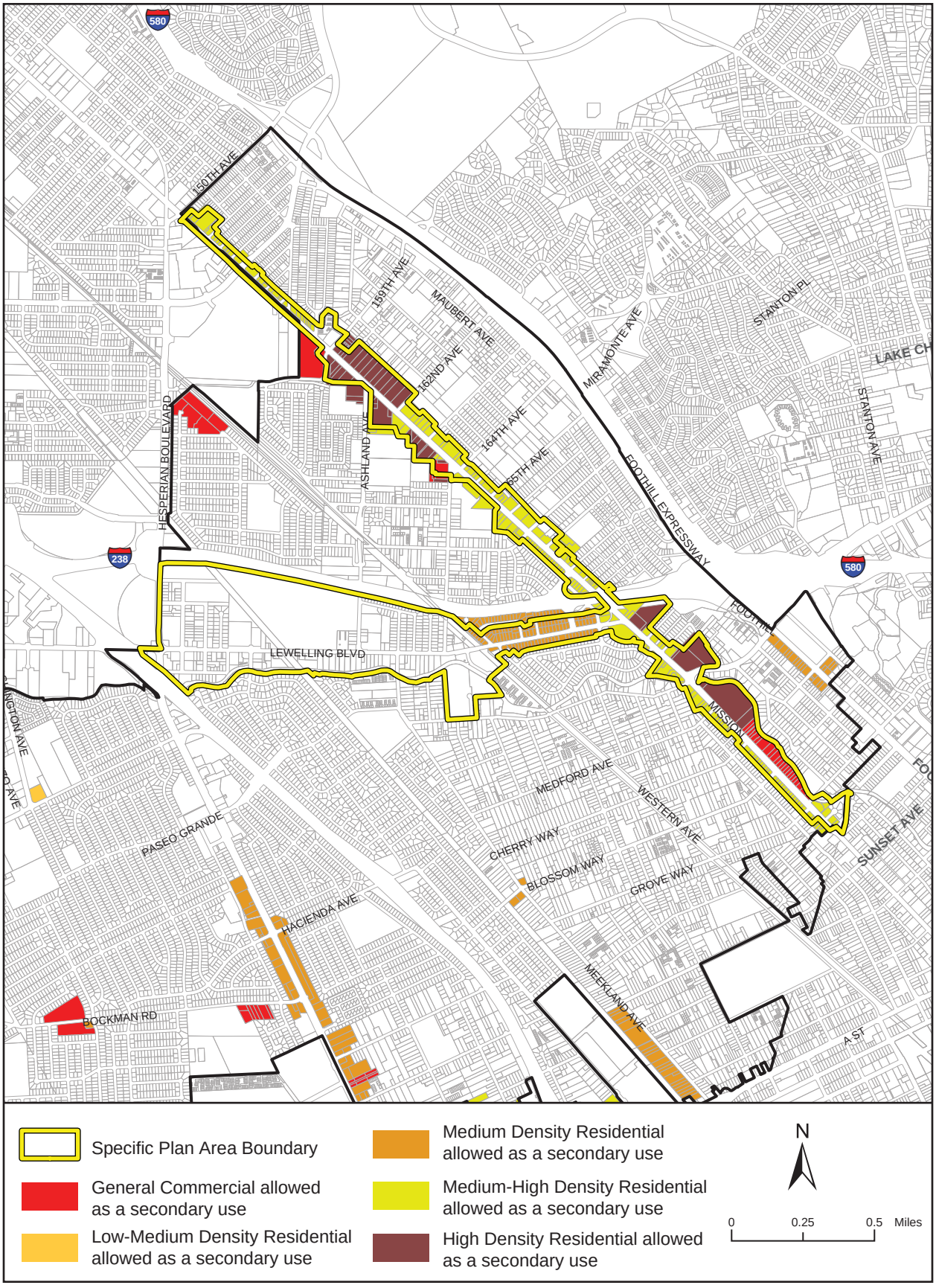
Medium High Density Residential (MHDR) to the south. The MHDR designation allows for townhouses and multi-family buildings with densities between 22 and 43 dwelling units per acre.

In addition, most parcels along East 14th Street/Mission Boulevard and East Lewelling Boulevard within the Plan Area are allowed to have both residential and commercial uses, whereby the primary use must occur on the parcel and the secondary use is optional. These "secondary use designations" are intended to provide flexibility for landowners to develop their property in ways that meet changing economic conditions and to encourage a mix of uses. Figure 4.9-2 shows the existing land use overlays for secondary land uses within the Plan Area.

Existing Zoning. The existing ACBD Specific Plan, adopted by the Alameda County Board of Supervisors in June 1995, has the force of zoning within the Plan Area. Policies and regulations in the existing Specific Plan take precedent over and replace standard zoning and the provisions of the Alameda County Zoning Ordinance for the Plan Area (County of Alameda, 1995). The existing Specific Plan includes the objective of establishing "high intensity use nodes" that promote increased transit use along East 14th Street/Mission Boulevard. It also establishes six zoning designations that apply to the Plan Area:

1) Transit Access (TA). The TA zone applies to portions of the East 14th Street/Mission Boulevard corridor and is intended to create a mixture of residential, commercial, and employment opportunities that benefit from and are supportive of transit service. Specialty or support retail, workplace commercial, offices, and higher density residences are allowed as primary uses.
2) Transit Corridor (TC). The TC zone applies to portions of the East 14th Street/Mission Boulevard corridor and is intended to support more intensively developed TA areas. This zone allows high-intensity retail and office space as primary uses, as well as certain types of walk-in storefront office, health care, and professional office uses. Mixed-use development that includes residences is encouraged.
3) Freeway Access (FA). The FA zone applies to the West Eden Corridor near Interstate 238 and to portions of the Four Corners area. This zone provides for larger scale, freeway-related commercial development.
4) Residential/Commercial (RC). The RC zone applies to some properties along Lewelling Boulevard and East Lewelling Boulevard. This zone allows storefront or free-standing retail or office space at street frontage, on larger properties or for properties where residential is the primary land use.
5) Community Facilities (CF). The CF zone, which applies to all public use facilities in the Plan Area, identifies community-serving development, including schools, churches, meeting halls, and parks with buildings where the sites function as more than open space.
6) Historical and Architectural Resources (H). This zone recognizes and protects sites and buildings that are cultural resources for the community.

In addition, the existing Specific Plan applies the County's Residential zoning designation to the Four Corners and Central Lewelling Neighborhoods and the Residential/Commercial designation to portions of the West Eden and Central Lewelling Corridors.



Source: County of Alameda, Eden Area General Plan, 2006.

Existing Land Use Overlays

Figure 4.9-2

b. Regulatory Setting. Development in the Eden Area of Alameda County is subject to the policies and development guidelines contained within the County's Eden Area General Plan (March 2010). The Eden Area General Plan provides a policy framework to steer development in the Eden Area through 2025. Planning documents of the Hayward Executive Airport are also applicable to the proposed Specific Plan.

Alameda County General Plan. As an unincorporated area within Alameda County, the Plan Area is subject to the County's General Plan. A comprehensive general plan provides an area with a consistent framework for land use and other decision-making. The general plan has been called the "constitution" for land use development to emphasize its importance to land use decisions. The general plan and its maps, diagrams, and development policies form the basis for countywide zoning, subdivision, and public works actions.

The countywide General Plan includes the following elements:

- Housing Element (adopted 2010, amended 2011);
- Scenic Route Element (adopted 1966);
- Safety Element (adopted 2013, amended 2014);
- Noise Element (adopted 1976);
- Open Space Element (adopted 1973, amended 1994);
- Conservation Element (adopted 1976, amended 1994); and the
- Parks and Recreation Element (adopted 1956, amended 1968).

The elements cover issues that require a coordinated county-wide approach.

Eden Area General Plan. State law allows a general plan to be adopted as a series of Area Plans. These Area Plans must conform to all countywide general plan elements and be consistent with one another. The County of Alameda's Eden Area General Plan (March 2010) applies to the unincorporated Eden Area of the County and conforms to the Alameda County General Plan. The proposed Plan Area forms a part of this larger Eden Area.

The Eden Area General Plan includes an introduction, an overall vision for development in the Eden Area, and seven elements:

1) Land Use;
2) Circulation;
3) Parks and Recreation;
4) Public Facilities;
5) Noise;
6) Public Safety; and
7) Greenhouse Gas Action.

While the Eden Area is subject to the countywide Seismic Safety and Safety Element, Noise Element, and Parks and Recreation Element, the Eden Area General Plan also includes elements to more fully address these issues in a manner specific to the Eden Area. Because the Eden Area has limited resources for scenic routes, open space, and conservation, the Area Plan deems the county-wide elements sufficient to cover these topics.

Hayward Executive Airport Land Use Compatibility Plan. The portion of the Plan Area to the south of Lewelling Boulevard and west of the BART tracks is located within the Airport Influence Area of the Hayward Executive Airport, as shown in its Airport Land Use Compatibility Plan (ALUCP) of August 2012. The intent of an ALUCP is to encourage compatibility between airports and the various land uses that surround them. The ALUCP's policies apply to all lands within the Airport Influence Area, which is where "current or future airport-related noise, overflight, safety, and/or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses." The ALUCP includes policies related to surrounding land uses and exposure to airport noise and hazards. As shown in Table 3-1 of the ALUCP, land uses within the Airport Influence Area are required to comply with maximum exterior and interior noise levels from aircraft operations at new residential and non-residential development; however, the Plan Area is located outside of mapped noise contours associated with Hayward Executive Airport. The ALUCP's compatibility criteria for safety would not apply to the proposed Specific Plan because the Plan Area is not located within a safety zone associated with Hayward Executive Airport. Various regulations of the Federal Aviation Administration also apply to land use and structural development in proximity to active airports. The ALUCP refers to guidance in Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace, for the height of objects that may affect normal aviation operations. The Plan Area is located outside of the zone subject to Part 77 guidance.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. The proposed Specific Plan would have a significant impact on land use if it would cause any of the following conditions to occur:

1) *Physically divide an established community;*
2) *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or*
3) *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

Also assessed in this section is the potential for the project to result in significant incompatibility with surrounding land uses or the established pattern of development. This assessment is sometimes used as an additional threshold in EIRs to determine whether projects will have significant land use impacts.

Implementation of the proposed Specific Plan would not physically divide an established community. Nor is the Plan Area protected by a habitat conservation plan, natural community conservation plan, or other adopted conservation plan. Therefore, impacts related to these issues were determined to be less than significant in the Initial Study (Appendix A).

b. Project Impacts and Mitigation Measures.

Impact LU-1 The proposed Specific Plan is consistent with the goals, policies, and objectives of the Alameda County General Plan, the Eden Area General Plan, and the ALUCP, with inclusion of the mitigation measures described throughout this EIR. This is a *significant but mitigable* impact.

The proposed Specific Plan must be consistent with the Eden Area General Plan's land use designations, objectives, principles, or standards in order to be approved.

The Specific Plan would establish a variety of new form-based zoning codes in the Plan Area. In the Ashland and Four Corners Districts, and the Bayfair, West Eden, and Cherryland Corridors, the Specific Plan would apply mixed-use zoning codes. These zoning codes would allow a wide range of commercial, civic, and residential development. In the Four Corners District, the Specific Plan would establish a District Commercial zone that provides for a walkable urban main street commercial environment with local- and regional-serving commercial, retail, and entertainment uses. In the Central Lewelling Corridor, the Corridor Neighborhood-Residential zone would accommodate a variety of medium-density housing types and a limited amount of retail, commercial, and office uses on small and medium-sized lots. In the Four Corners and Central Lewelling Neighborhoods, the Residential zone would preserve existing and all new small-to-medium lot detached homes in walkable neighborhoods. (Refer to Section 2.0, *Project Description*, for a more complete discussion of the proposed zoning codes, including subzones.)

These new form-based zoning codes would facilitate an increase in the density and intensity of development. Implementation of the proposed zoning is projected to result in an overall buildout, over the next 20 years, of 167 single-family residences, 771 multi-family residential units, and 570,000 square feet of non-residential space in the Plan Area. While the Specific Plan would lead to an increase in the density and intensity of development, new development would be still be required to comply with maximum density requirements in the Eden Area General Plan's land use designations (in terms of Floor Area Ratio for General Commercial areas and dwelling units per acre for residential areas). Therefore, the proposed Specific Plan would be consistent with density limits in the Eden Area General Plan.

The proposed mixed-use zones also would allow for development with both commercial and multi-family residential uses throughout the East 14 Street/Mission Boulevard corridor, where the Eden Area General Plan has applied secondary land use designations allowing such development. It should be noted that, based on Figure 3-4B in the Eden Area General Plan, several parcels to the north of the East 14th Street/159th Street intersection and around Rufus Court in the Cherryland Corridor do not have secondary land use designations. In accordance with the Eden Area General Plan, mixed-use development would not be allowed on these particular parcels. Therefore, the proposed mixed-use zones would be consistent with existing land use designations in the Eden Area General Plan.

Table 4.9-1 contains a discussion of the proposed Specific Plan's consistency with applicable objectives, policies, and standards of the Alameda County General Plan, and Table 4.9-2 contains such a discussion with regard to policies in the Eden Area General Plan. Table 4.9-3 provides a discussion of the proposed Specific Plan's consistency with design and development

guidance in the Eden Area General Plan. Consistent with the scope and purpose of this EIR, the discussion primarily focuses on those general plan requirements that relate to avoiding or mitigating environmental impacts, and an assessment of whether any inconsistency with these standards creates a significant physical impact on the environment. The ultimate determination of whether the proposed Specific Plan is consistent with applicable general plans lies with the decision-making bodies (Planning Commission and Board of Supervisors). Only policies relevant and applicable to the proposed Specific Plan are included. Policies that are redundant between elements are omitted, as well as policies that call for County actions that are independent of review and approval or denial of the proposed Specific Plan.

Table 4.9-1
Policy Consistency with Alameda County General Plan

General Plan Policy	Discussion
HOUSING	
1.4. Maintain adequate land appropriately zoned for a mix of rental and sale housing which is consistent with demand for these types of units.	Potentially Consistent. The proposed zoning in the Specific Plan area would allow for development of multi-family dwellings and single-family homes in Neighborhoods; multi-family dwellings, live-work units, and mixed-use development in the Ashland and Cherryland Districts and the Bayfair Corridor; and multi-family dwellings, single-family homes, live-work units, and mixed-use development in all other Corridors. Based on the proposed zoning, buildout of the Specific Plan is anticipated to result in 167 new single-family homes and 771 multi-family units. Pursuant to Policy 6.3 in the Specific Plan, a balance of rental units would be maintained as part of the housing stock. Therefore, the proposed zoning would provide for an adequate mix of rental and sale housing.
3.3. Increase the height limit to a maximum of 40 feet in transit-oriented mixed-use development districts and high-density residential districts to ensure that multifamily housing can be effectively built. Allow exceptions to this maximum through the use of Conditional Use Permits.	Potentially Consistent. In the Bayfair Corridor, which is located within walking distance of public transit at the Bayfair BART Station, the proposed Bayfair Corridor zone would increase the height limit to 55 feet to allow for vertical mixed-use development. Although the Specific Plan would allow new housing developments in the Bayfair Corridor to exceed 40 feet in height, the proposed height limit of 55 feet would be consistent with the intent of Policy 3.3 to ensure that multi-family housing can be effectively built in this area adjacent to transit. Furthermore, the Specific Plan would include a program to amend the Housing Element to allow heights in excess of 40 feet without a Conditional Use Permit within the Plan Area.
7.5. Identify areas adjacent to or in close proximity to transit and transportation corridors that are appropriate for high-density residential development. Re-zone as appropriate to increase densities.	Potentially Consistent. The proposed Specific Plan identifies the Bayfair Corridor as proximate to public transit at the Bayfair BART Station in the City of San Leandro. In this corridor, the proposed zoning would increase density to accommodate growth and create a walkable, urban mixed-use environment.
7.12. Promote land development that is consistent with state efforts to reverse climate change.	Potentially Consistent. As discussed in Section 4.6, *Greenhouse Gas Emissions*, with mitigation measure GHG-1, individual projects associated with the proposed Specific Plan would not result in annual greenhouse gas (GHG) emissions that exceed applicable thresholds. Furthermore, the Specific Plan would be generally consistent with the Climate Action Team GHG reduction strategies and the 2008 Attorney

Table 4.9-1
Policy Consistency with Alameda County General Plan

General Plan Policy	Discussion
	General Greenhouse Gas Reduction Measures. Therefore, the Project would promote land development that is consistent with state efforts to reverse climate change.
SCENIC ROUTE	
To conserve, enhance, and protect scenic views observable from scenic routes.	Potentially Consistent. As discussed in Section 4.1, *Aesthetics*, the Plan Area is located within view of a County-designated scenic route (Interstate 238). However, development under the proposed Specific Plan would not substantially alter scenic views of the East Bay hills or San Francisco Bay from this highway. Therefore, the Project would not adversely affect scenic views in Alameda County.
SAFETY	
Goal 1, P2. Structures should be located at an adequate distance away from active fault traces, such that surface faulting is not an unreasonable hazard.	Potentially Consistent. As discussed in Section 4.5, *Geology and Soils*, the active Hayward Fault traverses the Plan Area. However, the Alquist-Priolo Earthquake Fault Zone Act would restrict development of buildings for human occupancy within 50 feet of an identified fault. Compliance with this law would minimize the potential for new habitable structures in the Plan Area to receive the most direct damage associated with seismic events.
Goal 4, P6. Adequate separation shall be provided between areas where hazardous materials are present and sensitive uses such as schools, residences and public facilities.	Potentially Consistent. As discussed in Section 4.7, *Hazards and Hazardous Materials*, buildout under the proposed Specific Plan would not involve facilities that produce or emit hazardous materials near any schools. Auto-related uses involving hazardous materials, such as gas stations and auto services, would be permitted within the Auto Overlay zone in the Cherryland Corridor and allowed by conditional use permit in other zones. While such uses may occur near residences and public facilities, oil and other potentially hazardous waste produced during operation of these uses would be collected, stored, and disposed of in accordance with applicable laws and regulations. Therefore, the proposed Specific Plan would not result in significant adverse effects from hazardous materials on schools, residences, and public facilities.
NOISE	
Goal 2. Alameda County should encourage noise compatible land uses near highways and other noise generators.	Potentially Consistent. As discussed in Section 4.10, *Noise*, the proposed Specific Plan would allow new development projects only where they can comply with land use and noise compatibility guidelines in the Eden Area General Plan. Although the proposed zoning would continue to allow residential uses adjacent to Interstates 238 and 880, and would permit new residential development adjacent to arterial roads, any new residential development in these areas would be required to mitigate noise impacts as necessary, on a project-specific basis, to comply with land use and noise compatibility guidelines.
Objective 5. The County should encourage architectural designers, developers, and builders to employ physical techniques to reduce noise impacts.	Potentially Consistent. Pursuant to Policy N-1, P1 in the Eden Area General Plan, projects in the Plan Area that are located in areas with excessive indoor or outdoor noise levels would be required to implement physical measures to reduce noise

Table 4.9-1
Policy Consistency with Alameda County General Plan

General Plan Policy	Discussion
	to acceptable levels.
OPEN SPACE	
To provide for close-in leisure time facilities, recreation and park areas should be provided within the open space surrounding each city or community. Recreation trails should be provided throughout the public open space surrounding each community to connect with recreation areas.	Potentially Consistent. The proposed Specific Plan envisions additional park space in the Cherryland and Four Corners District and the Central Lewelling Corridor. Policy 5.2 in the Specific Plan would promote public open space in the form of pocket parks, neighborhood parks, parklets, and walking and biking trails. In addition, Program 1.4.6 in the Specific Plan also would involve the creation of temporary community recreation areas or community gardens on public or private land at strategic locations along the Corridors. The proposed Specific Plan also calls for providing recreational trails adjacent to the Union Pacific railroad tracks and along San Lorenzo Creek. These policies and programs would provide for close-in recreation and park areas and recreational trails for community members.
CONSERVATION	
To reduce man-cause stream and ground water pollution and general resource degeneration through cumulative impacts on surface and ground water systems.	Potentially Consistent. As discussed in the Initial Study included as Appendix A to this EIR, buildout under the proposed Specific Plan would not result in impacts on surface or groundwater quality.
To protect and enhance wildlife habitats and natural vegetation areas in Alameda County.	Potentially Consistent. As noted in Section 4.3, *Biological Resources*, future development under the Specific Plan in the vicinity of San Lorenzo Creek may occur within suitable habitat for special-status species such as California red-legged frog, California least tern, and steelhead trout. Projects in the Plan Area also could impact upland habitats and sensitive plant and animal species therein, as well as sensitive wetland habitat at San Lorenzo Creek. However, implementation of Mitigation Measures B-1(a) through B-1(j) would protect wildlife habitats and natural vegetation areas through surveys, avoidance, and minimization of adverse effects. Mitigation Measures B-2(a) through B-2(d) would also minimize impacts to sensitive habitats, through measures such as restoration of identified wetland and riparian habitat.

Table 4.9-2
Policy Consistency with the Eden Area General Plan

General Plan Policy	Discussion
LAND USE	
LU-1, P1. New development and redevelopment shall be encouraged to advance a unified and coherent pattern of development, maximize the use of land and fill in gaps in the urban environment.	Potentially Consistent. The proposed Districts, Corridors, and Neighborhoods would create a coherent pattern of development.
LU-1, P6. Residential development shall be balanced with the development of jobs and retail	Potentially Consistent. While the existing pattern of development is based on a separation of land uses, the

Table 4.9-2
Policy Consistency with the Eden Area General Plan

General Plan Policy	Discussion
growth and the ability to provide services to the existing population of the Eden Area.	proposed mixed-use zones in the Ashland and Cherryland Districts, and in the Bayfair, West Eden, and Cherryland Corridors, would permit development that provides both residential development and employment opportunities.
LU-3, P3. Public art should be included in areas with an existing or expected high level of pedestrian activity, such as parks, plazas and identified Districts.	Potentially Consistent. Policy 5.5 in the Specific Plan is to enhance Caltrans, AC Transit, and BART landscape areas and facilities that front on East 14th Street/Mission Boulevard, and that are adjacent or near to Lewelling/East Lewelling Boulevard, with public art. Implementation of this policy would add public art to areas with a high level of pedestrian activity.
LU-4, P1. The County shall advance the ongoing conservation, maintenance and upgrading of Neighborhoods through its direct policies and actions.	Potentially Consistent. The proposed Residential zone in the Four Corners and Central Lewelling Neighborhoods is intended to preserve existing and allow new small-to-medium lot detached homes in these established neighborhoods. Furthermore, Policy 6.1 in the Specific Plan would preserve and protect certain existing areas of residential development near San Lorenzo High School and directly adjacent to commercials uses along East 14th Street, Mission Boulevard, and Lewelling/East Lewelling Boulevard. Therefore, the proposed Specific Plan would conserve, maintain, and upgrade existing Neighborhoods.
LU-5, P1. New development or redevelopment should not result in displacement of existing homes without providing for adequate replacement housing.	Potentially Consistent. As discussed under the above policy, the proposed Residential zone would allow new detached homes in the Four Corners and Central Lewelling Neighborhoods. The replacement of existing single-family residences in these areas with new detached homes would not result in a net displacement of existing homes. Furthermore, buildout over the next 20 years under the proposed Specific Plan is anticipated to result in the addition of 167 single-family residences and 771 multi-family residential units. Therefore, the proposed Specific Plan would provide for adequate replacement housing for any displaced residences.
LU-7, P2. New commercial and Medium, Medium-High and High Density residential development shall be focused along identified Corridors in the Eden Area. The Corridors are: • *East 14th Street/Mission Boulevard* • *Hesperian Boulevard* • *'A' Street* • *Lewelling Boulevard* • *Meekland Avenue*	Potentially Consistent. The proposed form-based zoning codes would focus new commercial and medium-to-high density residential development along the East 14th Street/Mission Boulevard and Lewelling Boulevard Corridors within the Plan Area.
LU-8, P2. The County shall pursue the creation of distinct Districts throughout the Eden Area. Districts should be places where residents gather to shop, socialize and eat. They should have ample public spaces such as plazas, wide sidewalks, and outdoor seating for restaurants and cafes. The land use patterns should emphasize human-scale design, streetscape	Potentially Consistent. The proposed Specific Plan would establish the Ashland, Cherryland, and Four Corners Districts as urban, walkable environments with centers of employment, shopping, dining, and civic activity. Higher density residential development would be allowed in the Ashland and Cherryland Districts, creating a lively mix of uses. In addition, Policy 1.6 in the Specific Plan is to attract visitors to the Ashland and Cherryland communities by offering a wide array of retail,

Table 4.9-2
Policy Consistency with the Eden Area General Plan

General Plan Policy	Discussion
and transit improvements and a lively mix of higher density residential, commercial and public uses.	dining, employment, commercial service, and entertainment uses.
LU8, P4. Pedestrian amenities including benches, human-scaled lighting, trash cans, textured crosswalks and sidewalks, bollards and other features should be included in the redesign of all Districts.	Potentially Consistent. Policy 3.1 in the Specific Plan would prioritize improvements to the public realm in Districts to create lively, active, and safe pedestrian-friendly places. As part of this policy, the undergrounding of power and utility lines on East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard would improve the visual quality of the pedestrian environment. Under Policy 3.3, a streetscape design plan for these corridors that is consistent with Alameda County Complete Streets policies would be implemented, and street furniture and street tree plantings would be provided on these corridors. Program 3.3.4 in the Specific Plan also would provide pedestrian-scale lighting along all streets in the Plan Area, especially those with commercial or school frontage. These policies and programs would improve pedestrian amenities.
LU-14, P2. Commercial uses that serve the daily and weekly needs of residents, such as supermarkets, cafes, restaurants, drug stores, dry cleaners, hardware stores, appliance repair shops and day care centers, shall be encouraged on Corridors or in Districts.	Potentially Consistent. The proposed District Mixed Use and District Commercial zones are intended to provide locally- and regionally-serving commercial, retail, and entertainment uses in the Ashland, Cherryland, and Four Corners Districts. The proposed Bayfair Corridor zone would strengthen present and future commercial opportunities and serve daily needs of the surrounding neighborhood residents in the Bayfair Corridor. Finally, the Corridor Mixed Use and Corridor Neighborhood zones would accommodate commercial services. Specific commercial uses allowed in all these zones include entertainment studios, general retail, second hand stores, business services, day care services, medical or residential care facilities, personal services, and transitional and supportive housing. The commercial uses allowed in the proposed zoning for Districts and Corridors in the Plan Area would serve the daily and weekly needs of residents.
CIRCULATION	
CIR-1, P2. Wherever possible, roadway modifications should include accommodations for bicycle and pedestrian travel. *CIR-4, P1. Corridors identified in the Land Use Element (East. 14th/Mission Boulevard, Hesperian Boulevard, West 'A' Street, Lewelling Boulevard, and Meekland Avenue) shall emphasize pedestrian and transit access to adjacent land uses.*	Potentially Consistent. Proposed roadway modifications in the Specific Plan include Class II bike lanes along East 14th Street/Mission Boulevard and Lewelling Boulevard to the east of Meekland Avenue. In addition, Policy 3.1 in the Specific Plan would prioritize improvements to the public realm in Districts to create lively, active, and safe pedestrian-friendly places. Under Policy 3.3, a streetscape design plan for these corridors that is consistent with Alameda County Complete Streets policies would be implemented. For transit service, the proposed Specific Plan's long term vision for the Plan Area is to improve bus stops to enhanced efficiency and effectiveness of transit services. This may involve providing rider amenities, such as shelters, real time updates, trash cans, and benches at stops within the Plan Area. These proposed modifications would improve bicycle, pedestrian, and transit access in the Plan Area.

Table 4.9-2
Policy Consistency with the Eden Area General Plan

General Plan Policy	Discussion
CIR-1, P3. Land use concepts shall be promoted that minimize automobile trips and encourage walking, bicycling and transit use.	Potentially Consistent. As discussed above, the proposed Specific Plan involves improvements for bicycle travel in the Plan Area. The proposed mixed-use zones in the Districts and Corridors also are intended to promote walkable areas and support public transit use in an area that currently is designed primarily for automotive travel.
CIR-4, P2. At intersections located in and immediately adjacent to Districts, pedestrian and transit circulation should take precedence over the movement of motor vehicles. The Districts identified and described in the Land Use Element are: • *San Lorenzo Village Center.* • *East 14th Street at Ashland Avenue.* • *Mission Boulevard at Maddox Road.* • *The Four Corners area (the intersection of Hesperian Boulevard and Lewelling Boulevard).* • *The commercial uses on Bockman Road east of Channel Road.* • *The intersection of Hesperian Boulevard and West 'A' Street.*	Potentially Consistent. The proposed Specific Plan would involve improvements to the intersections of East 14th Street at Ashland Avenue and Mission Boulevard at Maddox Road, based on the "Complete Streets" concept to design the street network to accommodate all users (pedestrians, bicycles, buses, automobiles, and trucks) safely and efficiently.
CIR-5, P4. Ample crossing opportunities shall be provided, especially in Districts and along Corridors. In addition to marked crosswalks at all intersections, mid-block crossings and adequately timed signals should be provided at intersections which are too widely spaced for reasonable pedestrian access.	Potentially Consistent. Implementation of Policy 8.4 in the proposed Specific Plan would improve the pedestrian environment by reducing crossing distances at intersections, installing appropriate pedestrian control devices such as flash beacons or signals at crossings and, as need arises, providing mid-block crossings to reduce distances between pedestrian crosswalks.
CIR-7, P2. The County shall develop and maintain a bikeway system for the Eden Area that effectively serves residential areas, employment centers, schools, parks and transit stations.	Potentially Consistent. Implementation of Policy 3.5 in the proposed Specific Plan would establish safe bicycle connections between East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard and the adjacent neighborhoods and parks. Furthermore, Policy 8.2 would promote safe and efficient bicycle network connections to major destinations within the Plan Area and regionally.
PARKS AND RECREATION	
PR-1, P1. A full range of parks and recreational facilities should be provided for Eden Area residents of all ages and physical capabilities.	The proposed Specific Plan envisions additional park space in the Cherryland and Four Corners District and the Central Lewelling Corridor. Policy 5.2 in the Specific Plan would promote public open space in the form of pocket parks, neighborhood parks, parklets, and walking and biking trails. In addition, Program 1.4.6 in the Specific Plan also would involve the creation of temporary community recreation areas or community gardens on public or private land at strategic locations along the Corridors.
PR-2-P10. The inclusion of publicly-accessible parks, plazas, courtyards, landscaped commons and other open spaces shall be pursued within	Potentially Consistent. Program 5.2.2 in the Specific Plan would provide public plazas or open space at each District, accessible by walking or biking from the Neighborhoods and

Table 4.9-2
Policy Consistency with the Eden Area General Plan

General Plan Policy	Discussion
new commercial, industrial and public facility development projects.	Corridors.
PUBLIC FACILITIES	
PF-3, P6. Necessary fire and emergency response facilities and personnel shall be provided, to the greatest extent feasible, to meet residential and employment growth in the Eden Area.	Potentially Consistent. As discussed in Section 4.12, *Public Services*, full implementation of the proposed Specific Plan would generate up to an estimated 2,768 new residents in the Plan Area, thereby increasing demand for additional fire protecting services and exacerbating inadequate fire protection services. However, development associated with the proposed Specific Plan is consistent with development assumptions in the Eden Area General Plan, which accommodates and plans for future growth in the area. With adherence to existing Eden Area General Plan policies emergency responders would be able to adequately meet demand.
PF5, P1. To the extent feasible, the County should strive for a standard of between 0.5 and 0.6 square feet of library space per capita in the Eden Area.	Potentially Consistent. As discussed in Section 4.12, *Public Services*, the Castro Valley Library would have a ratio of 0.54 square feet per capita with buildout under the proposed Specific Plan. This ratio is within the standard of 0.5 to 0.6 square feet per capita as determined by the Alameda County Library System.
PF-9, P2. The approval of new development shall be conditional on the availability of sufficient water for the project. Existing conditions should be considered in determining water availability.	Potentially Consistent. As shown in Table 4.15-2 in Section 4.15, *Utilities and Service Systems*, future development in the Plan Area would be implemented with consideration to the availability of water supply at the time of implementation, minimizing the potential for supply deficit or overdraft.
NOISE ELEMENT	
N-1, P1. New land uses shall not be located in areas where either indoor or outdoor noise levels exceed those considered normally acceptable for each land use, as shown in Figure 7-1, unless measures can be implemented to reduce noise to acceptable levels.	Potentially Consistent. As discussed in Section 4.10, *Noise*, the proposed Specific Plan would allow new development projects only where they can comply with land use and noise compatibility guidelines in the Eden Area General Plan. Any new residential development located where indoor or outdoor noise levels exceed normally acceptable levels would be required to mitigate noise impacts as necessary, on a project-specific basis, to comply with land use and noise compatibility guidelines.

Table 4.9-3
Eden Area General Plan: Consistency with Design and Development Guidance

General Plan Guidance	Discussion
LAND USE	
1.a.1. The Four Corners area of Lewelling Boulevard shall be developed as a District with a diverse mix of uses that serves as a community meeting and gathering place, through the development of public and private partnerships.	Potentially Consistent. The proposed Specific Plan identifies the Four Corners area as a District and would apply a District Commercial zone to this area, which would allow public or private meeting facilities among other civic and commercial uses.
1.b.1. Middle Lewelling Boulevard should contain a mix of residential and commercial uses. The development of residential uses should focus on the creation of affordable housing for a variety of income levels. New commercial uses should serve residential Neighborhoods as well as the High School.	Potentially Consistent. Under the proposed Specific Plan, the Central Lewelling Corridor would be zoned Corridor Neighborhood-Residential. This zoning would allow a mix of residential and retail, commercial, and office uses. A variety of housing options for various income levels would be allowed, including multi-family dwellings, single-family houses, live-work units, and mixed-use buildings.
1.c.1. East Lewelling Boulevard should be redeveloped over time to emphasize commercial uses.	Potentially Consistent. The proposed zoning of Corridor Neighborhood-Commercial for parcels adjacent to East Lewelling Boulevard in the West Eden Corridor would allow both commercial and residential uses in this primarily residential area. Therefore, the Specific Plan would facilitate redevelopment from residential to commercial uses in this area.
1.c.4. Public improvements should be developed to mitigate the impacts of Interstate 238 on existing and proposed residential and commercial developments along East Lewelling Boulevard and the Four Corners area. Mitigation measures may include additional landscaping, soundwalls or other appropriate measures.	Potentially Consistent. Program 6.1.1 in the proposed Specific Plan states the County should support the conversion of property abutting Interstate 238 to non-residential uses, as a means of reducing noise impacts from the highway on sensitive receptors.

Airport Land Use Compatibility Plan. The project area is within the Airport Influence Area of the Hayward Executive Airport, which extends north to Lewelling Boulevard. The intent of an ALUCP is to encourage compatibility between airports and the various land uses that surround them. The Plan Area is located outside of all Safety Compatibility Zones associated with the Hayward Executive Airport; therefore, development under the Specific Plan would not be subject to safety standards in the ALUCP. As required by policy under Goal 5 of the Alameda County Safety Element, any proposed development under the Specific Plan that would use hazardous materials within the Airport Influence Area would be referred to the Alameda County Airport Land Use Commission for a compatibility determination. Land uses within the Airport Influence Area also would be required to comply with standards for exterior and interior noise at new residential and non-residential development, as shown in Table 3-1 of the ALUCP.

The County must consider the comments of the Airport Land Use Commission prior to making a decision on adoption of the Specific Plan. However, neither the Airport Land Use Commission nor the FAA has approval authority over the Project; therefore, consistency findings and other decisions or recommendations from these agencies are limited to advisory status in the context of whether the County ultimately approves, approves with conditions, or denies the proposed Specific Plan.

Assuming compliance with applicable compatibility criteria, development under the Specific Plan would be potentially consistent with the ACLUP.

Conclusion. The project is potentially consistent with goals, policies, and objectives of the Alameda County General Plan, the Eden Area General Plan, and the ALUCP, with inclusion of the mitigation measures described throughout this EIR and in the tables above.

Mitigation Measures and Significance After Mitigation. The project, with implementation of mitigation measures included in sections 4.3, *Biological Resources,* and 4.6, *Greenhouse Gas Emissions,* would reduce environmental impacts to help achieve consistency with adopted goals and policies.

Impact LU-2 The proposed Specific Plan would allow new development that may be incompatible with surrounding residential land uses and the existing pattern of development in the Plan Area. However, impacts would be *less than significant.*

Existing land uses in the Plan Area are characterized primarily by post-WWII era commercial development with scattered single-family residences along East14th Street/Mission Boulevard and Lewelling Boulevard, and by single-family residential neighborhoods to the north of Lewelling Boulevard. The Plan Area is largely surrounded by residential development in the unincorporated Eden Area, as approximately 64.7% of the Eden Area consists of residential land uses (Alameda County, 2006). In this existing land use setting, the proposed Specific Plan calls the development of nine Character Areas within the Plan Area, including three Districts, four Corridors, and two Neighborhoods. Rezoning under the proposed Specific Plan would not allow for industrial uses, which may be incompatible with residential, educational, and other land uses because of potentially harmful air emissions, noise levels, and safety concerns (Alameda County, 2006). Mixed-use development in the Plan Area would be limited to compatible residential and commercial uses. Furthermore, mixed-use development that includes residential uses would improve the transition in land use between business districts and surrounding residential areas. The proposed zoning for Neighborhoods also would preserve the residential character of these areas.

As discussed in Impact AES-2 in the Section 4.1, *Aesthetics*, the proposed Specific Plan would allow for an increase in the intensity of development that could result in visual incompatibility between existing residences and new development in the Plan Area. The Specific Plan would establish height limits of 75 feet in the Ashland, Cherryland, and Four Corners Districts; 55 feet in the Bayfair Corridor and at San Lorenzo High School; 45 feet along East 14th Street/Mission Boulevard in the West Eden and Cherryland Corridors; and 35 feet along Lewelling/East Lewelling Boulevard and in the Central Lewelling and Four Corners Neighborhoods. The greatest land use incompatibility could occur within the proposed Districts, where new development up to 75 feet tall could be sited next to existing one-story residential uses. However, as the design review process would ensure that compatibility issues related to height and massing are addressed on a project-by-project basis, impacts from land use incompatibility would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in the Plan Area, represented by buildout under the proposed Specific Plan, would result in an overall intensification of land uses. As discussed in Section 2.0, *Project Description*, the proposed Specific Plan could accommodate 169 single-family residences, 771 multi-family residential units, and 570,000 square feet of non-residential space. Buildout under the Specific Plan would not exceed the amount of expected growth in the EIR for the Eden Area General Plan for the Plan Area and surrounding areas. While the Specific Plan would increase the intensity of development within the Plan Area beyond that envisioned in the EIR for the Eden Area General Plan, project-specific impacts related to land use compatibility would be less than significant, as discussed in Impact LU-2. The proposed Specific Plan also would be consistent with policies in the Eden Area General Plan, as discussed in Impact LU-1. Therefore the project-specific impacts associated with land use consistency would be less than significant. Potential impacts also would not be cumulatively considerable and would be *less than significant*.

This page intentionally left blank.

4.10 NOISE

This section addresses the impact of the noise generated by future development facilitated by the proposed Specific Plan on nearby noise-sensitive land uses, as well as the effect of current and future noise levels on the proposed Specific Plan land uses.

4.10.1 Setting

a. Overview of Noise. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dB changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as industrial machinery). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed (approximately 30 years old or older) generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units and office buildings is generally 30 dBA or more (Federal Transit Administration [FTA], 2006).

In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measuring period, and Lmin is the lowest RMS sound pressure level within the measuring period.

The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10 p.m. to 7 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7 p.m. to 10 p.m. and a 10 dBA penalty for noise occurring from 10 p.m. to 7 a.m. Noise levels described by Ldn and CNEL usually do not differ by more than 1 dB.

b. Existing Noise Levels.

Eden Area. Primary sources of intrusive sound within the region are attributed to motor vehicles traveling on area roads and highways, aircraft activities, train operations, and commercial/industrial operations.

The primary source of noise in the Eden Area is vehicular traffic noise on the streets and highways. Interstates 880, 580 and 238 carry the highest volumes of traffic and are the noisiest roadway corridors, though large arterials and collectors, such as Hesperian Boulevard, Grant Avenue and East 14th Street/Mission Boulevard, are also significant contributors (Eden Area General Plan, 2010).

Rail operations are also a significant source of noise. There are two rail lines in the Eden Area, which run through the Plan Area, all of which are now owned by Union Pacific Railroad (UPRR). The UPRR Niles Subdivision runs between Hathaway and Meekland Avenues, through Ashland and along the border between San Lorenzo and Cherryland. These two lines carry mostly freight traffic as well as the Capital Corridor passenger service. The third railroad line is the UPRR Oakland Subdivision (the former Western Pacific Railroad), which runs along Western Boulevard. This UPRR track very rarely carries freight; however, it is still a source of noise through Ashland and Cherryland (Eden Area General Plan, 2010).

The Bay Area Rapid Transit (BART) system runs on elevated tracks above Western Boulevard and the third UPRR set of tracks. The elevated BART tracks are not buffered to reduce noise. Thus, the frequent commuter trains produce a significant amount of noise that affects the surrounding residential and commercial uses (Eden Area General Plan, 2010).

There are two sources of aircraft noise in the Eden Area. These are aircraft originating at the Hayward Executive Airport and flight operations at the Metropolitan Oakland International Airport. The former is primarily a general aviation aircraft facility. Noise issues related to its operations are described in the *Hayward Executive Airport Master Plan Draft Environmental Impact Report* (April 2001*)*.The noise generated from aircraft using the Oakland International Airport is regulated by the FAA and is outside of the jurisdiction and influence of local governments. Several flight paths from this airport pass over the Eden Area. While noise from flight operations at the Hayward and Oakland Airports are audible, the Plan Area is located outside of the both airports' 65 dBA CNEL noise contours (Eden Area General Plan, 2010).

Other sources of noise within the community include stationary noise sources associated with industrial and commercial uses. Stationary noise sources in the Eden Area include industrial and commercial operations. Many uses in industrial areas generate noise due to regular

operations such as generators, fans, chillers, compressors, boilers, pumps, and air conditioning systems which may run for 24 hours a day. Other significant sources of noise include gas stations, car washes, fire stations, commercial mechanical equipment, child-care centers, and schools. Although these sources do not usually produce sound levels as great as those from industry, they are more frequently located near residential or other noise sensitive uses and, thus, can be sources of irritation and complaints (Eden Area General Plan, 2010).

Plan Area and Vicinity. Existing noise contours in the Plan Area due to transportation-related noise sources are presented in figures 4.10-1 and 4.10-2. The noise contour maps show areas exposed to a noise level of greater than 60 dB Ldn and the source noise levels along major roadways at a distance of 50 feet from the roadway. The source noise levels are depicted in 5 dB increments.

In order to establish the existing noise conditions, noise level readings were taken by Rincon Consultants, Inc. staff at three locations in the Plan Area using an ANSI Type II integrating sound level meter in accordance with industry standard protocols on April 13, 2015. These three noise measurements were collected between 2 and 4 p.m., and provide an estimate of the general noise environment within the Plan Area. Locations were selected as representative of actual noise levels from major roadways in the Plan Area. These measurements provide baseline data against which modeled noise level projections can be compared. Table 4.10-1 identifies the noise measurement locations and measured noise levels.

Table 4.10-1
Noise Measurement Results (dBA)

Measurement Location	Distance to Roadway Centerline	Primary Noise Source	Sample Time	Leq
#1. 14th Street between Thrush Avenue and Plaza Drive	40 feet	Vehicle traffic on 14th Street	4/13/15 2:00 p.m.– 2:15 p.m.	65.3
#2. Mission Boulevard between Cherry Way and Blossom Way	40 feet	Vehicle traffic on Mission Boulevard	4/13/15 2:45 p.m. – 3:00 p.m.	69.5
#3. Lewelling Boulevard between Daryl Avenue and Bar Avenue	30 feet	Vehicle traffic on Lewelling Boulevard	4/13/15 3:30 p.m.–3:45 p.m.	69.7

Source: Field visit using ANSI Type II Integrating sound level meter. See Appendix X for noise measurement data sheets

The roadway noise level on 14th Street between Thrush Avenue and Plaza Drive was 65 dBA Leq (Measurement #1). On Mission Boulevard between Cherry Way and Blossom Way the noise level was 70 dBA Leq (Measurement #2). In addition to roadway noise on Mission Boulevard, noise from BART commuter trains was a secondary source of noise at the location of Measurement #2. Noise from vehicles travelling along Lewelling Boulevard between Daryl Avenue and Bar Avenue was 70 dBA Leq (Measurement #3).

c. Sensitive Receptors. Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with each of these uses. The State of California Office of Noise Control (ONC) has developed a noise/land use compatibility matrix, which shows noise standards for various land use categories. Land uses deemed noise sensitive by ONC include schools, hospitals, rest homes, long-term care and mental care facilities. Many jurisdictions also consider residential uses particularly noise sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities.

Noise sensitive land uses within the Plan Area include residences scattered along Mission Boulevard, as well as residential neighborhoods and San Lorenzo High School and St. John Elementary School along Lewelling Boulevard. REACH Ashland Youth Center and Meek Park would also be considered noise sensitive land uses, as they provide recreational opportunities for residences within and surrounding the Plan Area. In addition, there are several churches within and immediately surrounding the Plan Area which may be sensitive to noise levels during church services and other community functions held at those facilities. Noise sensitive land uses near the Plan Area primarily include residential subdivisions on both sides of Lewelling Boulevard, as well as Meek Park to the south. Other adjacent land uses include commercial, industrial, and public facilities. Residential buildout under the proposed Specific Plan would also introduce new sensitive receptors to the Plan Area. The closest receptors along 14th Street and Mission Boulevard are approximately 45 feet from the roadway centerline, while the closest receptors along Lewelling Boulevard range from approximately 35 to 45 feet from the roadway centerline.

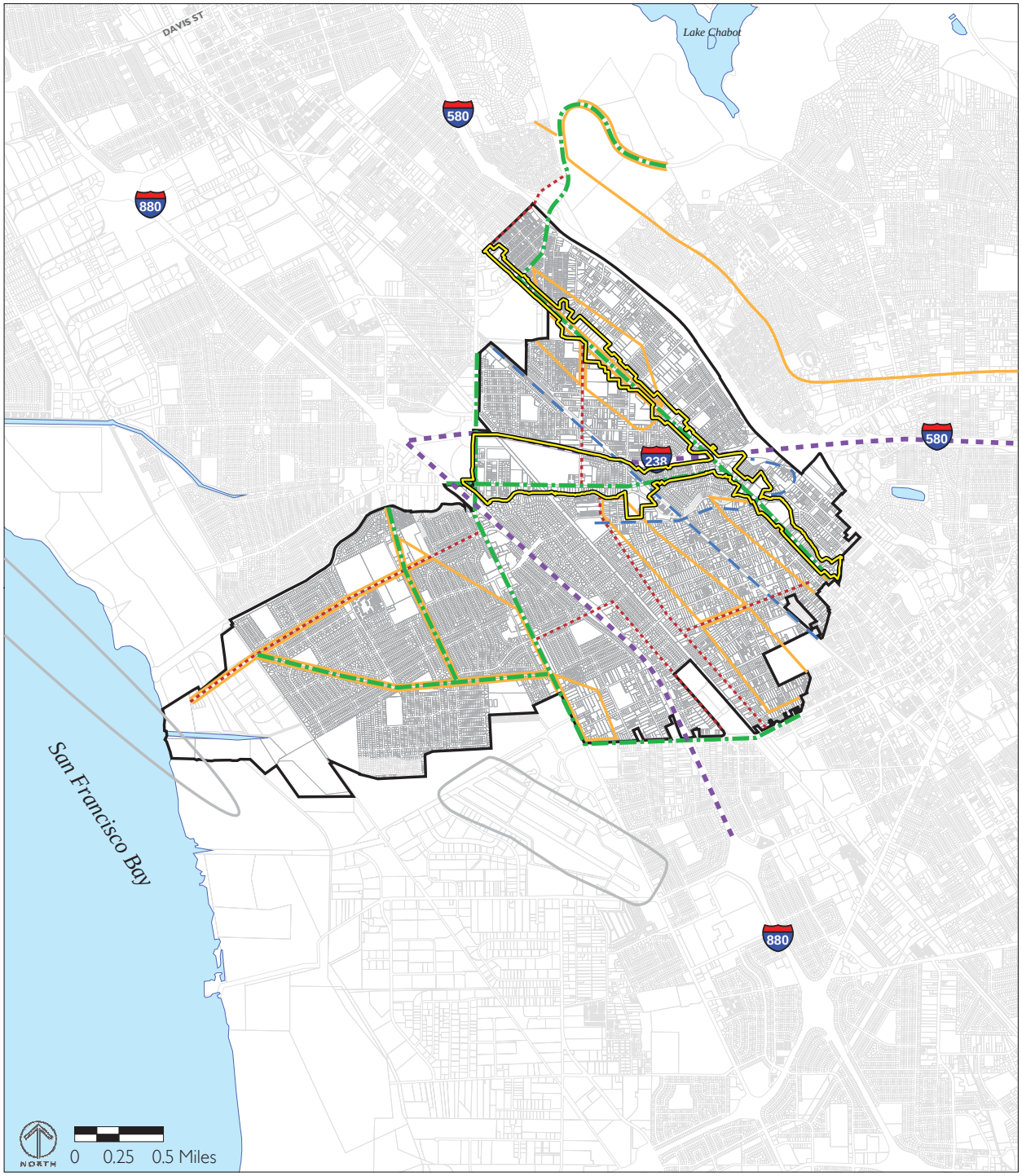
d. Regulatory Setting.

Federal. Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. §651 et seq.), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (29 CFR §1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list limits on noise exposure levels as a function of the amount of time during which the worker is exposed, as shown in Table 4.10-2. The regulations further specify requirements for a hearing conservation program (§1910.95(c)), a monitoring program (§1910.95(d)), an audiometric testing (i.e., test of hearing ability) program (§1910.95(g)), and hearing protection (§1910.95(i)). There are no federal laws governing community noise.

Table 4.10-2
OSHA Permissible Noise Exposure Standards

Duration of Noise (Hours/Day)	A-Weighted Noise Level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

Source: Eden Area General Plan EIR, 2006



Base drawing source: Illingworth and Rodkin, 2003 and Eden Area General Plan, 2010.

Roadway Coding (Ldn 50ft from rdwy)

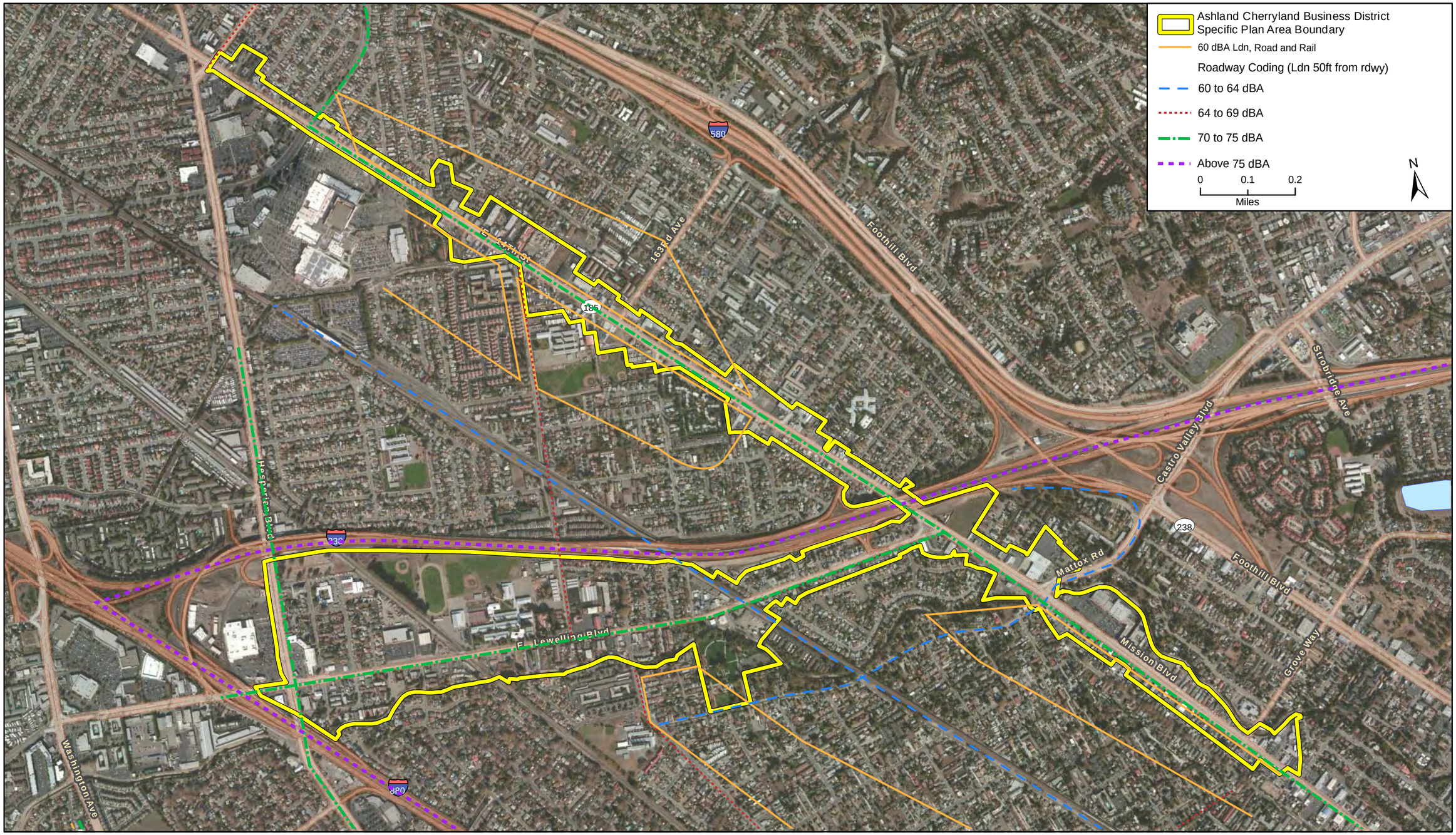
- Ashland Cherryland Business District Specific Plan Area Boundary
- 60 dBA Ldn, Road and Rail
- 65 dBA CNEL, Oakland International and Hayward Executive Airports
- 60 to 64 dBA
- 64 to 69 dBA
- 70 to 75 dBA
- Above 75 dBA

Noise Levels

Figure 4.10-1

County of Alameda

This page intentionally left blank.



Imagery provided by ESRI and its licensors © 2013.
Additional data based on Illingworth and Rodkin, 2003 map and Eden Area General Plan , 2010.

Eden Area Noise Contours
Figure 4.10-2

Federal Highway Administration. The Federal Highway Administration (FHWA) provides procedures and criteria for noise assessment studies for federal highway projects. It requires that noise abatement measures be considered on all major transportation projects if the project will cause a significant increase in noise levels, or if projected noise levels approach or exceed the noise abatement criteria level for activities occurring on adjacent lands. The California Department of Transportation (Caltrans) utilizes similar procedures and criteria.

The FHWA Noise Assessment Criteria for various land use ratings are given in Table 4.10-3. These noise criteria are assigned to both exterior and interior activities. The FHWA identifies a traffic noise impact when the predicted traffic noise levels approach or exceed the noise abatement criteria. If these criteria sound levels are predicted to be approached or exceeded during the noisiest 1-hour period, noise abatement measures must be considered and, if found to be reasonable and feasible, they must be incorporated as part of a given project.

Table 4.10-3
Federal Noise Abatement Standards

Rank	A-Weighted Sound Level (dBA)	Suitable Locations
A	57 exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to serve its intended purpose.
B	67 exterior	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	73 exterior	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Eden Area General Plan EIR, 2006

Aircraft Noise Regulations. The Federal Aviation Administration (FAA) and the State of California Airport Noise Standards have established the Yearly Average Community Noise Equivalent Level (CNEL) as the noise standard by which airport noise and land compatibility is judged. The agencies have identified the 65 dBA CNEL contour for airport operations as the Noise Impact Boundary. Within this boundary airport operators are required to ensure that all land uses are compatible with the aircraft noise environment or the operator must provide noise mitigation or secure a variance from the governing agencies. Under most circumstances residences are considered to be an incompatible land use within the 65 dBA CNEL noise contour. Aircraft noise regulations immediately relevant to the Eden Area include the City of Hayward's Ordinance 91- 16: (Airport Noise Ordinance), which regulates the noise levels resulting from aircraft operations at the Hayward Executive Airport and noise abatement policies and procedures restricting flight paths of aircraft using the Hayward Executive Airport to abate noise from aircraft operations.

State. The California Commission of Housing and Community Development officially adopted noise insulation standards in 1974. In November 1988, the Building Standards

Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). The standards currently reside in Appendix Chapter 12 to the California Building Code and apply to all new construction in the State of California.

Title 24 requires that interior noise levels attributable to exterior sources must not exceed 45 dB in any habitable room. Additionally, the code specifies that multi-family residential buildings or structures that will be located within exterior CNEL (or Ldn) contours of 60 dB or greater of sources such as a freeway, expressway, parkway, major street, thoroughfare, airport, rail line, rapid transit line, or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior CNEL (or Ldn) of 45 dB. Worst-case noise levels must be used to determine compliance. Predictions must also be made for future noise levels for a period of at least 10 years from the time of building permit application.

California Government Code §65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure.

Regional and Local.

Eden Area General Plan Noise Element. The Eden Area Noise Element contains goals, objectives and actions for the Eden Area to control noise and promote compatibility of land uses with respect to noise. The Noise Element does not explicitly establish exterior noise standards, but it does reference noise and land use compatibility standards developed by the ONC. These standards define noise exposure that for various land uses that are considered acceptable, conditionally acceptable, or unacceptable. An acceptable noise environment is one in which development may be permitted without requiring specific noise studies or specific noise-reducing features. A conditionally acceptable noise environment is one is which development should be permitted only after noise mitigation has been designed as part of the project, to reduce noise exposure to acceptable levels. In unacceptable noise environments, development generally should not be undertaken. For residences, the normally acceptable range is up to 60 dBA, the conditionally acceptable range is from 60 to 75 dBA, and the normally unacceptable range is over 75 dBA.

Goal N-1, "Protect citizens from excessive noise," of the Eden Area General Plan includes the following policies that would apply to the proposed Specific Plan:

> *Policy P1. New land uses shall not be located in areas where either indoor or outdoor noise levels exceed those considered normally acceptable for each land use, as shown in Figure 7-1, unless measures can be implemented to reduce noise to acceptable levels.*
>
> *Policy P2. New single-family residential development shall maintain a standard of 60 dB Ldn maximum (day/night average noise level) for exterior noise in private use areas.*

Policy P3. Existing residential development sites exposed to noise levels exceeding 60 dB Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmission Control, California Building Code.

Policy P4. New multi-family residential developments shall be designed to maintain a standard of 65 dB Ldn maximum in community outdoor recreation areas. Balconies shall not be considered outdoor recreation areas, thus no noise standards shall apply to these areas.

Policy P5. All new residential land uses shall be designed to maintain a standard of 45 dB Ldn maximum in building interiors.

Policy P6. New residential development affected by noise from railroad, BART, freeway or aircraft operations shall be designed to limit typical maximum instantaneous noise levels to 50 dBA in bedrooms and 55 dBA in other rooms. These maximum instantaneous noise levels are compatible with airport noise regulations of 45-dBA CNEL, which is an average day/night level.

Policy P7. Noise-sensitive projects proposed within noise-affected areas (subject to noise levels exceeding 60 dB Ldn) shall be subject to acoustical studies and provide necessary mitigation from noise.

Policy P8. The reduction of noise inside buildings shall be achieved by requiring architectural design techniques that meet noise attenuation requirements such as:

- *Locating noise-tolerant rooms (garages, kitchens, bathrooms) closest to the noise source and noise sensitive rooms or areas (living rooms and bedrooms) away from the noise source.*
- *Using architectural design techniques and building façade materials that help shield noise.*
- *Orienting buildings to shield noise sensitive outdoor spaces from a noise source.*
- *Locating bedrooms or balconies on the sides of buildings facing away from noise sources.*

Goal N-2, "Minimize the noise impacts from the construction and operation of new land uses," of the Eden Area General Plan also includes the following policies that would apply to the proposed Specific Plan:

Policy P1. As a condition of project approval, a noise analysis shall be required for all proposed projects that may result in potentially significant noise impacts to nearby noise-sensitive land uses, such as residential areas. The noise analysis shall include recommendations for design mitigation where significant impacts are identified.

Policy P2. Mitigation measures shall be required for all projects that would cause a significantly adverse community response or cause any of the following criteria to be exceeded:

- *Normally acceptable Ldn for land use*
- *Increase of 5 dB Ldn at noise-sensitive uses*
- *Noise ordinance limits (after adoption)*

Policy P3. Inclusion of site design techniques for new construction shall be encouraged to minimize noise impacts, including building placement, landscaped setbacks, orientation of noise tolerant components (i.e. parking, utility areas and maintenance facilities) between noise sources and the sensitive receptor areas.

Policy P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals or convalescent homes, shall be limited to 7:00 a.m. to 7:00 p.m. Monday through Friday, and to 8:00 a.m. to 5:00 p.m. Saturday and Sunday. These noise source standards may be exceeded as specified in the Alameda County Noise Ordinance in order to allow for temporary construction, demolition or maintenance noise and other necessary short-term noise events.

Policy P5. Mitigation measures for construction noise shall be included in EIRs or other appropriate environmental documents as a requirement of construction permit approval.

Policy P6. Industrial and commercial land uses shall be designed and operated so as to avoid the generation of noise effects on surrounding sensitive land uses (e.g. residences, schools, hospitals, and churches) from exceeding the following noise level standards:

- *55 dBA L50 (7:00 am to 10:00 pm)*
- *45 dBA L50 (10:00 pm to 7:00 am)*

Policy P7. Local businesses shall be encouraged to reduce noise impacts on the community by replacing excessively noisy equipment and machinery, applying noise-reduction technologies and following operating procedures that limit the potential for conflicts with noise-sensitive land uses.

Alameda County General Plan Noise Element. In addition to the policies in the Eden Area Noise Element, community noise within the unincorporated Eden Area of Alameda County is currently covered by the guidelines established in the Alameda County Noise Regulations. The Alameda County Noise Element contains goals, objectives and implementation programs for the entire County to provide its residents with an environment that is free of excessive noise and promote compatibility of land uses with respect to noise. The County-wide Noise Element does not explicitly specify an acceptable outdoor noise level for the backyards of homes or common outdoor spaces of multi-family housing projects, however the noise element does recognize the noise level standards for residential land uses of an exterior Ldn of 55 dBA and an interior Ldn of 45 dBA identified by the Federal Environmental Protection Agency (EPA) as those requisite with the protection of public health and welfare with an adequate margin of safety. The Noise Element also references noise and land use compatibility standards developed by an Association of Bay Area Governments (ABAG) sponsored study. The ABAG study establishes a CNEL (similar to Ldn) of 65 dBA or less to result in little noise impact on residential land uses, levels between 65 and 70 to produce moderate impacts and a CNEL above 70 dBA to cause significant impacts.

Alameda County Noise Ordinance. Section 6.60.040 of the Alameda County Noise Ordinance establishes regulations and standards regarding the generation of noise. The regulations identify exterior noise levels impacting residential or commercial land uses. Noise level standards are set forth in Tables 4.10-4 and 4.10-5.

Table 4.10-4
Non-Commercial Noise Ordinance Limits

Category	Cumulative Minutes in one hour period	Daytime, dBA (7 a.m. – 10 p.m.)	Nighttime, dBA (10 p.m. – 7 a.m.)
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

Note: Non-commercial uses include Single- or Multiple-Family Residential, School, Hospital, Church, or Public Library properties.
Source: Eden Area General Plan EIR, 2006

Table 4.10-5
Commercial Noise Ordinance Limits

Category	Cumulative Minutes in one hour period	Daytime, dBA (7 a.m. – 10 p.m.)	Nighttime, dBA (10 p.m. – 7 a.m.)
1	30	65	60
2	15	70	65
3	5	75	70
4	1	80	75
5	0	85	80

Note: Non-commercial uses include Single- or Multiple-Family Residential, School, Hospital, Church, or Public Library properties.
Source: Eden Area General Plan EIR, 2006

Alameda County Building Code. Section 3502 of the Alameda County Building Code includes specifications for noise levels inside and outside of any new apartment homes or attached dwellings. The ordinance standard is to achieve an annual CNEL of 45 dBA inside all new residential construction and to require an acoustical analysis showing that the structure has been designed to limit intruding noise to the prescribed 45 dBA CNEL. This is consistent with the noise insulation standards in Title 24 of the California Health and Safety Code.

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds.

Methodology. The analysis of noise impacts considers the effects of both temporary construction-related noise and operational noise associated with long-term development under the proposed Specific Plan, including its associated traffic. Construction noise estimates are based upon noise levels reported by the FTA, Office of Planning and Environment (FTA, May 2006) in the *Transit Noise and Vibration Impact Assessment*, and the distance to nearby sensitive receptors. Reference noise levels from the FTA document are used to estimate noise levels at adjacent sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. The locations and land uses of future development under the proposed Specific Plan are not known. Therefore, it is assumed that construction would be immediately adjacent to sensitive receptors (as close as 25 feet). Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise. Construction activities are considered to be

temporary because such activities do not occur in the same location for an extended period of time. While construction in the Plan Area would occur over more than 20 years (the buildout year for the proposed Specific Plan is 2040), the actual location from which noise would be generated would shift as different areas are developed.

Noise levels associated with existing and the proposed Specific Plan's buildout-related traffic along area roadways were calculated using the Traffic Noise Model Version 2.5 Look-Up Tables (U.S. Department of Transportation, FHWA, February 2004) (noise model data is provided in Appendix D to this EIR). The model calculations are based on traffic data discussed in Section 4.14, *Transportation and Circulation*.

Significance Thresholds. Pursuant to Appendix G of the *CEQA Guidelines*, potentially significant impacts would occur if adoption of the Specific Plan would result in any of the following conditions:

1) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;*
2) *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;*
3) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*
4) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;*
5) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; and/or*
6) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.*

The Plan Area is not located within any airport noise impact contours and would therefore not expose residents or workers to excessive noise levels from airport or private air strip operations. As a result, discussion of checklist items 5 and 6 were excluded from this EIR. Further discussion can be found in the Initial Study (see Appendix A).

For threshold number 1, an impact would be potentially significant if it would expose people to or generate noise levels in excess of standards established in the Eden Area General Plan or noise ordinance, or other applicable agencies.

For threshold number 2, an impact would be potentially significant if an existing or proposed receptor would be exposed to vibration levels above the following standards, as established by FTA:

- *80 VdB at residences and buildings where people normally sleep*
- *83 VdB at institutional buildings*
- *100 VdB for fragile buildings*

For threshold number 3, the Eden Area General Plan EIR stated that an impact would be potentially significant if traffic-related noise would cause the Ldn at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level or to increase by 5 dB or more and remain "normally acceptable." According to the ONC noise and land use compatibility standards, "normally acceptable" exterior noise exposure for residential sensitive receptors is less than 60 dBA.

For threshold number 4, the Eden Area General Plan EIR stated that construction activities that cause noise levels to exceed an hourly average of 60 dBA Leq and exceed existing ambient noise levels by 5 dBA or more at a sensitive receiver, and last more than one construction season, would be considered to cause a substantial temporary or periodic increase in ambient noise.

b. Project Impacts and Mitigation Measures.

Impact N-1 **Development associated with the proposed Specific Plan would be subject to Eden Area General Plan policies and would be required to comply with its Land Use and Noise Compatibility Guidelines. Impacts related to exposing people or generating noise levels in excess of standards would be *less than significant*.**

Buildout under the proposed Specific Plan would have significant noise impacts if it would expose people to or generate noise levels in excess of standards established in the Eden Area General Plan or noise ordinance, or by other applicable agencies. Specifically, the proposed Specific Plan would be subject to policies 1 through 8 under Goal N-1, "Protect citizens from excessive noise." Policy 1 requires new land uses to be located in areas where indoor and outdoor noise levels do not exceed levels considered normally acceptable for each land use, according to the Plan's Land Use and Noise Compatibility Guidelines, unless measures can be implemented to reduce noise to acceptable levels. Therefore, new development under the proposed Specific Plan would only be allowed where they can comply with the Eden Area General Plan land use and noise compatibility guidelines or include measures to reduce noise to acceptable levels.

Eden Area General Plan policies 2 through 6 include additional standards to protect existing and proposed single and multi-family residential development from excessive noise. Also, Policy 7 requires acoustical studies and implementation of mitigation measures for noise-sensitive projects proposed within areas subject to noise levels exceeding 60 dB Ldn. Policy 8 elaborates on possible noise attenuation techniques and architectural design techniques to reduce noise inside buildings such that people are not exposed to excessive noise levels. Buildout under the proposed Specific Plan would be subject to these policies and would not expose people to or generate noise levels in excess of standards established in the Eden Area General Plan.

Based on the implementation of these Eden Area General Plan policies, buildout of the proposed Specific Plan would not result in any significant impacts related to established land use/noise compatibility standards. In addition, the normally acceptable limits shown in Figure 4.12-2 of the Eden Area General Plan EIR, which buildout under the proposed Specific Plan would be required to comply with, would be compatible with

the sound levels allowed by the Alameda County Noise Ordinance. Thus, the proposed Specific Plan would not result in any significant impacts related to the Alameda County Noise Ordinance. The proposed goals, policies, and actions in the Eden Area General Plan are adequate to reduce potential impacts associated with noise and land use compatibility to a less-than-significant level.

Mitigation Measures. No mitigation is required. Impacts would be less than significant without mitigation.

Significance After Mitigation. Traffic noise generated by buildout of the proposed Specific Plan would be less than significant.

Impact N-2 **Construction-related activities associated with implementation of the proposed Specific Plan would intermittently generate high noise levels and groundborne vibration within and adjacent to the Plan Area. However, buildout of the proposed Specific Plan would be consistent with the Eden Area General Plan. In addition, with implementation of Eden Area General Plan EIR Mitigation Measure NOI-2, impacts would be *less than significant.***

Residences and businesses located adjacent to proposed development would be affected by construction noise during buildout of the proposed Specific Plan. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), when construction occurs in areas immediately adjacent to noise sensitive land uses, or when construction durations last over extended periods of time. Major noise generating construction activities could include demolition activities, site grading and excavation, building erection, paving and landscaping. These activities could occur in areas immediately adjacent to existing noise-sensitive receptors or receptors proposed for future development under the Specific Plan.

The highest construction noise levels would be generated during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 90 to 95 dBA at a distance of 25 feet, as shown in Table 4.10-6. Typical hourly average construction-generated noise levels are about 85 to 90 dBA measured at a distance of 25 feet from the site during busy construction periods. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would also attenuate noise and would reduce noise levels.

Noise levels anticipated over temporary periods of time as a result of construction facilitated by the proposed Specific Plan would generate noise levels that exceed an hourly average of 60 dBA Leq and exceed existing ambient noise levels by 5 dBA or more at potentially adjacent sensitive receivers. In addition, development may last for extended periods of time; therefore, the proposed Specific Plan's construction noise impacts would be potentially significant.

Table 4.10-6
Typical Noise Levels Generated by Construction Equipment

Equipment	Type	Typical Lmax (dBA) Distances from the Source	
		25 Feet	50 Feet
Air Compressor	Stationary	87	81
Backhoe	Mobile	86	80
Compactor (ground)	Mobile	89	83
Concrete Mixer	Stationary	91	85
Dump Truck	Mobile	82	76
Excavator	Mobile	87	81
Flat Bed Truck	Mobile	80	74
Front End Loader	Mobile	85	79
Generator	Stationary	87	81
Grader	Mobile	89	83
Paver	Mobile	95	89
Pickup Truck	Mobile	81	75
Pneumatic Tools	Stationary	91	85
Roller	Mobile	86	80
Saw	Stationary	76	70
Warning Horn	Stationary	89	83
Welder/Torch	Stationary	80	74

Source: FHWA, 2006.

Vibration from construction activities could also have an impact on nearby noise-sensitive land uses. Table 4.10-7 identifies various vibration velocity levels for the types of construction equipment that could operate within the Plan Area during construction.

Table 4.10-7
Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB	
	25 Feet	50 Feet
Large Bulldozer	87	81
Loaded Trucks	86	80
Jackhammer	79	73
Small Bulldozer	58	52

Vibration levels assume an attenuation rate of 6 VdB per doubling of distance.
Source: Federal Transit Administration (FTA), May 2006

The primary sources of man-made vibration are blasting, grading, pavement breaking and demolition. The primary vibratory source during construction within the Plan Area would likely be large bulldozers to demolish existing structures and loaded trucks. As shown, typical

bulldozer or loaded truck activities generate an approximate vibration level of 58-87 Vdb at a distance of 25 feet. Vibration levels in excess of 80 VdB typically result in annoyance. As such, if existing and future residences are located 25 feet from potential future construction within the Plan Area, they may intermittently be disturbed by vibration noise. As the proposed Specific Plan involves residential and commercial land uses with standard construction techniques, vibration levels would not be anticipated to exceed 100 VdB within the Plan Area, which is the threshold where minor damage can occur in fragile buildings. However, construction under the proposed Specific Plan would be required to comply with Eden Area General Plan Policy P4 of Goal N-5, which limits construction in the vicinity of sensitive land uses to daylight hours or 7:00 am to 7:00 pm. Therefore, construction-related groundborne vibration would not be significant at receptors because activities would occur outside hours when people normally sleep.

The EIR for the Eden Area General Plan, which includes the Plan Area, accounted for construction within the Plan Area. Implementation of Eden Area General Plan EIR Mitigation Measure NOI-2 is required for all construction sites within the Eden Area to minimize construction noise impacts. This mitigation measure requires installation of appropriate intake and exhaust mufflers in good condition, locating stationary noise generating construction equipment as far from sensitive receptors as possible, utilizing noise control blankets and barriers where necessary, and pre-drilling of foundation pile holes. Further, construction-related noise would be temporary and intermittent in nature and would not result in long-term noise impacts. Impacts would be less than significant.

Mitigation Measures. Impacts would be less than significant with implementation of Eden Area General Plan EIR Mitigation Measure NOI-2 and compliance with Eden Area General Plan Policy P4, which limits construction in the vicinity of noise sensitive land uses to daylight hours or 7:00 am to 7:00 pm.

Significance After Mitigation. Construction noise generated by buildout of the proposed Specific Plan would be less than significant.

Impact N-3 Traffic generated by buildout of the proposed Specific Plan would incrementally increase noise levels on roads in the Plan Area. However, the increase of up to 1.5 dBA would not exceed the 3 dBA threshold identified in the Eden Area General Plan EIR. Therefore, traffic noise impacts would be *less than significant*.

Buildout of the proposed Specific Plan would result in an increase in the average number of daily vehicle trips and peak hour trips along the segments of East 14th Street, Mission Boulevard, and Lewelling Boulevard within the Plan Area. Traffic generated by buildout of the proposed Specific Plan on these roadways is discussed in Section 4.14, *Transportation and Circulation*. These traffic levels were used to determine the proposed Specific Plan's traffic-related noise impacts on sensitive receptors located along each roadway (see Table 4.10-8). As existing exterior noise levels exceed the ONC "normally acceptable" level (60 dBA for residential receptors), traffic-related noise impacts would be significant if roadway noise would result in a 3 dBA or more increase to noise levels at sensitive receptors. The greatest increase in Specific Plan-generated traffic noise would be a 1.5 dBA increase on East 14th Street/Mission Boulevard between 170th Avenue and Mattox Road during the P.M. peak hour. An increase of 1.5 dBA would not exceed the 3 dBA threshold

identified in the Eden Area General Plan EIR. As such, the proposed Specific Plan would not result in a substantial permanent increase in ambient noise levels in the Plan Area and impacts would be less than significant.

Table 4.10-8
Existing and Existing Plus Project Sound Levels from Roadways in the Vicinity of the Plan Area (dBA Leq)[1]

Roadway Segment[2]	Existing Conditions	Existing + Project Conditions	Change (dBA)	Threshold Exceeded (Change Greater than 3 dBA)?[4]
East 14th Street between 150th Avenue and Ashland Avenue[2]	68.7	69.4	0.7	No
East 14th Street between Ashland Avenue and 170th Avenue[2]	68.0	69.5	1.5	No
East 14th Street/Mission Boulevard between 170th Avenue and Mattox Road[2]	68.8	70.0	1.2	No
Mission Boulevard between Mattox Road and Hayward City Limit[2]	68.7	69.8	1.1	No
Lewelling Boulevard between Mission Boulevard and Meekland Avenue[3]	65.7	67.0	1.3	No
Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard[2]	66.1	66.8	0.7	No

Source: FHWA Traffic Noise Model Version 2.5 Look-up Tables
Refer to Appendix D for full noise model output. Noise levels presented do not account for attenuation provided by all existing barriers or future barriers; therefore, actual noise levels at sensitive receptor locations influenced by study area roadways may in many cases be lower than presented herein.
Notes:
1. Peak hour traffic based on PM peak hour traffic for roadway segments analyzed in Section 4.14, Transportation and Circulation. Assumed two percent heavy trucks on 14th Street and Mission Boulevard and one percent heavy trucks along Lewelling Boulevard, as discussed in Section 4.14, Transportation and Circulation. Assumed standard default of five percent medium trucks on all roadway segments.
2. Estimated noise levels at 45 feet from centerline for four lane roads.
3. Estimated noise levels at 35 feet from centerline for two lane roads.
4. As existing noise levels exceed the ONC "normally acceptable" level, traffic-related noise impacts would be significant if roadway noise would result in a 3 dBA or more increase to noise levels at sensitive receptors.

Mitigation Measures. No mitigation is required. Impacts would be less than significant without mitigation.

Significance After Mitigation. Traffic noise generated by buildout of the proposed Specific Plan would be less than significant.

c. Cumulative Impacts. Cumulative development in the Plan Area would continue to increase traffic and traffic-related noise along area roadways. Cumulative traffic increases may create significant impacts to noise-sensitive land uses adjacent to major roadways. As discussed in Section 4.14, *Transportation and Circulation*, the Alameda CTC Countywide Travel Demand Model was used to estimate future year growth rates without ACBD Specific Plan buildout. The annual growth rates derived from the travel demand model were applied to the existing traffic roadway counts to estimate year 2040 without ACBD Specific Plan buildout forecasts (cumulative conditions). Estimated trips generated by Specific Plan buildout were then added to the initial 2040 forecasts estimates to estimate year 2040 with ACBD Specific Plan buildout forecasts

(cumulative + project). Noise levels associated with cumulative and buildout-related traffic along area roadways were calculated using the Traffic Noise Model Version 2.5 Look-Up Tables (U.S. Department of Transportation, FHWA, February 2004) (noise model data is provided in Appendix D to this EIR). As indicated in Table 4.10-9, cumulative development plus buildout under the proposed Specific Plan would result in a maximum 2.2 dBA increase in roadway noise levels above existing conditions on East 14th Street between 150th Avenue and Ashland Avenue. Buildout under the Specific Plan would account for 0.5 dBA of this cumulative change. Thus, the proposed Specific Plan would incrementally contribute to cumulative traffic noise increases in the area. However, an increase of 2.2 dBA would not exceed the 3 dBA threshold identified in the Eden Area General Plan EIR. Therefore, the overall increase in noise due to buildout under the proposed Specific Plan and cumulative traffic would be less than significant.

Noise impacts can generally be mitigated on a case-by-case basis through the use of appropriate techniques, including building setbacks, appropriate building siting, sound barriers, and sound attenuating building techniques. Therefore, the use of such techniques on all new development in the Plan Area would be expected to maintain an acceptable noise environment.

Table 4.10-9
Cumulative and Cumulative Plus Project Sound Levels from Roadways in the Vicinity of the Plan Area (dBA Leq)[1]

Roadway Segment[2]	Existing Conditions (2014)	Cumulative Conditions (2040)	Cumulative + Project Conditions (2040)	Change from Existing to Cumulative + Project (dBA)	Change from Cumulative to Cumulative + Project (dBA)	Threshold Exceeded (Change Greater than 3 dBA)?[4]
E. 14th Street between 150th Avenue and Ashland Avenue[2]	68.7	70.4	70.9	2.2	0.5	No
E. 14th Street between Ashland Avenue and 170th Avenue[2]	68.0	68.8	70.1	2.1	1.3	No
E. 14th Street/Mission Boulevard between 170th Avenue and Mattox Road[2]	68.8	69.6	70.7	1.9	1.1	No
Mission Boulevard between Mattox Road and Hayward City Limit[2]	68.7	69.5	70.5	1.8	1	No
Lewelling Boulevard between Mission Boulevard and Meekland Avenue[3]	65.7	66.5	67.4	1.7	0.9	No
Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard[2]	66.1	66.9	67.7	1.6	0.8	No

Source: FHWA Traffic Noise Model Version 2.5 Look-up Tables
Refer to Appendix D for full noise model output. Noise levels presented do not account for attenuation provided by all existing barriers or future barriers; therefore, actual noise levels at sensitive receptor locations influenced by study area roadways may in many cases be lower than presented herein.
Notes:
1. Peak hour traffic based on PM peak hour traffic for roadway segments analyzed in Section 4.14, Transportation and Circulation. Assumed two percent heavy trucks on 14th Street and Mission Boulevard and one percent heavy trucks along Lewelling Boulevard, as discussed in Section 4.14, Transportation and Circulation. Assumed standard default of five percent medium trucks on all roadway segments.
2. Estimated noise levels at 45 feet from centerline for four lane roads.
3. Estimated noise levels at 35 feet from centerline for two lane roads.
4. As existing noise levels exceed the ONC "normally acceptable" level, traffic-related noise impacts would be significant if cumulative roadway noise would result in a 3 dBA or more increase to noise levels at sensitive receptors and the Specific Plan's contribution to noise was cumulatively considerable .

This page intentionally left blank.

4.11 POPULATION AND HOUSING

This section evaluates the proposed project's potential impact on population, housing and employment.

4.11.1 Setting

a. Alameda County. The Plan Area is located in the unincorporated communities of Ashland and Cherryland in Alameda County. Table 4.11-1 provides the most recent estimates of population and housing for the Eden Area, the communities of Ashland and Cherryland, unincorporated Alameda County, and Alameda County as a whole. According to the most recent estimates available, the population of the Eden Area is approximately 68,109, the estimated combined population of Ashland and Cherryland is 36,653, and the estimated population of the unincorporated portions of Alameda County is 145,461 (U.S. Census, 2010; California Department of Finance [DOF], May 2014). Therefore, the communities of Ashland and Cherryland make up approximately 25% of the population of the unincorporated areas within the County.

Table 4.11-1
Current Housing and Population

	Eden Area (2000)[2]	Ashland and Cherryland[1] (2010)	Unincorporated Alameda County[3] (2014)	County Total[3] (2014)
Population	60,076	36,653	145,461	1,573,254
Households	20,515	11,344	51,041	588,948
Persons per Household	2.92	n/a	2.95	2.78

[1] *U.S. Census, 2010*
[2] *U.S. Census, 2000, as reported in the Eden Area Revised FEIR (August 2009, certified in March 2010).*
[3] *California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011 - 2014, with 2010 Benchmark. May 2014.*

Table 4.11-2 shows population, households, and employment projections for 2040 for the communities of Ashland and Cherryland within unincorporated Alameda County (listed in a combined column) and all of unincorporated Alameda County as compiled by the Association of Bay Area Governments (ABAG).

Table 4.11-2
ABAG Population, Housing, and Jobs Projections

	2010		2040		2010-2040 Growth	
	Ashland & Cherryland[1]	Unincorp. Alameda County[2]	Ashland & Cherryland[1]	Unincorp. Alameda County[3]	Ashland & Cherryland[1]	Unincorp. Alameda County[3]
Population	36,653	150,509	46,093	166,587	9,440 (26%)	16,078 (11%)
Households	11,344	51,020	13,892	56,470	2,548 (22%)	5,450 (11%)
Jobs	4,000	34,300	6,135	43,600	2,135 (53%)	9,300 (27%)

[1] *Source: ACBD Specific Plan, Draft June 2015 based on U.S. Census (2010) and ABAG (2012)*
[2] *Source: ABAG. Plan Bay Area. Appendix A. July 2013. Accessed online at: http://planbayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Forecast_of_Jobs_Population_and_Housing.pdf*
[3] *Population data for unincorporated Alameda County was not provided in the ABAG forecast. The number provided is based on an average household size of 2.95 persons per household (DOF, 2014).*

As shown in the table, the number of jobs in Ashland and Cherryland is anticipated to increase by 2,135 jobs over a 30-year period from 2010 to 2040, which would account for 23% of the overall unincorporated County job growth. The number of housing units is anticipated to increase by 2,548 new units, which would make up 47% of the overall growth in homes, and the population is anticipated to increase by 9,440 persons by 2040, which would be around 259% of the overall growth in population in the unincorporated County.

Table 4.11-3 shows population, housing, and employment projects in the Eden Area according to the Eden Area General Plan Revised Final Environmental Impact Report (FEIR) (August 2009, certified in March 2010).

Table 4.11-3
Eden Area General Plan Population, Housing, and Jobs Projections

	Eden Area (2000)	Eden Area (2025)	2000 to 2025 Growth[1]
Population	60,076	75,026	14,950
Households	20,515	25,635	5,120
Jobs	8,530	12,380	3,850

Source: Eden Area General Plan Revised Final Environmental Impact Report (FEIR) (August 2009, certified in March 2010).
[1] This represents growth accommodated by the Eden Area General Plan (2010)

b. Plan Area. The ACBD Specific Plan Area ("Plan Area") is situated in the unincorporated communities of Ashland and Cherryland within the County of Alameda. The unincorporated communities of Ashland and Cherryland are located in the western portion of the County between the City of San Leandro to the north and the City of Hayward to the south, approximately 0.5 miles west of the unincorporated community of Castro Valley. The Plan Area covers approximately 246 acres along a three-mile stretch of East 14th Street/Mission Boulevard and a 1.5-mile section of Lewelling/East Lewelling Boulevard between 150th Avenue to the north, Grove Way to the south, and Hesperian Boulevard to the west. The Plan Area is within the Eden Area.

c. Regulatory Setting.

Eden Area General Plan. The Eden Area General Plan contains goals and policies that establish an organized and coherent pattern of development to maximize efficient use of land in the Eden Area, which includes the Plan Area. These goals include ensuring that land is designated to increase and balance economic development opportunities and residential development, while maintaining provision of services and preservation of neighborhood character of the existing population within the Eden area. In addition, Policy P1 under Goal LU-5 of the Land Use Element states that "new development or redevelopment should not result in displacement of existing homes without providing for adequate replacement housing."

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds. In accordance with Appendix G of the *State CEQA Guidelines,* the proposed Specific Plan would result in a significant impact on the environment if it would:

1) *Induce substantial 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), or*
2) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, or*
3) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.*

b. Project Impacts and Mitigation Measures.

Impact PH-1 Implementation of the proposed Specific Plan would encourage growth along the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors that could add 938 residential units, 1,900 employees, and an estimated 2,768 residents to the Plan Area. However, because these increases are within ABAG and Eden Area General Plan projections, impacts related to housing, population, and employment growth would be *less than significant*.

Full implementation of the proposed Specific Plan would encourage increased density and intensity of existing land uses, potentially resulting in the addition of up to 167 single-family units, 771 multi-family units, and 570,000 square feet of non-residential development, as described in Section 2.0, *Project Description*.

Based on the average of 2.95 persons per household in unincorporated Alameda County, the proposed addition of 938 residential units would generate an increase of approximately 2,767 residents. This would bring the population of the unincorporated County to 148,229, a 1.9% increase. This population increase would be added incrementally over the anticipated 20-year period of full project buildout. The addition of 938 residential units would also increase the number of households in the County from 51,041 to 51,979, a 1.8% increase.

The proposed Specific Plan would result in the generation of an estimated 1,900 employees at full buildout. Table 4.11-4 shows the estimated employment at buildout of the proposed project.

Table 4.11-4
Estimated On-Site Employment at Project Buildout

Character Area	Total New Jobs	Manufacturing, Wholesale, Transportation (4% of Total)	Retail (10% of Total)	Finance & Professional (16% of Total)	Health, Education, Recreational Services (45% of Total)	Other (25% of Total)
Ashland District	106	4	11	17	48	26
Cherryland District	278	11	28	45	125	70
Four Corners District	164	7	16	26	74	41
Bayfair Corridor	47	2	5	7	21	12
West Eden Corridor	674	27	67	108	303	169
Cherryland Corridor	296	12	30	47	133	74

Table 4.11-4
Estimated On-Site Employment at Project Buildout

Character Area	Total New Jobs	Manufacturing, Wholesale, Transportation (4% of Total)	Retail (10% of Total)	Finance & Professional (16% of Total)	Health, Education, Recreational Services (45% of Total)	Other (25% of Total)
Central Lewelling Corridor	297	12	30	47	133	74
Four Corners Neighborhood	38	0	38	0	0	0
Lewelling Neighborhood	0	0	0	0	0	0
Total	**1,900**	**74**	**224**	**298**	**838**	**465**

Note: Based on ABAG total job growth, Plan Area land acreage, and consultant assumptions of office/retail split in each district, corridor, and neighborhood.

Table 4.11-5 compares project-generated population, employment and housing growth to ABAG and Eden Area General Plan growth projections.

Table 4.11-5
Comparison of Project Population, Housing, and Employment Growth Projections

	ACBD Specific Plan[1]	Growth Projections			Percentage of Growth from Specific Plan		
		Ashland & Cherryland[2]	Eden Area[3]	Unincorp. Alameda County[4]	Ashland & Cherryland	Eden Area	Unincorp. Alameda County
	2015-2035	**2010-2040**	**2000-2025**	**2010-2040**	**2010-2040**	**2000-2025**	**2010-2040**
Population	2,768	9,440	14,950	16,078	29%	19%	17%
Housing	938	2,548	5,120	5,450	37%	18%	17%
Jobs	1,900	2,135	3,850	9,300	89%	49%	20%

[1] *See Section 2.0, Project Description*
[2] *See Table 4.11-2*
[3] *See Table 4.11-3*
[4] *See Table 4.11-2*

As indicated, the 2,768 new residents associated with Specific Plan buildout would make up approximately 29% of projected growth in the Ashland and Cherryland communities, 19% of projected growth in the Eden Area, and 17% of projected growth in unincorporated Alameda County. The 938 new housing units would make up approximately 37% of the projected housing growth in the Ashland and Cherryland communities, 18% of projected growth in the Eden Area, and 17% of projected growth in unincorporated Alameda County. The 1,900 new jobs associated with Specific Plan buildout would make up approximately 89% of the projected job growth in the Ashland and Cherryland communities, 49% of projected job growth in the Eden Area, and 20% of job growth in unincorporated Alameda County.

The increases in population, housing, and jobs associated with full buildout of the proposed Specific Plan would not exceed ABAG or Eden Area General Plan growth projections. Impacts would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts related to growth in housing and population would be less than significant without mitigation.

Impact PH-2 Implementation of the proposed Specific Plan would increase the Plan Area's housing stock. Impacts related to the displacement of housing and people would be *less than significant*.

Implementation of the proposed Specific Plan would add up to 938 residential (167 single-family and 771 multi-family units) within the Plan Area. The proposed Specific Plan would allow for high density in-fill of mixed-use residential uses near existing or future commercial centers or transit stops. Policies 4.1 and 4.2 of the proposed Specific Plan promote mixed-use residential development along East 14th Street and Mission Boulevard to support and benefit from increased high access transit services. The exact location and size of future residential development is unknown at this time. Depending on the location of future projects, existing residents or housing could be displaced. However, the proposed Specific Plan includes a policy to avoid displacement of existing residents. Policy 6.3 would maintain a balance of rental units as part of the available housing stock to avoid displacement of existing residents.

In addition, the proposed Specific Plan would add housing stock to the communities of Ashland and Cherryland. Policy 6.2 of the proposed Specific Plan encourages a diverse range of residential unit types at different levels of affordability to meet the needs of all households including seniors, large families, single persons, and persons with special needs. For example, Program 6.2.3 maintains and preserves the existing affordable housing stock. For subsidized developments at risk of conversion to market rate, funding would be pursued to maintain affordability and prevent displacement of existing residents.

Implementation of the proposed Specific Plan would both increase the County's housing stock and also attempt to preserve housing affordability for existing residents. Therefore, impacts related to the displacement of housing and population would be less than significant.

Mitigation Measures. None required.

Significance After Mitigation. Impacts related to the displacement of housing and people would be less than significant without mitigation.

c. Cumulative Impacts. The cumulative impacts analysis for this EIR is based on the County's Eden Area General Plan (adopted in March 2010), and its Revised Final Environmental Impact Report (FEIR) (August 2009, certified in March 2010).

Housing, Population, and Employment. The Eden Area General Plan accommodates 5,120 new housing units (4,491 multi-family units and 629 single family units) and a population

increase of 14,950 by 2025. As discussed above under Impact PH-1, the proposed Specific Plan is consistent with the Eden Area General Plan, and the proposed Specific Plan's associated population, housing and employment generation is accounted for in the growth forecasts within the Eden Area General Plan. Therefore, the proposed project's cumulative contribution to population and housing impacts would be within ABAG and County projections and would be less than significant.

Displacement of Housing and Population. Depending on the location and size of future development associated with the propose Specific Plan, the proposed Specific Plan could displace people and housing. Cumulative development projects throughout the Eden Area could similarly displace residences and populations. According to the Eden Area General Plan FEIR, the majority of development permitted by the proposed General Plan would either occur in infill locations, on undeveloped parcels, or on parcels that can be subdivided, rather than through large scale redevelopment of already developed land and buildings. As a result, implementation of the proposed General Plan would result in no significant impact to the displacement of substantial numbers of existing housing units or people. The proposed Specific Plan would add up to 938 housing units, a substantial gain for the Eden Area. Therefore, the Specific Plan's contribution to cumulative impacts related to the displacement of people and housing would be less than significant

4.12 PUBLIC SERVICES

This section evaluates the proposed Specific Plan's potential impacts to police protection services, fire protection services, public schools, and libraries.

4.12.1 Setting

a. Police Protection. The Plan Area is served by the Alameda County Sheriff's Office (ACSO). The ACSO serves the entire unincorporated area of Alameda County including the Eden Area, Castro Valley, and East County. The Plan Area is within the Eden Area, which is served from three main facilities. The Eden Township Substation is located at 15001 Foothill Boulevard at 150th Street and functions as the Sheriff's main station for municipal police services. The Emergency Services Dispatch Center is located across the street from the Eden Township Substation at 2000 150th Avenue, and the Community Crime Prevention Unit Office is located in the Ashland Community Center at 1530 167th Avenue.

The Community Crime Prevention Unit Office is closest to the Plan Area, located less than 500 feet northeast of the Plan Area boundary on 167th Avenue/Elgin Street. The Eden Township Substation and Emergency Services Dispatch Center are located approximately ½ mile north of the northwestern arm of the Plan Area. Figure 4.12-1 shows the location of ACSO's facilities in relation to the Plan Area.

Law enforcement functions include primary patrol, a variety of adult and juvenile criminal investigation squads, youth & family services, crisis intervention and crime prevention, disaster management, search & rescue, and various other related services. As of September 2013, the ACSO had 200 total staff, with 60 deputies serving the Ashland-Cherryland area (personal communication with Lieutenant Michael Tom, September 9, 2013).

The ACSO measures levels of service based on average response times to an emergency call. Between January 1, 2013 and August 31, 2013, the average response time to the Ashland-Cherryland area for Priority One calls (in progress or a crime against a person) for the ACSO was between 11 to 12 minutes (email communication with Lieutenant Don Mattison, September 12, 2013).

In 2005, construction of four-story, 205,000 square foot Law Enforcement Complex (LEC) for ASCO was proposed. An EIR was prepared for the proposed project, which was adopted by the Alameda County Board of Supervisors in 2005. Following adoption of the EIR, the LEC project was abandoned and is no longer being considered.

The Eden Area General Plan contains the following goals and policies related to police protection services:

> Goal PF-1: Maintain a safe environment in the Eden Area through the prompt and efficient provision of police service.
>
> *Policy P2. The ACSO shall maintain adequate police staffing, performance levels and facilities to serve the Eden Area's existing population as well as its future growth.*

Policy P5. The level of service standard shall be a maximum of a five minute response time for Priority One Emergency calls.

Goal PF-2: Promote coordination between land use planning and law enforcement.

Policy P1. Land use development proposals shall be reviewed for site design criteria and other law enforcement concerns.

Policy P2. Physical site planning should be used as an effective means of preventing crime. Open spaces, landscaping, parking lots, parks, play areas and other public spaces should be designed for maximum exposure to community residents.

Policy P3. The County should not approve development proposals or permits that create mini-subdivisions or apartment complexes. Gated developments shall be discouraged.

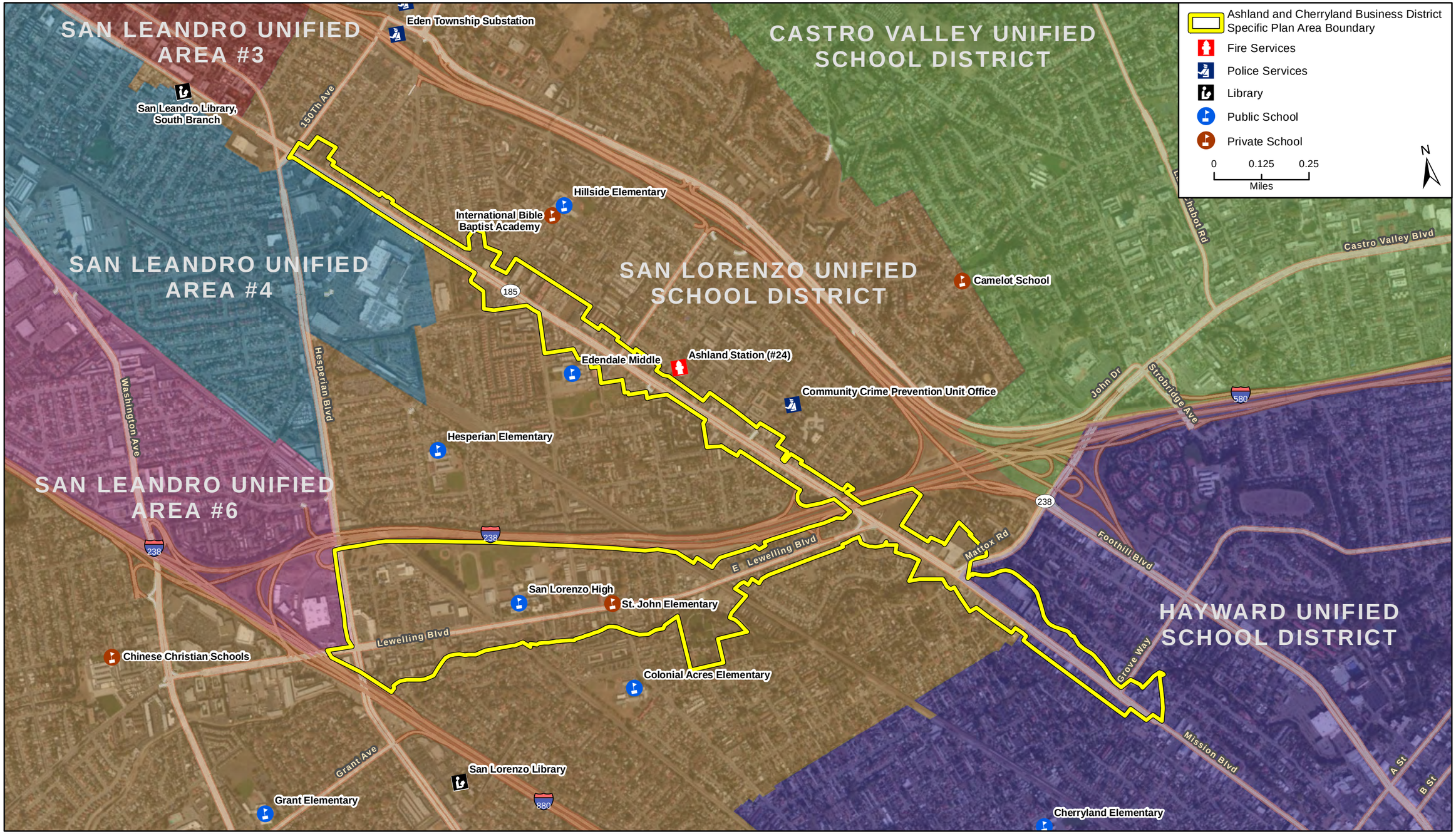
Policy P4. As the need arises, new police substations shall be located in Districts or along Corridors wherever possible and feasible.

b. Fire Protection. Fire protection services in the Plan Area are provided by the Alameda County Fire Department (ACFD). The ACFD is responsible for providing fire services to the majority of the Eden Area as well as the unincorporated County, with the exception of the Fairview area. ACFD also provides fire services to the cities of San Leandro, Newark, Union City, Emeryville and Dublin as well as the U.C. Berkeley Lawrence National Laboratory and the Lawrence Livermore National Laboratory.

ACFD's total service area is approximately 508 square miles with a population of 394,000. The Department also has four battalions, 29 fire stations, 27 engine companies, seven ladder truck companies and one heavy rescue vehicle (Terra, personal communication, 2015). First-Responder Paramedic services are available on a 24-hour per day, 365-day per year basis throughout the entire ACFD service area. Additionally, ACFD has three Specialized Response Teams: Hazardous Materials, Urban Search & Rescue, and Water Rescue.

There are two fire stations staffed by ACFD that serve the Plan Area. Cherryland Station (#23) is located at 109 Grove Way. The station houses one engine company, is staffed by three firefighters, and serves the southernmost parts of San Lorenzo, as well as Cherryland and Hayward Acres. Ashland Station (#24) is located at 1430 164th Avenue, consists of an engine company and a Heavy Rescue unit, and serves all of Ashland, as well as major sections of Interstate 580 and Interstate 238 (ACFP, 2012). The Ashland Station is closest to the Plan Area, located about one block north of the Plan Area Boundary on 164th Avenue. Cherryland Station #23 is located south of Lewelling Avenue, within 1.5 miles of the Plan Area. A third station, the San Lorenzo Station (#22) on 427 Paseo Grande, San Lorenzo, lies just outside of the Plan Area. Figure 4.12-1 shows the location of ACFD's facilities in relation to the Plan Area.

The Alameda County Fire Department has an established response time goal of 5 minutes. This 5-minute response time allows a sizable firefighting force to converge on a structure or wildland fire, keeping it to its point of origin or 10 acres or less. ACFD is able to respond to calls within five minutes 90 percent of the time, meeting the National Fire Protection Association and California EMS Agency guidelines (Eden Area General Plan, 2010). However, according to the County's Capital Improvement Plan (CIP), all Eden Area stations are inadequate and require



Imagery provided by ESRI and its licensors © 2015.

Public Services

Figure 4.12-1

replacement. The San Lorenzo Fire Station requires replacement, and will require another site as its existing site is too small for a replacement facility. The Ashland Fire Station requires replacement or major improvement to meet seismic and other needs. The Cherryland Fire Station was also identified as needing replacement. A new fire station is being constructed to replace the existing Cherryland Fire Station (Station #23). The new facility is projected to break ground in September of 2015 with completion in 2016 (Alameda County, 2015). This new station was included and analyzed in the Eden Area General Plan (Eden Area General Plan, 2010).

A number of fires safety concerns exist in the Eden Area which correspond with ACFD's ability to provide adequate fire services to the Plan Area. These concerns include:

- Emergency operations on adjacent interstate highways.
- A high number of building and fire code violations.
- Difficult passage for emergency vehicles for at-grade railroad crossings.
- A mix of manufacturing, industrial, storage and residential uses along the Meekland Avenue corridor, involving the full spectrum of fire safety concerns, where residences are a low risk and industrial/commercial are a high risk.
- Poor hydrant spacing in portions of Ashland and Cherryland.

The Eden Area General Plan contains the following goals and policies related to fire protection services:

Goal PF-3 Minimize the loss of life and property from fires, medical emergencies and other types of emergencies.

Policy P2. The County shall plan for new fire station locations to maintain or enhance current response levels.

Policy P3. The County shall provide adequate sites for fire facilities in the Eden Area. Planned facilities include a new station on the west side of Hesperian Boulevard and a new station in the vicinity of Cherryland.

Policy P4. Old or outdated fire facilities shall be replaced with new facilities containing the necessary infrastructure and design features to adequately support fire and emergency functions for the area.

Policy P5. Fire flow shall be improved to 1,500 gallons per minute in areas with identified deficiencies, including the industrial complex at the western end of Grant Avenue in San Lorenzo, along Meekland Avenue in Cherryland.

Policy P6. Necessary fire and emergency response facilities and personnel shall be provided, to the greatest extent feasible, to meet residential and employment growth in the Eden Area.

Goal PF-4. Promote coordination between land use planning and fire protection.

Policy P1. Fire hazards shall be identified and mitigated during the project review and approval process for new development.

c. Public Schools. The Plan Area is served by two school districts: the San Lorenzo Unified School District (SLZUSD) and the Hayward Unified School District (HUSD).

The SLZUSD operates nine elementary schools, four middle schools, four high schools, and one continuation school. Of those schools, Colonial Acres Elementary, Hesperian Elementary, Edendale Middle School, and San Lorenzo High School are attended by students in the Plan Area. The SLZUSD currently reports a 23:1 student to teacher ratio in District elementary and middle schools and a 24:1 ratio in District high schools (California Department of Education, 2013). Enrollment and capacity figures for each school in the SLZUSD are provided in Table 4.12-1.

The Hayward Unified School District (HUSD) operates five schools in the Plan Area: Burbank Elementary, Strobridge Elementary, Bret Harte Middle School, Winton Middle School, and Hayward High School. Although the District does not have a policy on student-to-teacher ratios, it does have a policy on class sizes: for K-3, the maximum is 20 students; and for 4-12, the maximum is 30 students.

Table 4.12-1
Current (2013) Enrollment and Capacities of Ashland-Cherryland Attended Districts and Schools

School	Current Enrollment[1] (2013)	Operating Capacity[2]	% Capacity Utilization
San Lorenzo Unified School District			
Colonial Acres Elementary	706	677	102%
Hesperian Elementary	519	768	92%
Edendale Middle	666	940	63%
San Lorenzo High	1,469	1,600	81%
Hayward Unified School District			
Burbank Elementary	766	n/d	n/d
Strobridge Elementary	653	600	n/d
Bret Harte Middle	625	650	n/d
Winton Middle	540	n/a	n/d
Hayward High	1,638	n/a	n/d

[1] California Department of Education. (2014). K-12 public school enrollment. Retrieved November 20, 2014, from http://dq.cde.ca.gov/dataquest/page2.asp?level=School&subject=Enrollment&submit1=Submit
[2] *Eden Area General Plan EIR, 2006, Castro Valley General Plan EIR, 2012,*

d. Libraries. The Alameda County Library System provides service to the Plan Area. The library serving the majority of the Eden Area is located in San Lorenzo, at 395 Paseo Grande. The San Lorenzo Library, built in 1969, has 11,867 square feet of floor area. As of 2011, the library had 18 staff positions, or 13.09 full-time equivalent positions (personal email communication with Carolyn Moskovitz, September 5, 2013). As of January 1, 2014 the San Lorenzo library is in a temporary 7,000 square foot building as the new San Lorenzo Library undergoes expansion. Upon completion, the facility will be approximately 19,000 square feet. (Alameda County Library 2014). Eden Area residents are also served by the Castro Valley Library, located in Castro Valley at 3600 Norbridge Avenue, approximately two blocks from the Castro Valley BART Station. This 34,400 square foot facility has 23 staff positions, or 15.21 full-

time equivalent positions (personal email communication with Carolyn Moskovitz, September 5, 2013).

Eden Area General Plan policy P1 under Goal PF-5 strives for a standard of between 0.5 and 0.6 square feet of library space per capita. Based on 2014 population estimates, the San Lorenzo and Castro Valley Libraries have 0.11 and 0.56 square feet per capita, respectively (Alameda County Library, 2014). It should be noted that the San Lorenzo Library, as mentioned previously, is currently undergoing expansion and will have a higher square footage per capita upon completion (19,000 square feet serving a population of 61,830). Upon the anticipated reopening of the San Lorenzo Library in the summer of 2015, the new square footage per capita would be 0.31 square feet per capita.

There are three other libraries that are available to residents of the Plan Area, as well as other communities. The South Branch of the San Leandro Public Library is located on East 14th Street at 148th Avenue and is approximately 1,000 square feet. The Mulford-Marina Branch Library is located on 13699 Aurora Drive in San Leandro and contains approximately 1,735 square feet of floor area. The Main Branch of Hayward Public Library is located on "C" Street at Mission Boulevard and contains approximately 24,500 square feet of floor area.

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. In accordance with Appendix G of the *State CEQA Guidelines*, the proposed Specific Plan would result in potentially significant impacts relating to public services if it would:

1) *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 services ratios, response times or other performance objectives for any of the public services:*
    a) *Fire protection*
    b) *Police protection*
    c) *Schools*
    d) *Parks*
    e) *Other public facilities*

Impacts to parks are discussed in Section 4.13, *Recreation*.

b. Project Impacts and Mitigation Measures.

Impact PS-1 Implementation of the proposed Specific Plan would add new residential and non-residential uses to the Plan Area, generating additional need for Alameda County Sherriff's Office protection services. However, with adherence to Eden Area General Plan policies, impacts to police protection services would be *less than significant.*

Full implementation of the proposed Specific Plan would add 938 residential units that would generate 2,768 new residents (see Section 4.11, *Population and Housing)*. When added to the existing unincorporated population of approximately 145,461, the proposed Specific Plan would increase unincorporated Alameda County's total population up to an estimated 148,229 residents, an increase of 1.9% from the existing population. Based on existing staffing levels of 200 staff serving 145,461, or 1.4 deputies per 1,000 residents, the ACSO would need eight additional deputies to maintain current staffing level ratios upon buildout of the proposed Specific Plan throughout the whole unincorporated area, while dedicating at least several of those additional deputies within the Plan Area.

The ACSO is mostly funded through the County's General Fund, except for a small portion of its budget received through revenue allocated from the Educational Revenue Augmentation fund (ERAF). Other revenue for the ACSO comes from impact fees, contract service fees, property taxes, vehicle license fees and State and federal aid. Currently, some of the ACSO's funding sources, such as revenue allocated form the Educational Revenue Augmentation Fund and property taxes have declined over the last several budget cycles due to economic recession in past years. As a result, the ACSO has had to reduce some services (Eden Area General Plan, 2010). Thus, implementation of the proposed Specific Plan, which would increase demand for police protection services, may cause service deficiencies unless adequate funding for service and facility improvements is provided prior to occupancy of new development.

As discussed in Section 4.9, *Land Use and Planning,* and Section 4.11, *Population and Housing,* though the proposed Specific Plan would concentrate and intensify development within the Plan Area, the proposed Specific Plan is consistent with buildout assumptions in the Eden Area General Plan FEIR. The Eden Area General Plan includes goals and policies designed to ensure that adequate funding and sites are reserved to maintain the five minute response time level of service standard. As discussed above, currently the average response time to high priority emergency calls for the ACSO in the Ashland and Cherryland area is eleven to twelve minutes. Thus, under existing conditions, the five minute level of service standard established by the Eden Area General Plan is already being exceeded. Additional residences and population growth would further strain police protection resources unless additional police facilities are constructed within the 20-year planning period that would accommodate the projected growth. Should ASCO and the County determine that additional facilities are needed to provide police protection services to the Eden Area, it is assumed that these facilities would be located within the Eden Area. Specific sites for future police protection facilities have not been identified. Therefore, an evaluation of the environmental impacts of implementation of the facilities is not feasible at this time. The Eden Area is almost entirely developed and urbanized. Likely, future facilities would be developed on infill sites or would replace existing police facilities. At the time the ACSO determines that expanded facilities or new facilities are needed, and identifies an appropriate site, a complete evaluation of potential environmental impacts would be conducted under CEQA.

In addition, Goal PF-2 of the Eden Area General Plan is to "promote coordination between land use planning and law enforcement." Policy P1 under this goal requires new development proposals to be reviewed for site design criteria and other law enforcement concerns." Therefore, future development under the proposed Specific Plan would be reviewed by the

ASCO to ensure ASCO would be able to serve the project. Impacts to police protection services would be *less than significant*.

Mitigation Measures. No mitigation measures are required.

Significance after Mitigation. Impacts are less than significant without mitigation.

Impact PS-2 Implementation of the proposed Specific Plan would add new residential and non-residential uses, generating additional need for Alameda County Fire Department protection services. However, impacts to fire protection services would be *less than significant*

Full implementation of the proposed Specific Plan would add 938 residential units that would generate 2,768 new residents (see Section 4.11, *Population and Housing)* and add up to 570,000 square feet of non-residential space. This population would increase demand for fire protection services.

As discussed above, according to the County's Capital Improvement Plan (CIP), all Eden Area stations that would service the Plan Area are inadequate and require replacement. The San Lorenzo Fire Station requires replacement, and will require another site as its existing site is too small for a replacement facility. A new fire station that would replace the existing Cherryland Fire Station and is anticipated to be completed by early 2016. Completion of the new station would enhance or maintain the current response time.

Fire services are funded through a combination of unincorporated property tax revenues; EMS revenues such as special tax assessments for paramedic services and first responder advanced life support payments from the County Emergency Medical Services County Service Area; contract service revenue; and other miscellaneous service fees and charges. ACFD does not currently assess an impact fee on development in the Unincorporated Area to pay for resulting service demands. ACFD has never issued any public debt (Eden Area General Plan, 2010).

As discussed in Section 4.9, *Land Use and Planning,* and Section 4.11, *Population and Housing,* though the proposed Specific Plan would concentrate and intensify development within the Plan Area, the proposed Specific Plan is consistent with buildout assumptions in the Eden Area General Plan FEIR. Eden Area General Plan Policy P2 under Goal PF-2 requires the County to plan for new fire stations locations as needed. In addition, Policy P4 under Goal PF-2 requires old or outdated fire facilities to be replaced with new facilities containing the necessary infrastructure and design features to adequately support fire and emergency functions for the area. Therefore, according to the Eden Area General Plan FEIR, General Plan policies would ensure that adequate facilities are available to accommodate growth under the Eden Area General Plan. Specific sites for future fire protection facilities have not been identified. Therefore, an evaluation of the environmental impacts of implementation of the facilities is not feasible at this time. At the time the ACFD expand facilities, or construct new facilities, a complete evaluation of potential environmental impacts would be conducted under CEQA. Likely, potential new future facilities would be built where current fire stations exist or would be developed on infill sites within the Eden Area. Impacts to fire protection services would be *less than significant.*

Mitigation Measures. No mitigation measures required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact PS-3 Implementation of the proposed Specific Plan would add up to an estimated 685 students. However, with payment of State-mandated school impact fees, impacts related to public school operating capacity would be *less than significant.*

Full implementation of the proposed Specific Plan would accommodate up to 938 additional residential units in the Plan Area. The SLZUSD and HUSD operate nine schools that serve the Plan Area. The SLZUSD typically uses a student generation rate of 0.7 students per unit for all housing types (Eden Area General Plan Revised FEIR, 2009). HUSD student generation rates were not provided in the Eden Area General Plan FEIR. Therefore, the SLZUSD student generation rate of 0.7 students was used for this analysis. Based on these generation rates, the proposed Specific Plan would generate a total of 658 students as shown in Table 4.12-2. These students would be distributed throughout the schools that serve the Plan Area depending on their grade level and on their location.

Table 4.12-2
Proposed Specific Plan Student Generation

Land Use	Potential New Residential Units	Generation Factor (students per unit)	Students Generated
Residential Units	938	0.7	658

Source: Eden Area General Plan Revised FEIR

As shown in Table 4.12-1, most schools that serve the Plan Area are not over capacity. Depending on which school the new students attend, the increase in students could create capacity issues for these schools or exacerbate existing capacity issues. Therefore, the proposed Specific Plan could potentially create the need for additional school capacity or possible expansion of an existing school, the construction of which could cause environmental impacts. However, for future development in the Plan Area that would involve a residential component and may generate students, the project applicant would be required to pay an in-lieu school impact fee. In accordance with Section 65995(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory fees "...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, pursuant to CGC §65994(h), impacts relating to school capacity would be *less than significant.*

Mitigation Measures. The applicable State-mandated school impact fees would be collected at the time of building permit issuance. No mitigation beyond this standard is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact PS-4 Implementation of the proposed Specific Plan would increase the service population of the San Lorenzo and Castro Valley libraries by up to a total of 2,768 customers. However, because adequate capacity at existing libraries exists to serve the proposed Specific Plan, impacts related to libraries would be *less than significant.*

As discussed previously, the County Library System recommends that library facilities space should be between 0.5 and 0.6 square feet per capita (Eden Area General Plan EIR, 2006). Based on 2014 population estimates and future anticipated completion of the new San Lorenzo Library, the San Lorenzo and Castro Valley Libraries have 0.31 and 0.56 square feet per capita, respectively (Alameda County Library, 2012).

Based on the Alameda County Library Fiscal year 2013-2014 Annual Statistics, the primary population served by the Castro Valley Library falls within the Castro Valley Census Defined Place, which includes the Ashland and Cherryland communities. The San Lorenzo Library service area includes the Fairview and Sunol communities, but are close enough to the Plan Area to also service the Ashland and Cherryland communities as well. The Castro Valley Library has 34,537 square feet. The 2014 population served was 61,637. Buildout of the proposed Specific Plan would increase the service population of the Castro Valley Library by up to 2,768 customers. The Castro Valley Library square feet per capita would then be 0.54, which alone is still within the library facilities space threshold as determined by the Alameda County Library System. Furthermore, other libraries in the Eden Area such as the San Lorenzo Library would also be able to service the new residents generated by the proposed Specific Plan. Therefore, impacts would be *less than significant.*

Mitigation Measures. No mitigation measures are required

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Cumulative development in the Eden Area would gradually increase population and therefore gradually increase demand for public services. As discussed in Section 2.0, *Project Description*, the proposed Specific Plan could accommodate up to 938 additional residential units. The evaluation of the Eden Area General Plan, which includes the Plan Area, accounts for all of the expected growth in the Ashland and Cherryland districts, as it represents buildout of the major landholding that surrounds the existing community. The Eden Area General Plan EIR accounts for the potential growth that would be provided public services within the Eden Area and contains policies addressing the Eden Area's need to continually provide adequate facilities for additional police and fire personnel, library, and public school services. As described therein, cumulative impacts associated with police protection services, fire protection services, libraries and public schools would be *less than significant*.

This page intentionally left blank.

4.13 RECREATION

This section evaluates the proposed Specific Plan's potential impacts to parks and recreational facilities.

4.13.1 Setting

a. Existing Recreation Facilities. Parks and recreational opportunities within the Plan Area and surrounding Eden Area are provided primarily by the Hayward Area Recreation & Park District (HARD) and the East Bay Regional Park District (EBRPD). The locations of recreational facilities in the in the vicinity of the Plan Area are shown in Figure 4.13-1.

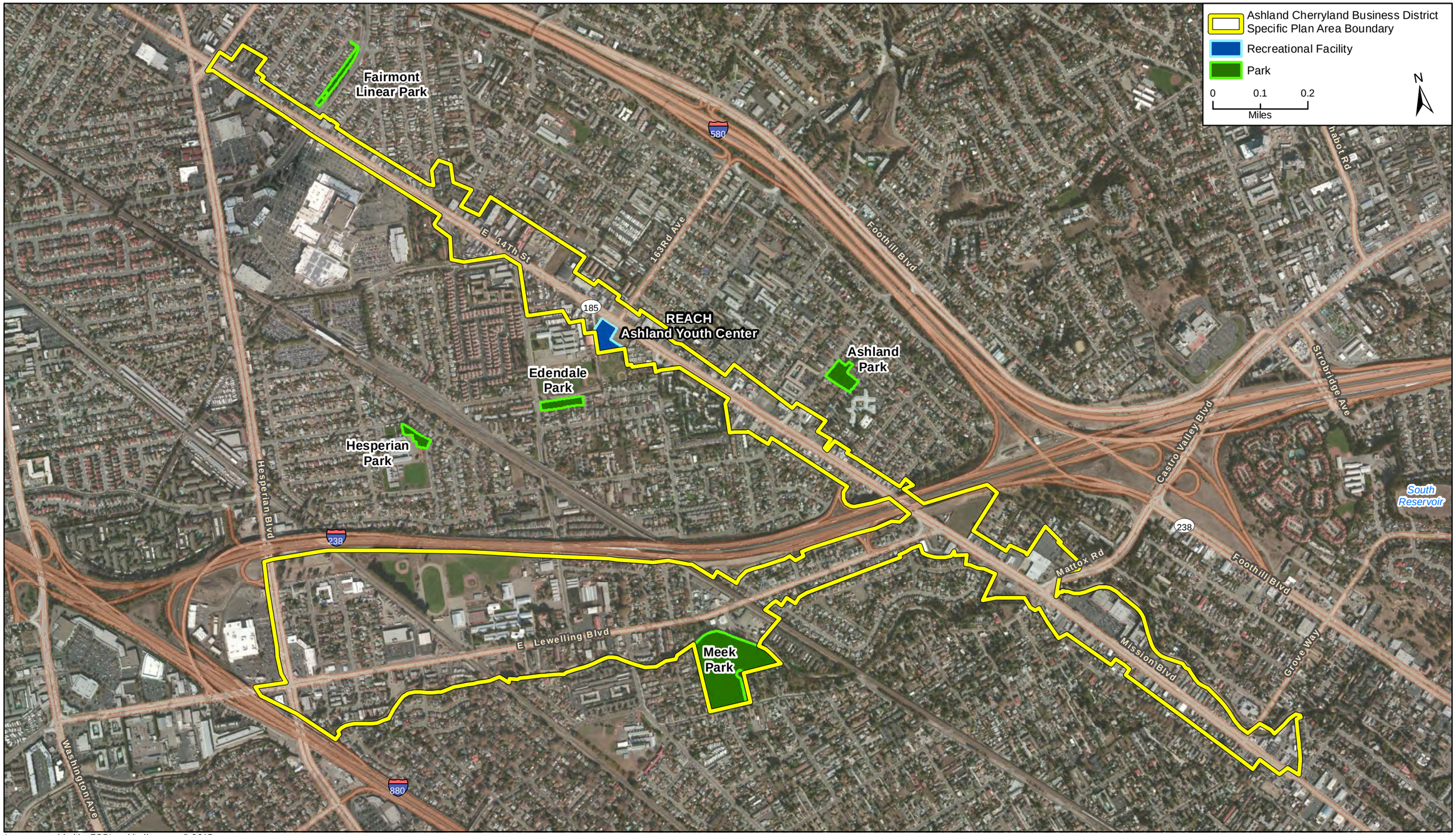
HARD is an independent special district providing park and recreation services within the unincorporated Eden Area communities of Ashland and Cherryland. HARD operates and maintains 14 recreational facilities covering 65 acres inside the Eden Area, almost all of which contain some type of open lawn area with picnic tables and/or play area. HARD also maintains parks adjacent to a number of school facilities in the area, at locations including: Arroyo High School (1 acre), Bohannon Elementary School (2 acres), Edendale Elementary School (1.1 acre), and Hesperian Elementary School (0.8 acre). There are also recreational spaces at Colonial Acres School in Cherryland, which contains a play area and open lawn area, and San Lorenzo High School which contains ball fields and soccer fields.

The Plan Area is also served by two regional parks operated by EBRPD: Hayward Regional Shoreline Park, and Anthony Chabot Regional Park and Lake Chabot. Both parks are located approximately two miles from the Plan Area, with Hayward Regional Shoreline Park to the southwest and Lake Chabot to the north. Both of these parks provide various recreational, interpretive, natural and scenic opportunities. Such activities included fishing, boat rentals, picnic areas and multi-use trails.

Recreational opportunities are often measured in terms of the combined standard of park acreage-to-population. In the Eden Area there are approximately 66 acres of parkland, excluding the Hayward Regional Shoreline and sites maintained by schools. The 2000 population of the Eden Area was 60,076. Thus, the park acreage-to-population ratio in the Eden Area is approximately 1.1 acre per 1,000 residents (Eden Area General Plan EIR, 2006).

One park currently exists within the Plan Area. Meek Park, a 10.9-acre facility, is located in Cherryland, at 240 Hampton Road, just south of San Lorenzo Creek. The park includes picnic tables; group picnic area; BBQs; play area; open lawn area; historical building; parking lot; and restrooms. Other recreation opportunities located within the Plan Area include the REACH Ashland Youth Center, which provides a wide variety of youth-oriented programs including job training, educational assistance, arts and cultural programs, recreation, and health The youth center is open Monday through Friday 11 a.m. to 8 p.m. for 11- to 24-year-olds and is located at 16335 East 14th Street.

This page intentionally left blank.



Imagery provided by ESRI and its licensors © 2015.

Parks and Recreation

Figure 4.13-1

b. Regulatory Setting

State.

California Quimby Act. The Quimby Act allows cities and counties to require a dedication of land, the payment of in-lieu fees, or a combination of both, from new development to be used for the provision of parks and recreational purposes. Cities and counties can require land or in-lieu fees for a minimum of three acres per 1,000 residents resulting from new development, with the possibility of increasing the requirement to a maximum of five acres per 1,000 residents if the city or county already provides more than 3 acres per 1,000 residents.

Regional and Local.

Park Dedication Ordinance of Alameda County. On August 10, 2004, Alameda County adopted the Park Dedication Ordinance of Alameda County [Ordinance 2004-81 § 1 (part)], which established an in-lieu fee/land dedication requirement for residential development. The requirement was established to ensure that new development would pay its fair share for park and recreation facilities in the Unincorporated Area. Though the ordinance applies to the entire Unincorporated Area, fees or land dedications must be used for facilities which can reasonably be expected to serve the development being taxed. Land or money can only be used for local or community park and/or recreation facilities. Money may be used to acquire land or to make improvements but may not be used for maintenance, operations, or administrative costs. The in-lieu fee/land dedication requirement is not intended to bring the area up to a predetermined park acreage-to population standard, but rather to maintain the existing level of service. All new development may not be impacted by this Ordinance in the same way. Alameda County based its in-lieu fee/land dedication requirement on a level of service of five acres of land per 1,000 persons.

Resources, Open Space and Agriculture Plan (ROSA). The ROSA is being prepared in order to update existing General Plan elements, incorporate the policies and programs of recent area plans, and to include new policies and programs that identify important open space goals within the County which were not previously addressed in earlier documents. Alameda County is updating the ROSA plan and is expected to be completed in the near future. The following elements will be updated and incorporated into the ROSA plan:

- *Resource Conservation Element, last updated in 1994*
- *Open Space Element, last updated in 1973 amended 1994*
- *Park and Recreation Element, last updated in 1968*
- *Scenic Route Element, last updated in 1966 amended 1994*

The updated ROSA plan will examine the issue of agricultural resources, which have never been formally addressed in a County General Plan Element. The ROSA plan will also be consistent with the policies from the East County Area Plan (Eden Area General Plan EIR, 2006).

Hayward Area Recreation & Park District (HARD) The Hayward Area Recreation & Park District (HARD) is an independent special district providing park and recreation services for over 250,000 residents living within a 64 square-mile area which includes the unincorporated

Eden Area communities of Ashland, Cherryland, San Lorenzo, Hayward Acres, and Fairview. It also serves the City of Hayward and the unincorporated community of Castro Valley. HARD operates and maintains 14 recreational facilities covering 65 acres inside the Eden Area, almost all of which contains some type of open lawn area with picnic tables and/or play area. In the Eden Area there are 66 acres of parkland, excluding the Hayward Regional Shoreline and sites maintained by schools. The majority of the parks in the Eden Area are classified as local parks. One park, San Lorenzo Park, is classified as a community park. There are no regional parks located in the Eden Area.

Eden Area General Plan Parks and Recreation Element The Eden Area General Plan Parks and Recreation Element includes goals and policies that regulate maintenance and preservation of parks and recreation facilities in the Eden Area, which includes the Plan Area, and also establishes a partnership with HARD to ensure that sufficient park and recreation land is available to Eden Area residents. Policy P4 under Goal PR-1 establishes a threshold park acreage-to-population ratio of five acres per 1,000 population for local and community parks in the Eden Area.

4.13.2 Impact Analysis

a. Methodology and Significance Thresholds. The following criteria are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed Specific Plan would:

1) *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;*
2) *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment; or*

b. Impacts and Mitigation Measures.

Impact REC-1 Implementation of the proposed Specific Plan would add 938 residential units and an estimated 2,768 residents to the Plan Area, which would increase use of recreational facilities and contribute to their physical deterioration. However, payment of in-lieu public park fees would reduce impacts to a *less than significant* level.

Full implementation of the proposed Specific Plan would encourage increased density and intensity of existing land uses, potentially resulting in the addition of up to 938 new residential units within the proposed 20-year growth boundary. This would add up to an estimated 2,768 additional residents to the Plan Area (see Section 4.11, *Population and Housing).* This increase in population would lead to increased use of recreational facilities, and would contribute to the physical deterioration of these facilities.

HARD endorses a combined standard for local, community and regional park acreage-to-population ratio of 10 acres per 1,000 population. This is on the high end of the National Recreation and Park Association's combined goal standard range of 6.25 to 10.5 acres per 1,000 population (Eden Area General Plan). Based on HARD's parkland standard of 10 acres of

neighborhood and community parkland per 1,000 residents, the estimated future population of 2,768 residents would generate demand for 27.7 total acres of parkland. Alameda County has adopted the standard of five acres per 1,000 persons as the basis for its Parkland Dedication Ordinance, and is also the standard established by the Eden Area General Plan Parks and Recreation Element. Based on Alameda County's adopted standard of five acres per 1,000 persons, the estimated future population of 2,768 residents would generate demand for 13.8 total acres of parkland.

Because the timing of future development associated with the Specific Plan is not known at this time, the potential exists for residential development to occur prior to the construction of additional parks to help meet the needs of the Plan Area as development occurs. The East Bay Regional Park District also provides large regional parks and recreational areas near the Plan Area, such as Lake Chabot Regional Park and Don Castro Regional Recreation Area that would accommodate the increase in population and demand for recreational facilities. Furthermore, future project developers would be required to pay an in-lieu public parks fee pursuant to the Alameda County Park Dedication Ordinance. Payment of in-lieu park fees would result in funding equivalent to the provision of neighborhood and community parks in accordance with the County's Park Dedication Ordinance standards. Following payment of Park Dedication Ordinance in-lieu fees, impacts to recreational resources, including the physical deterioration of existing facilities and the need for new facilities, would be *less than significant*.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts to recreational resources would be *less than significant* without mitigation.

c. Cumulative Impacts. The cumulative impacts analysis for this EIR is based on the County's Eden Area General Plan (adopted in March 2010), and its Revised Final Environmental Impact Report (FEIR) (August 2009, certified in March 2010). The Eden Area General Plan accommodates 5,120 new housing units (4,491 multi-family units and 629 single family units) and a population increase of 14,950 by 2025. Cumulative development in the Eden Area would gradually increase population and therefore gradually increase demand for recreational facilities. The evaluation of the Eden Area General Plan, which includes Plan Area, accounts for future regional growth that would lead to an anticipated increased demand for park and recreational facilities throughout Alameda County, as it represents buildout of the major landholding that surrounds the existing community. The proposed Specific Plan is consistent with the growth projections in the Eden Area General Plan FEIR, but would concentrate and intensify development within the Plan Area. To accommodate future growth under the Eden Area General Plan, and based on the Alameda County's policy of five acres of parkland for every 1,000 people, the Eden Area would need a minimum of 82.8 new acres of parkland available for public use. However, with the policies and provisions of the Eden Area General Plan in place, in addition to adherence to payment of Park Dedication Ordinance in-lieu fees, impacts were found to be less than significant. Therefore, cumulative impacts to regional recreational resources, including the physical deterioration of existing facilities and the need for new facilities, would be *less than significant*.

This page intentionally left blank.

4.14 TRANSPORTATION AND CIRCULATION

This section analyzes the proposed Specific Plan's impacts to the local transportation and circulation system. The analysis is based on the information included in the *Ashland and Cherryland Business District Specific Plan* Mobility and Parking chapter, the Plan Area is shown in Figure 4.14-1.

4.14.1 Setting

a. Existing Street Network. Streets within the Plan Area are generally under the jurisdiction of Alameda County, except for State Routes that are under Caltrans' jurisdiction. The Plan Area is primarily served by East 14th Street, Mission Boulevard (East 14th/Mission) and Lewelling/East Lewelling Boulevard. Barriers to travel on local streets in the Plan Area include the discontinuous roadway networks, freeways, railroad lines and San Lorenzo Creek. These barriers result in increased traffic volumes on roadways that cross these barriers, limit the mobility of pedestrians and bicyclists, and result in "cut-through" traffic on some local streets as motorists attempt to reach routes that cross these barriers. Average daily traffic (ADT) ranges between 16,800 and 19,700 vehicles along East 14th/Mission and between 11,000 and 17,400 vehicles along Lewelling/East Lewelling Boulevard.

The following is a brief description of the streets that serve the Plan Area:

- **Interstate 238** is a five-to six-lane freeway that connects Interstate 580 and Interstate 880. Due to restrictions on truck travel on Interstate 580 in Oakland, Interstate 238 carries a relatively high proportion of truck traffic (up to 13 percent). Caltrans has widened some portions of Interstate 238 from two lanes in each direction to three lanes and has planned additional capacity for eight lanes in the future. This project is expected to reduce future traffic growth on Lewelling/East Lewelling Boulevard. The annual average daily traffic along Interstate 238 in the vicinity of the Plan Area is as high as 140,000 vehicles per day.

- **Interstate 580** is an eight- to 10-lane freeway that runs north and south from the San Francisco-Oakland Bay Bridge, traveling through Ashland, before turning east to Castro Valley, Livermore and the Central Valley. Truck traffic is prohibited on a segment of Interstate 580 in Oakland. The annual average daily traffic along Interstate 580 in the vicinity of the Plan Area is as high as 190,000 vehicles per day.

- **Interstate 880** is a six to eight lane freeway running north and south between the San Francisco-Oakland Bay Bridge and San Jose. The freeway passes through San Lorenzo and Ashland. There is a high volume of truck traffic (up to nine percent) on Interstate 880, in part due to truck restrictions on a parallel segment of Interstate 580 in Oakland. The annual average daily traffic along Interstate 880 in the vicinity of the Plan Area is as high as 250,000 vehicles per day.

- **East 14th /Mission (State Route 185)** is a four-lane arterial that travels north and south through Ashland and Cherryland and operates as a parallel route to Interstate 880. It is one of the primary commercial and transit corridors in the Plan Area. AC Transit operates multiple regional bus routes along this corridor as it is considered as one of AC

This page intentionally left blank.

Specific Plan Area

Source: Fehr & Peers, June 2015

Figure 4.14-1

County of Alameda

Transit's top 10 major transit corridors in regards to bus ridership throughout the County. Phase I streetscape improvements, including a raised median, street trees, street lighting, sidewalk extensions and bus stop enhancements were recently constructed on the East 14th Street segment north of Ashland Ave; Phase II improvements for the East 14th Street segment between Ashland Ave and I-238 are currently under design. Existing typical cross-section along East 14th/Mission is shown in Figure 4.14-2.

- **Lewelling/East Lewelling Boulevard** is a two- to four-lane arterial between Hesperian Boulevard and State Route 185 (Mission Boulevard). The corridor alternates between commercial and residential uses and fronts San Lorenzo High School. Buses operate only on the segment of East Lewelling between Ashland Avenue and Meekland Avenue. Recent streetscape enhancements were implemented along the Lewelling Boulevard segment between Hesperian Boulevard and Meekland Avenue, including landscaped medians, widened sidewalks, bicycle lanes, and pedestrian-scaled lighting. Existing typical cross-section along Lewelling/East Lewelling Boulevard are shown in Figure 4.14-3 and 4.14-4.

- **Hesperian Boulevard** is a six-lane arterial divided by a landscaped median that runs north-south through San Lorenzo and along the western edge of Ashland. AC Transit operates multiple bus routes along the corridor. Hesperian Boulevard is designated by Caltrans as a reliever route to accommodate additional traffic when Interstate 880 is congested. It is one of the primary commercial corridors adjacent to the Plan Area.

- **Mattox Road** is a four lane arterial extending between Mission Boulevard and Foothill Boulevard. To the east, Mattox Road becomes Castro Valley Boulevard, and to the west, Maddox Road becomes Hampton Road. Mattox Road has Class II bicycle lanes.

- **Fairmont Drive** is a four-lane arterial that travels east and west along the northern boundary of the Plan Area. A raised median is generally provided and the corridor alternates between commercial and residential uses. Fairmont Drive provides access between I-580 and the Bayfair Center.

- **159th Avenue** is a two-lane east-west collector extending between Coelho Drive and Foothill Boulevard in Castro Valley on the east side of I-580. Buses operate on the roadway.

- **163rd Avenue** is a two-lane arterial extending between East 14th/Mission and Liberty Street, where EB I-580 On- and Off-Ramp access is provided.

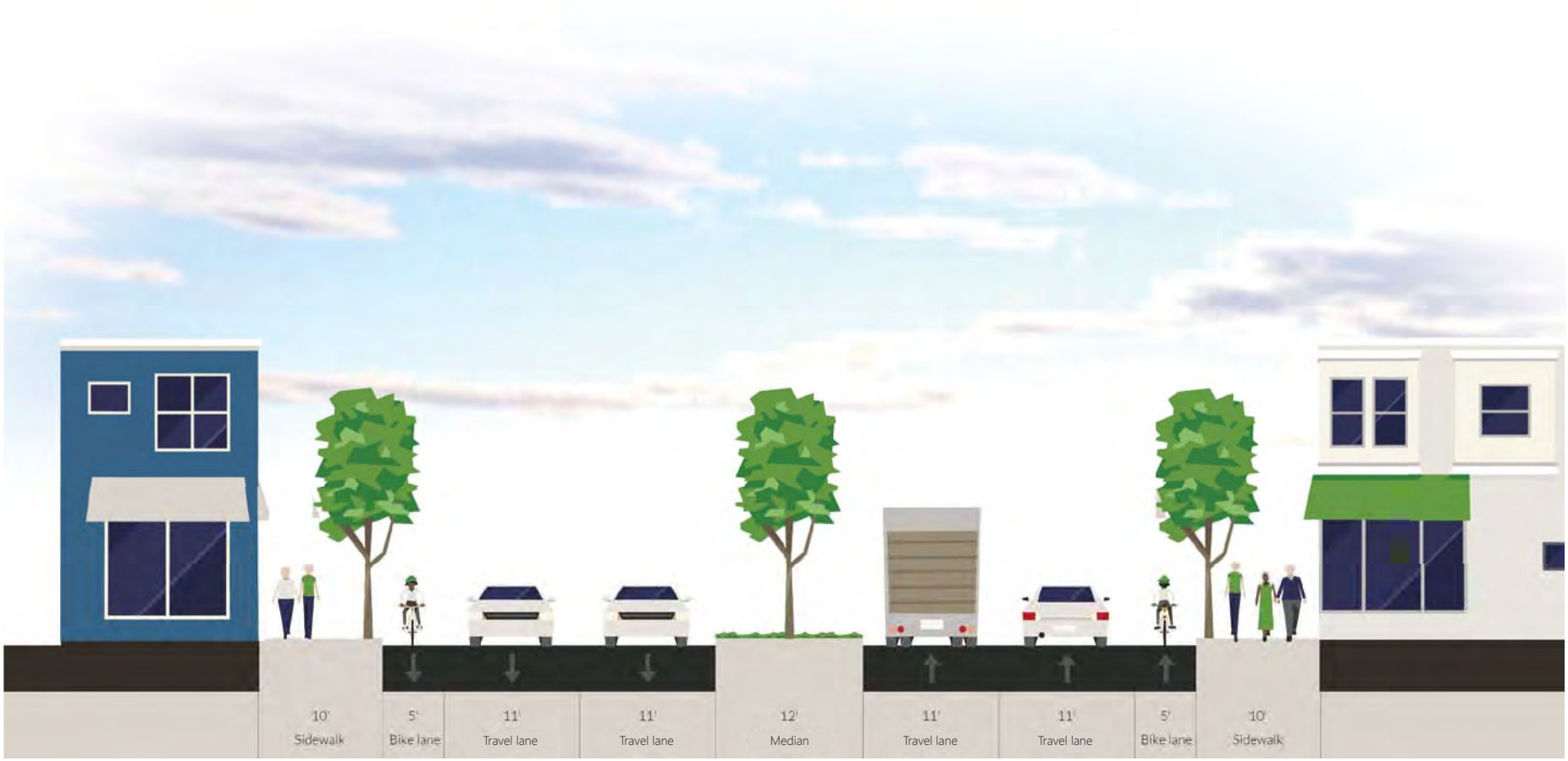
- **164th Avenue** is a two-lane arterial extending between East 14th/Mission, where it becomes Kent Avenue, and Foothill Boulevard in Castro Valley, where it becomes Miramar Avenue. Through Ashland, the roadway has Class II bicycle lanes and has AC Transit bus service.

- **167th Avenue** is a two-lane east-west collector extending between East 14th Street, where it becomes Elgin Street, and Somerset Avenue in Castro Valley. Class II bicycle lanes are provided between East 14th/Mission and Liberty Street. The land uses are primarily residential, with a mix of multi-family and single-family housing.

Existing Typical Cross Section Along E. 14th St./Mission Blvd.

Source: Fehr & Peers, June 2015

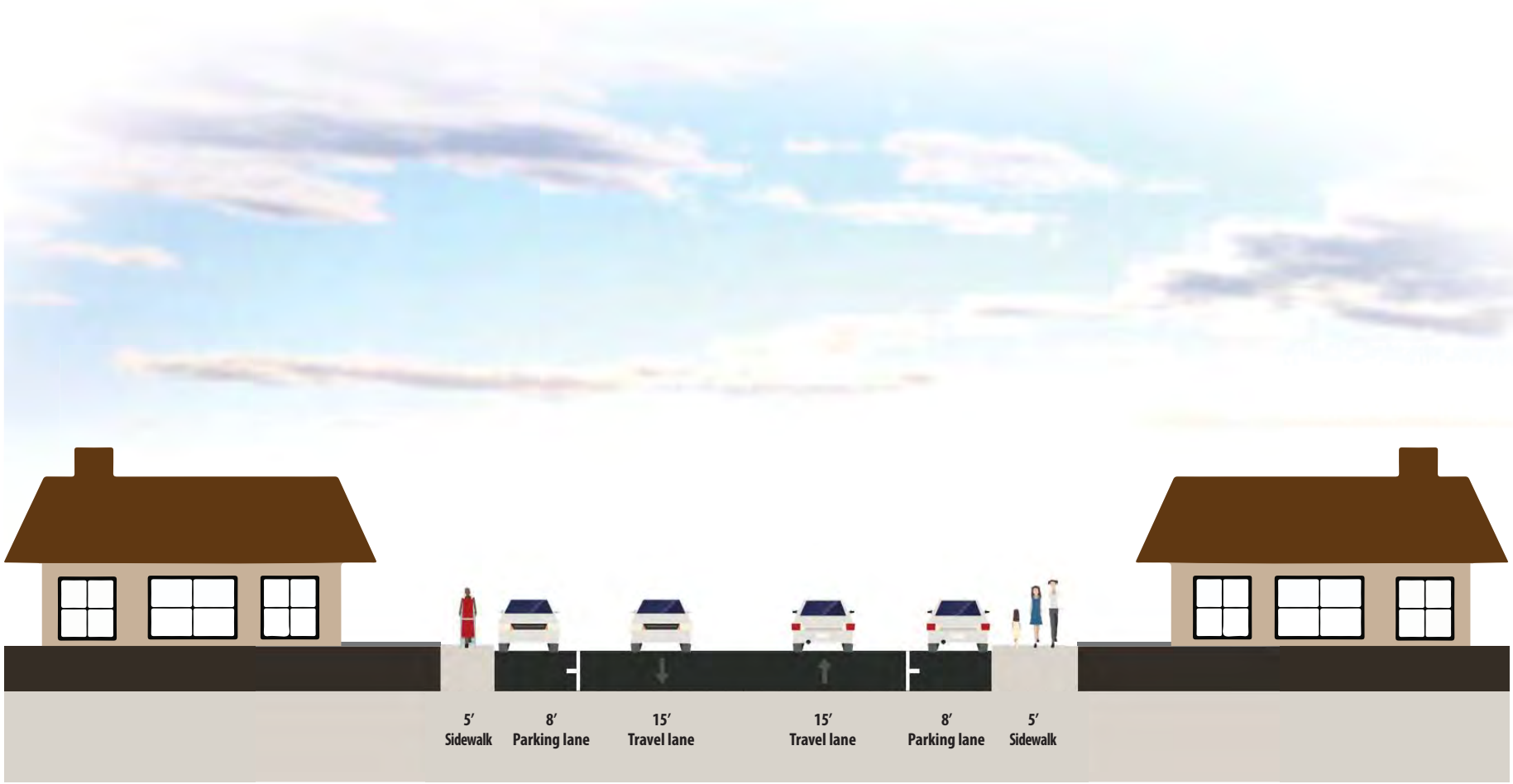
Figure 4.14-2



Existing Typical Cross Section Along Lewelling Blvd.
Between Hesperian Blvd. and Meekland Ave.

Source: Fehr & Peers, June 2015

Figure 4.14-3



Existing Typical Cross Section Along Lewelling Blvd.
Between Mission Blvd. and Meekland Ave.

Figure 4.14-4

Source: Fehr & Peers, June 2015

- **Elgin Street** is a two-lane local street that extends north-south between Bay Fair BART and Ashland Avenue, where it becomes an east-west roadway, continuing east of East 14th/Mission as 167th Avenue. The land uses are primarily residential, with a mix of multi-family and single-family housing.
- **Hampton Road** is a two-lane east-west collector extending between East 14th/Mission and Meekland Avenue. It is the continuation of Maddox Road. The corridor is primarily residential. Recent streetscape enhancements were implemented along Hampton Road, including wider sidewalks, class III bike route, street trees and narrower travel lanes. On-street parking is prohibited along several narrow segments of Hampton Road.
- **Blossom Way** is a two-lane east-west collector extending between Hathaway Avenue and East 14th/Mission. Blossom has bus service west of Western Boulevard. The land uses are primarily residential, with a mix of multi-family and single-family housing.
- **Grove Way** is a two-lane, east-west collector running east between Meekland Avenue and Redwood Road in Castro Valley. Bus service is not provided on Grove Way within the Plan Area. Grove Way is lined with residential uses and provides one of the few east-west connections between the Plan Area and destinations to the east.
- **Ashland Avenue** is a wide two-lane, north-south collector extending between East 14th/Mission and East Lewelling Boulevard. Ashland carries buses between Delano Street and East Lewelling Boulevard. Land uses are primarily residential with some commercial uses as well as Edendale Middle School.
- **Meekland Avenue** is a two-lane north-south collector extending between Ano Avenue and Burbank Street in Hayward. Land uses are a mix of residential and commercial. The roadway has Class II bicycle lanes and runs AC Transit buses.
- **Western Boulevard** is a two-lane north-south local street extending between Medford Avenue and A Street in Hayward, where it becomes Grand Street. The roadway runs parallel to the BART tracks and fronts primarily residential land uses. AC Transit provides service on the route.

b. Existing Year (2013) Traffic Volumes and Automobile Levels of Service. For the purposes of evaluating the land use changes, transportation improvements and other policy directives that will ultimately result from the proposed Specific Plan, six study roadway segments were identified in consultation with County staff:

1. East 14th Street between 150th Avenue and Ashland Avenue
2. East 14th Street between Ashland Avenue and 170th Avenue
3. East 14th Street/Mission Boulevard between 170th Avenue and Mattox Road
4. Mission Boulevard between Mattox Road and Hayward City Limit
5. East Lewelling Boulevard between Mission Boulevard and Meekland Avenue
6. Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard

Data collection efforts were undertaken in September 2013 to determine existing roadway average daily and peak hour traffic volumes in addition to truck percentages. Lane configurations and posted speed limits were also collected for study area roadways in October 2013. Seventy-two-hour tube classification counts were collected in September 2013 at all study

roadway segments except the Lewelling Boulevard segment between Hesperian Boulevard and Meekland Avenue. Data for this segment was provided by County staff as multi-day counts were previously collected in September 2012. The daily traffic counts indicate that the highest volumes generally occur in the morning between 7:00 and 9:00 AM and in the evening between 4:00 and 6:00 PM. Average peak hour and daily roadway volumes are presented on Figure 4.14-5. The raw traffic count data is provided in the Appendix.

As shown on Figure 4.14-5, average daily traffic volumes generally range between 16,850 and 19,700 vehicles along East 14th/Mission and between 11,080 and 17,400 vehicles along Lewelling/East Lewelling Boulevard. About two percent of the daily traffic volumes along East 14th/Mission are composed of heavy trucks compared to one percent along Lewelling Boulevard. Existing count is provided in the appendix.

The concept of "Level of Service" (LOS) is used to characterize how well the roadway network operates for motor vehicles. LOS is a standard measure of traffic operating conditions, which varies from LOS A (indicating free flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceed design capacity resulting in long queues and delays). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving.

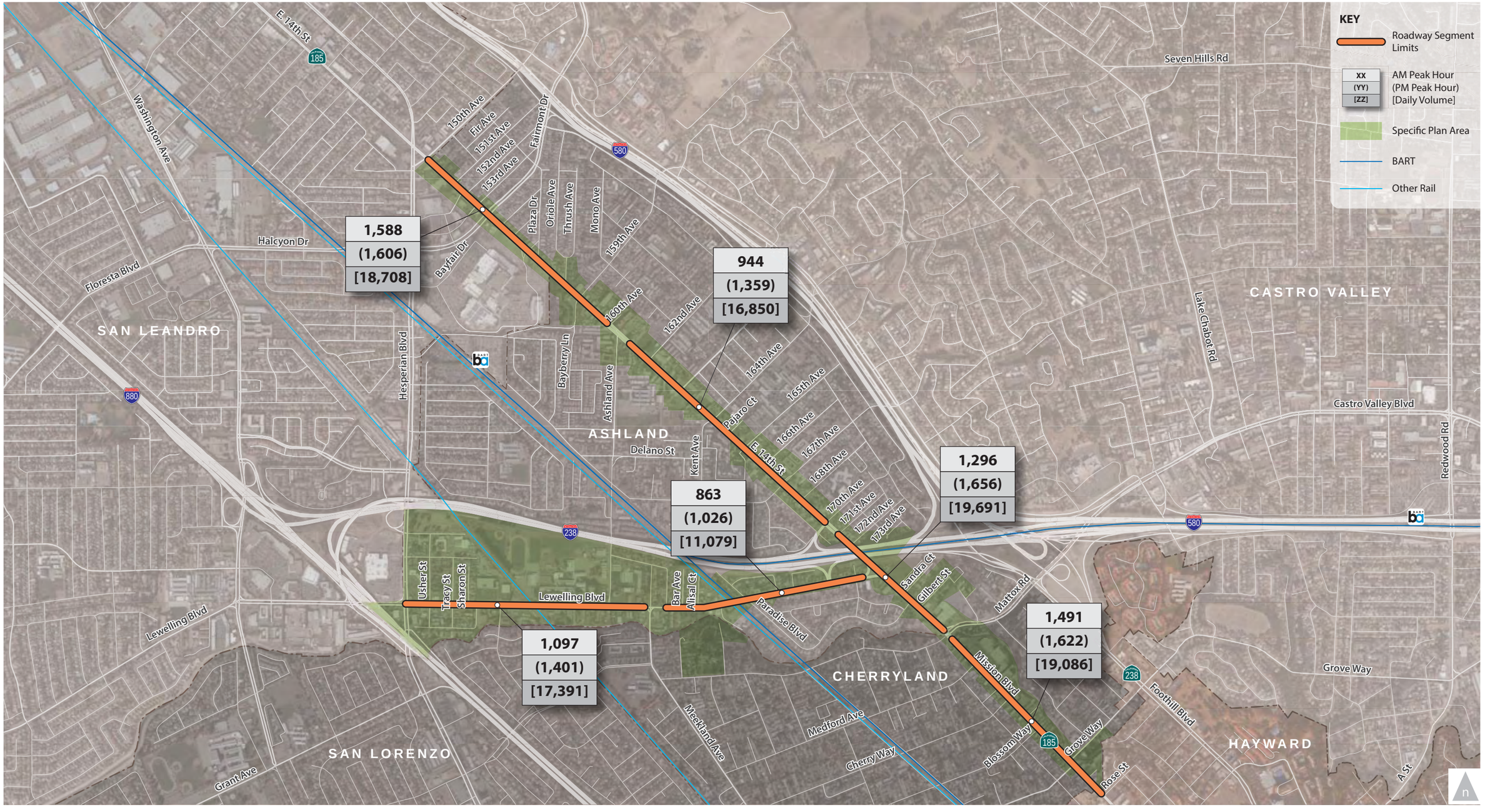
Roadway segments for this study are analyzed using volume-to-capacity (V/C) ratios. The capacities of study roadway segments were obtained from the Metropolitan Transportation Commissions' (MTC) San Francisco Bay Area regional highway network functional classification system. According to the functional classification system, a major street arterial in an urban setting (i.e. East 14th/Mission Boulevard/Lewelling Boulevard) has a capacity of about 900 vehicles per hour per lane (vphpl). Table 4.14-1 summarizes the relationship between V/C and LOS for roadway segments. The County's current LOS standard for roadways and intersections is to maintain LOS D or better during peak hours.

Table 4.1-1 Roadway Segment LOS Thresholds Based on Volume-to-Capacity Ratio

LOS	V/C Ratio	Maximum Traffic Volume (vphpl)	Traffic Conditions
A	0.28	252	Little or no congestion. Individual users are virtually unaffected by the presence of others in the traffic stream.
B	0.47	423	Stable flow, but the presence of others in the traffic stream begins to be noticeable.
C	0.66	594	Stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes affected by interaction with others in the traffic stream.
D	0.79	711	Represents high density, but stable flow.
E	1.00	900	Represents operating conditions at or near capacity.
F	>1.00	>900	Represents oversaturated stop-and-go conditions.

Notes:
1. *V/C = volume-to-capacity*
2. *Vphpl = vehicles per hour per lane*

Source: Highway Capacity Manual.



Existing Roadway Segment Traffic Volumes

Figure 4.14-5

Source: Fehr & Peers, June 2015

The peak hour traffic volumes were compared to roadway capacity for each of the study roadway segments, the V/C analysis is summarized in Table 4.14-2 for the AM peak hour and Table 4.14-3 for the PM peak hour. As shown in Table 4.14-2 and Table 4.14-3, all study area roadways operate at LOS C or better during the AM and PM peak hours.

Table 4.14-2
Existing Year (2013) AM Peak Hour Volume-to-Capacity Analysis

Roadway	Study Limits		Direction	Capacity (vph)	Volume (vph)	V/C Ratio	LOS
	From	To					
E. 14th Street	San Leandro City Limit	Ashland Ave	NB	1,800	1,074	0.60	C
			SB	1,800	514	0.29	B
E. 14th Street	Ashland Ave	170th Ave	NB	1,800	411	0.23	A
			SB	1,800	533	0.30	B
E. 14th Street/ Mission Blvd	170th Ave	Mattox Rd	NB	1,800	587	0.33	B
			SB	1,800	709	0.39	B
Mission Blvd	Mattox Rd	Hayward City Limit	NB	1,800	400	0.22	A
			SB	1,800	1,091	0.61	C
E. Lewelling Blvd	Mission Blvd	Meekland Ave	EB	900	458	0.51	C
			WB	900	405	0.45	B
Lewelling Blvd	Meekland Ave	Hesperian Blvd	EB	1,800	461	0.26	A
			WB	1,800	636	0.35	B

Source: Fehr & Peers, 2015.

Table 4.14-3
Existing Year (2013) PM Peak Hour Volume-to-Capacity Analysis

Roadway	Study Limits		Direction	Capacity (vph)	Volume (vph)	V/C Ratio	LOS
	From	To					
E. 14th Street	San Leandro City Limit	Ashland Ave	NB	1,800	700	0.39	B
			SB	1,800	906	0.50	C
E. 14th Street	Ashland Ave	170th Ave	NB	1,800	627	0.35	B
			SB	1,800	732	0.41	B
E. 14th Street/ Mission Blvd	170th Ave	Mattox Rd	NB	1,800	802	0.45	B
			SB	1,800	854	0.47	C
Mission Blvd	Mattox Rd	Hayward City Limit	NB	1,800	771	0.43	B
			SB	1,800	851	0.47	C
E. Lewelling Blvd	Mission Blvd	Meekland Ave	EB	900	570	0.63	C
			WB	900	456	0.51	C
Lewelling Blvd	Meekland Ave	Hesperian Blvd	EB	1,800	803	0.45	B
			WB	1,800	598	0.33	B

Source: Fehr & Peers, 2015.

c. Existing Transit Service. Transit service providers in the Plan Area include Alameda-Contra Costa Transit District (AC Transit) which provides local and Transbay bus service, with connections to the Transbay Terminal in San Francisco, Bay Area Rapid Transit (BART) which

provides regional rail service, and Amtrak. Figure 4.14-6 shows the existing transit services provided within the Plan Area. Each service is described below.

Alameda-Contra Costa Transit District (AC Transit). AC Transit is the primary bus service provider in 13 cities and adjacent unincorporated areas in Alameda County and Contra Costa County, with Transbay service to destinations in San Francisco, San Mateo and Santa Clara Counties. AC Transit operates 11 bus routes within the Plan Area. The characteristics of the AC Transit routes operating in the Plan Area are summarized in Table 4.14-4 and also shown in Figure 4.14-6.

Local adult fares, as of March 2015, are $2.10. Youth and senior fares are $1.05. The local day pass is $5.00 for adults and $2.50 for youth and seniors. Transbay adult fares are $4.20 and provide a free transfer to or from connecting AC Transit lines. Ten-day and 31-day passes are also available for both local and Transbay services. Fares are paid on the bus, and passengers must have exact change. AC Transit also honors Clipper, a universal fare card, which was introduced to the entire Bay Area region in the spring of 2008. Real-time arrivals and service advisories can be accessed via the internet and a variety of third party smartphone applications.

Table 4.14-4
AC Transit Service Summary

Line	Route	Weekday		Weekend		Average Daily Ridership within Plan Area
		Hours	Headway	Hours	Headway	
Express Route						
1R	Bayfair BART to Downtown Berkeley	5:00 a.m. to 8:00 p.m.	15 minutes	7:30 a.m. to 5:30 p.m.	15 minutes	2,560 passengers
Local Routes						
1	Bayfair BART to Berkeley BART	5:15 a.m. to 12:45 p.m.	15 minutes	5:00 a.m. to 12:45 p.m.	15 minutes	1,760 passengers
32	Bayfair BART to Hayward BART	5:00 a.m. to 9:00 p.m.	60 minutes	6:45 a.m. to 7:30 p.m.	60 minutes	580 passengers
40	Bayfair BART to Downtown Oakland	5:20 a.m. to 12:15 p.m.	10 minutes	5:30 a.m. to 12:15 p.m.	20 minutes	1,450 passengers
48	Bayfair BART to Hayward BART	6:30 a.m. to 8:30 p.m.	60 minutes	N/A	N/A	170 passengers
75	Bayfair BART to San Leandro BART	6:00 a.m. to 9:00 p.m.	60 minutes	N/A	N/A	200 passengers
89	Bayfair BART to San Leandro BART	5:15 a.m. to 8:45 p.m.	30 minutes	7:30 a.m. to 7:30 p.m.	60 minutes	Ridership data not provided
93	Bayfair BART to Hayward BART	5:45 a.m. to 8:45 p.m.	60 minutes	7:45 a.m. to 8:30 p.m.	60 minutes	330 passengers
97	Bayfair BART to Union City BART	5:45 a.m. to 7:30 p.m.	20 minutes	7:00 a.m. to 12:00 p.m.	30 minutes	1,900 passengers
99	Bayfair BART to Fremont BART	5:30 a.m. to 12:30 a.m.	30 minutes	6:00 a.m. to 1:30 p.m.	40 minutes	1,080 passengers
801	Fremont BART to Downtown Oakland	11:30 p.m. to 6:30 a.m.	60 minutes	11:30 p.m. to 7:30 a.m.	60 minutes	130 passengers

Notes: N/A = not applicable

Source: Route information, AC Transit website, March 2015. Ridership data, AC Transit, December 2013.

Plan Area Transit Routes

Figure 4.14-6

Source: Fehr & Peers, June 2015

Bay Area Rapid Transit (BART). The Bayfair BART station is located adjacent to the Bayfair Shopping Center, and sits on a triangular parcel formed by Thornally Drive to the north, Colby Street to the south, and Elgin Street to the west. The Bayfair station is served by the Fremont-Daly City, Fremont-Richmond, and Dublin/Pleasanton-Daly City lines. The Hayward BART station is located on Montgomery Avenue, two blocks west of Mission Boulevard and approximately one mile south of the Cherryland neighborhood. This station is served by the Fremont-Daly City and Fremont-Richmond lines. The Fremont-Daly City line operates at a frequency of 15 minutes and runs from 5:00 AM to 7:00 PM on weekdays and 9:00 AM to 6:30 PM on weekends. The Fremont-Richmond and Dublin/Pleasanton-Daly City lines run at a frequency of 15 minutes on weekdays and 20 minutes on weekends. These lines operate between 4:00 AM and 1:00 AM on weekdays and 6:00 AM to 1:00 AM on weekends. Real-time arrivals and service advisories are displayed at all BART station platforms, and can be also be accessed via the internet, email and SMS, and a variety of third party smartphone applications.

Current one-way fares from the Bayfair Station —calculated based on distance traveled—are $2.75 to Oakland City Center Station, $4.60 to San Francisco, and $9.90 to SFO. One way fares from the Hayward Station are $3.20 to Oakland City Center Station, $4.85 to San Francisco and $10.20 to SFO. Senior and youth discounts are available

Based on available ridership data, representing conditions in September 2013, indicates about 6,100 weekday boardings and 6,000 weekday alightings at Bayfair BART Station. Top destinations from Bayfair Station include downtown San Francisco (2,194 passengers alighting), downtown Oakland (714 alightings), Fremont (278 alightings), and Dublin/Pleasanton (224 alightings). The same ridership data indicates that Hayward BART Station experiences approximately 5,300 weekday boardings and alightings. Top destinations from the Hayward Station include downtown San Francisco (1,643 passengers alighting), downtown Oakland (531 alightings), and Fremont (399 alightings). Origins of trips ending at Bayfair and Hayward Stations generally align with these proportions.

Amtrak. Amtrak provides regional and national transit service. Regional service between San Jose and Sacramento is provided by Amtrak via the Capital Corridor train, connecting to Sacramento, San Jose and points beyond. An Amtrak station just south of the Plan Area is provided in Hayward. Amtrak runs about seven trains per day in each direction on weekdays and weekends.

d. Existing Bicycle System. Bicycle facilities are classified according to a typology established by Caltrans as documented in "Chapter 1000: Bikeway Planning and Design" of the *Highway Design Manual* (6th Edition, California Department of Transportation). The Caltrans standards provide for three distinct types of bikeway facilities as shown in Figure 4.1-7. The *Bicycle and Pedestrian Master Plan for Unincorporated Areas* (Alameda County Public Works Agency, April 2012) identifies a bikeway classification system that is based on Caltrans classification with added detail for Class III facilities, as generally described below:

- **Class I Paths (Multi-Use Trail):** These facilities are located off-street and can serve both bicyclists and pedestrians. Class I paths are typically eight to 12 feet wide excluding shoulders and are generally paved.

- **Class II Bicycle Lanes:** These facilities provide a dedicated area for bicyclists within the paved street width through the use of striping and appropriate signage. These facilities are typically five to six feet wide.

- **Class III Bicycle Routes:** These facilities are found along streets that do not provide sufficient width for dedicated bicycle lanes and are also provided on low-volume streets that have no bicycle lanes. The street is designated as a bicycle route through the use of signage informing drivers to share the street with bicyclists. To meet the specific needs of the Unincorporated Areas, additional Class III designations were designed:

    - **Class IIIA Bicycle Route:** Bicycle route for roadways with low traffic volumes and slower automobile speeds.

    - **Class IIIB Bicycle Route:** Bicycle routes for roadways with high traffic volumes and wide curb lanes where width is not available for dedicated bicycle lanes.

    - **Class IIIB Bicycle Route:** Bicycle routes for rural roadways providing wide shoulders for bicycle use.

Bicycle access within the Plan Area is characterized by a general lack of bikeways along most roadway segments. Existing bicycle facilities within the Plan Area are shown on Figure 4.14-8. The existing bikeway network in the vicinity of the ACBD Specific Plan Area consists of the following:

- Class II bicycle lanes on Lewelling Boulevard between Hesperian Boulevard and Meekland Avenue
- Class II bicycle lanes on 164th Avenue between East 14th Street and Liberty Street
- Class II bicycle lanes on 167th Avenue between East 14th Street and Liberty Street
- Class II bicycle lanes on Mattox Road between Mission Boulevard and Strobridge Avenue
- Class II bicycle lanes on Meekland Avenue south of Lewelling Boulevard
- Class II bicycle lanes on Fairmont Drive between Foothill Boulevard and Lake Chabot Road
- Class II bicycle lanes on Foothill Boulevard between 150th Avenue and Miramar Avenue

The *Bicycle and Pedestrian Master Plan for Unincorporated Areas* identifies potential bicycle facility improvements throughout the unincorporated areas of the County, including the ACBD Specific Plan Area, the proposed improvements are also shown on Figure 4.14-8. The following improvements are planned within the Plan Area, however funding for the improvements may not yet be available:

- Class IIIB bicycle route along East 14th Street between East Lewelling Boulevard and the San Leandro City Limit. Although the *Bicycle and Pedestrian Master Plan for Unincorporated Areas* calls for Class IIIB bicycle route along East 14th Street, the proposed Specific Plan recommends six foot Class II bicycle lanes along East 14th Street.

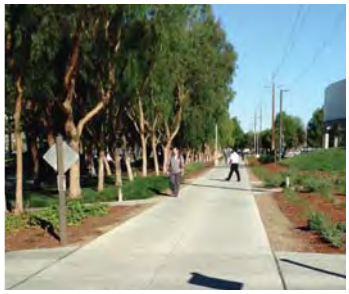
- Class II bicycle lanes along Mission Boulevard between Hayward City Limit and East Lewelling Boulevard.
- Class II bicycle lanes along East Lewelling Boulevard between Meekland Avenue and Mission Boulevard.
- Class II bicycle lanes along Ashland Avenue between Lewelling Boulevard and East 14th Street.
- Class II bicycle lanes along Hesperian Boulevard between Lewelling Boulevard and A Street.
- Class II bicycle lanes along Fairmont Drive between East 14th Street and Foothill Boulevard.
- Class IIIA bicycle route along Coelho Drive and 159th Avenue between the Bay Fair BART station and East 14th Street.
- Class IIIA bicycle route along Elgin Street between the Bay Fair BART station and East 14th Street.
- Class IIIA bicycle route along Hampton Road between the Meekland Avenue and Mission Boulevard.
- Class IIIA bicycle route along Blossom Way between Hathaway Avenue and Mission Boulevard.
- Class IIIA bicycle route along Grove Way between Western Boulevard and Redwood Road.
- Class IIIA bicycle route along Via Granada/Via Toledo between Lewelling Boulevard and Hacienda Avenue.

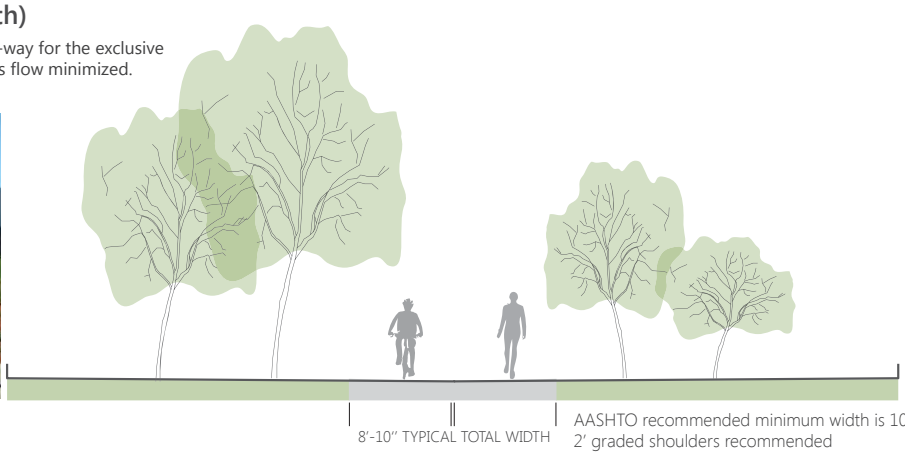
In addition, a 16-mile long Class I multi-use trail known as the "East Bay Greenway" is planned by the Alameda County Transportation Commission (Alameda CTC) and would connect the South Hayward BART Station to Lake Merritt BART Station in Oakland via the BART track alignment. The proposed East Bay Greenway would traverse the ACBD Specific Plan Area as shown on Figure 4.14-8.

e. Existing Pedestrian System. The Plan Area is centered on the East 14th/Mission and Lewelling/East Lewelling Boulevard corridors. East 14th/Mission has a sidewalk on both sides of the roadway. The five-lane cross sections of East 14th/Mission creates long crossing distances, typically over 85 feet in length. Crosswalks are typically spaced over 500 feet apart and frequently over 750 feet apart. This can cause pedestrians to walk several hundred feet out of their way to cross in a marked crosswalk. Several intersections along East 14th/Mission, such as East Lewelling Boulevard and Mattox Road, have skewed geometries, large slip lanes, and similar features that create long crossing distances for pedestrians while allowing autos to maintain speed through the intersection. Curb ramps are typically provided at each corner of intersections but frequently lack ADA-required truncated domes. Pedestrian push buttons with pedestrian count down signals are found at signalized intersections along the corridor. Raised landscaped medians are provided along East 14th Street north of 162nd Avenue and along Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard; striped or raised medians are also provided along East 14th/Mission south of 162nd.

CLASS I BIKEWAY (Bike Path)

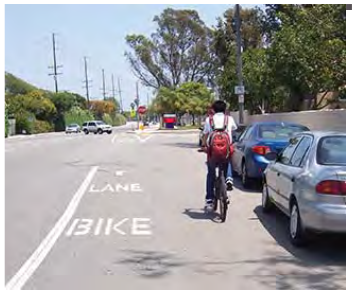
Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.

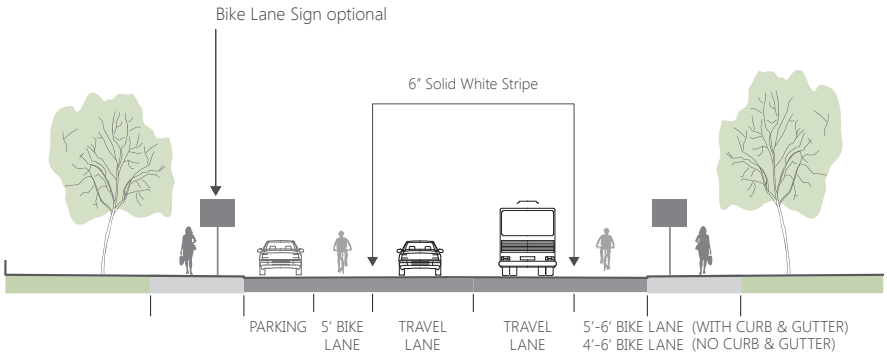




CLASS II BIKEWAY (Bike Lane)

Provides a striped lane for one-way bike travel on a street or highway.

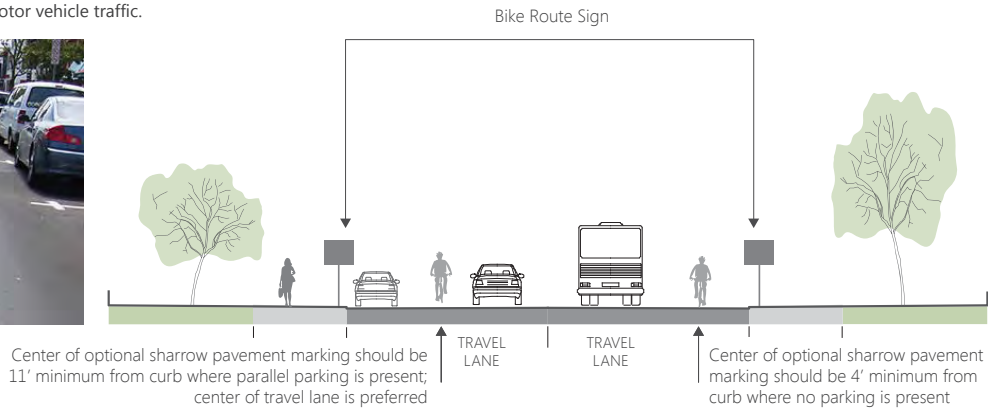




CLASS III BIKEWAY (Signed Bike Route)

With Optional Sharrow Pavement Marking

Provides for shared use with motor vehicle traffic.



Source: Fehr & Peers, June 2015

California Bikeway Classification

Figure 4.14-7

Existing and Planned Bicycle Facilities Within Unincorporated Areas

Figure 4.14-8

Source: Fehr & Peers, June 2015

East of Meekland Avenue, East Lewelling Boulevard has sidewalk gaps and non-conforming uses with long driveways and parking lots along the roadway edge. Phase 1 of the Lewelling Boulevard Improvement Project has recently constructed wide sidewalks between Hesperian Boulevard and Meekland Avenue. Through this section, the sidewalk provides a continuous east-west pedestrian route connecting to San Lorenzo High School, commercial areas, and residential neighborhoods. Recently implemented improvements along Lewelling Boulevard between Hesperian Boulevard and Meekland Avenue include a landscaped median; though full pedestrian refuges are not provided at crosswalks on the corridor.

4.14.2 Impact Analysis and Mitigation Measures

a. Methodology and Significance Thresholds. The methodology used to evaluate automobile impacts can be found in Table 4.14-1; automobile level of service was analyzed using the volume-to-capacity methodology for roadway segments consistent with the Highway Capacity Manual (HCM) methods. The County's current Eden Area General Plan level of service standard is to maintain LOS D or better. Based on this standard, automobile traffic impacts are identified as significant if the proposed Specific Plan buildout would:

- *Cause (a) the LOS to degrade from LOS D or better to LOS E or F, or (B) the LOS to degrade from LOS E to LOS F or (c) increasing the amount of traffic on a roadway segment already exceeding its capacity by more than one percent of the segment's design capacity.*

The Alameda County Transportation Commission (Alameda CTC), the County's congestion management agency, identifies LOS E or better as acceptable for Congestion Management Program (CMP) roadway segments. The supplemental CMP roadway analysis presented in this study identifies automobile traffic impacts as significant if the proposed Specific Plan buildout would:

- *Cause (a) the LOS to degrade from LOS E or better to LOS F or (b) the V/C ratio to increase more than 0.03 along a roadway segment that would operate at LOS F without the project.*

Multimodal Level of Service. The proposed Specific Plan includes a Multimodal Access Plan, key elements of which include a set of recommended infrastructure improvements and the goals and policies established to guide improvements for autos, bicyclists, pedestrians and transit within the Plan Area. The recommended multimodal level of service (MMLOS) methods used to identify transportation improvements within the Plan Area differ from traditional performance measures where level of service is based solely on automobile delay. The traditional methodology, which fails to consider the multimodal impact of proposed infrastructure improvements and projects, ignores the positive implications of some projects on overall circulation and person mobility. In order to design for and track the success of the proposed Specific Plan, MMLOS performance measures are used to understand the impact on all modes of the proposed Plan improvements. The proposed MMLOS methodology takes a qualitative checklist approach to measuring quality of service provided to users of pedestrian, bicycle and transit facilities. This methodology measures the presence and, in some cases, quality of specific features of the built environment that benefit active transportation modes. Depending on mode, such features might include curb extensions to reduce pedestrian crossing distances, presence of dedicated bicycle lanes, and bus bulbs to reduce delay for buses by allowing them to stop in the travel lane.

The MMLOS analysis used as part of the proposed Specific Plan applies the Built Environment Factors (BEF) methodology to provide a cursory evaluation of the benefits and drawbacks of the recommended infrastructure improvements to analyze the impacts on the pedestrian, bicycle and transit modes. The BEF methodology sets separate pedestrian, bicycle and transit environmental treatments that would result in the greatest comfort and ease of use of the respective mode. The assessment compares existing conditions to proposed improvements to ensure that implementation of the proposed Specific Plan would result in a cumulative improvement to mobility. Traditional automobile LOS is assigned letter grades A through F. For pedestrians, bicyclists and transit, the BEF methodology consolidates those six letter grades into three or four categories based on a 0 to 10 point scale. The presence of each factor awards a certain number of points, and when summed together, these create a MMLOS score that corresponds to the ratings shown on Table 4.14-5. BEF is not assessed for automobiles under the assumption that automobile LOS is evaluated using the volume-to-capacity methodology described previously. The BEF methods and the project's proposed standards for each mode are presented below.

Table 4.14-5
MMLOS Score Thresholds by Mode

Mode	MMLOS Score			
	0 to 1	2 to 5	6 to 7	8 to 10
Pedestrian	Poor		Good	Best
Bicycle	Poor	Fair	Good	Best
Transit	Poor		Good	Best

Source: Fehr & Peers, 2015.

In the MMLOS analysis, a "Best" pedestrian, bicyclist and transit score would indicate a high level of safety and comfort for these users. For pedestrians, a "Best" score would likely indicate the presence of a variety of design measures such as continuous and well-buffered sidewalks, marked crosswalks with appropriate traffic control, curb extensions and median refuges. For bicyclists, a "Best" score would likely indicate the presence of a dedicated bikeway with a high level of comfort for inexperienced riders, such as might be afforded by buffer or separation from traffic. For transit users, a "Best" score would indicate the presence of bus stop amenities such as a shelter and bench with wayfinding or routing information, as well as design measures such as dedicated bus stop areas with red curb, a clear pedestrian path of travel, ADA compliance, and pedestrian-scale lighting.

A "Good" rating would indicate the presence of some of these design measures, while a "Poor" rating would indicate the presence of few of these design measures. A "Fair" rating is provided specifically for the bicycle mode. The "Fair" rating indicates the presence of a Class III designated bikeway on a busy arterial, while a "Good" rating indicates the presence of a dedicated Class II bike lane without buffer separation, a "Best" rating indicates the presence of a dedicated Class I path or Class II bike lanes with buffer separation. Generally speaking, the "Fair" bicycle rating indicates an improvement for the enthused and confident bicyclist (e.g., providing a Class III bicycle facility), while the "Good" and "Best" rating indicates improvements sufficient to attract the interested but concerned bicyclists (e.g., providing Class I or Class II bicycle facilities).

Adopted MMLOS significance thresholds do not currently exist within unincorporated areas of Alameda County. Therefore, the following significance criteria are proposed for bicycle, pedestrian, and transit facilities within the Plan Area. An impact to bicycle, pedestrian, or transit facilities would be as follows:

- *The project would result in the degradation of a facility to a MMLOS score rating of "Poor."*
- *The project would degrade the MMLOS score rating compared to without project conditions.*

Other Applicable Significance Thresholds. According to the *State CEQA Guidelines*, a project would also have a significant impact if the project would:

1) *Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the County congestion management agency for designated roads and highways;*

2) *Result in a change in traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks;*

3) *Substantially increase traffic hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);*

4) *Result in inadequate emergency access; or*

5) *Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.*

As discussed in the Initial Study in Appendix A of this EIR, the proposed Specific Plan would have no impacts with respect to criteria 3 and 4. These issues are not addressed further in this section.

Although the MMLOS/BEF methodology and significance thresholds described above have not been applied on previous projects within unincorporated Alameda County, the methodology and thresholds have been applied on similar planning projects within the region. The most recent example includes the *San Pablo Avenue Specific Plan* in El Cerrito, CA, which was adopted in 2014. San Pablo Avenue in El Cerrito has similar characteristics to East 14th/Mission Boulevard in unincorporated Alameda County as they are both classified as state routes and operate as major transit corridors. To provide additional context for the BEF methodology, the pedestrian BEF methodology was derived using National Cooperative Highway Research Program (NCHRP) Report 562 as a technical basis, the bicycle BEF methodology was derived using the Mineta Transportation Institute's *Low-Stress Bicycling and Network Connectivity* report as a technical basis, and the transit BEF methodology was derived using the MMLOS methodology presented in Chapter 17 of the *Highway Capacity Manual 2010* as a technical basis. Templates for the BEF calculations for each mode are included in the appendix of this EIR.

b. Proposed Project Land Use Plan and Transportation Network Improvements. This study assesses potential transportation network impacts associated with implementing the proposed Specific Plan, in addition to proposed transportation network improvements. The

preferred land use plan buildout is consistent with the Eden Area General Plan and assumes the following growth within the Plan Area:

- *167 single-family housing units*
- *771 multi-family housing units*
- *197 retail jobs*
- *299 finance and professional jobs*
- *853 health, education or recreational service jobs*
- *551 other jobs*

The proposed Specific Plan buildout is a product of analysis and conversations between the County, Rincon Consultants, Inc., Fehr & Peers, and Lisa Wise Consulting, Inc.

The proposed Specific Plan proposes various multimodal transportation network improvements to accommodate planned growth within the Plan Area; the list of improvements along East 14th/Mission and East Lewelling Boulevards are shown in Figure 4.14-9. The following improvements are proposed as part of the project:

- Provide Class II bike lanes along East 14th/Mission through the Plan Area between San Leandro and Hayward City Limits to address the lack of bicycle facilities under existing conditions.

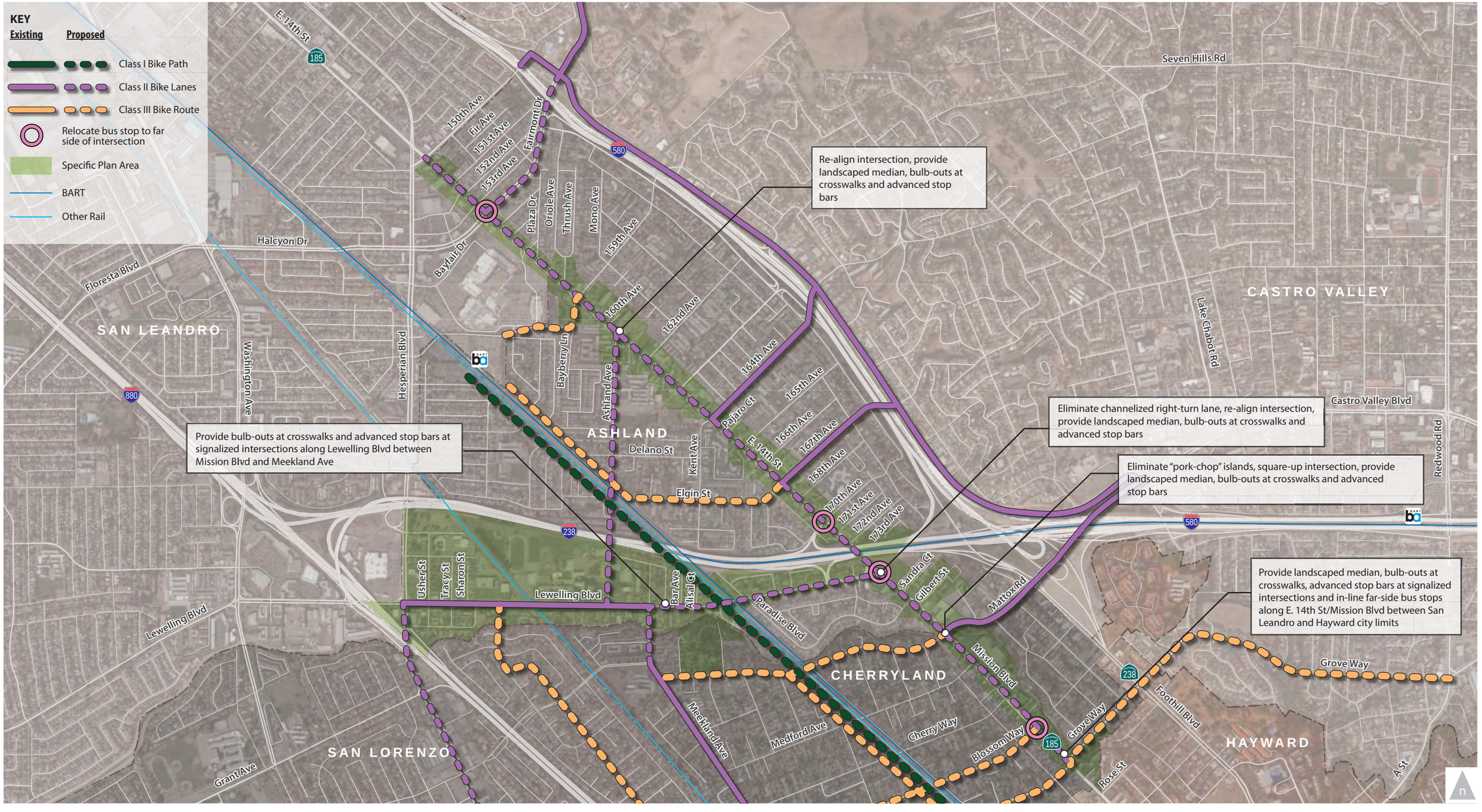
- Provide Class II bike lanes along East Lewelling Boulevard between Mission Boulevard and Meekland Avenue to address the lack of bicycle facilities under existing conditions.

- Provide landscaped medians, bulb-outs at crosswalks and in-line far-side bus stops along East 14th/Mission between San Leandro and Hayward City Limits to improve pedestrian and transit user experience compared to what is provided under existing conditions.

- Provide bulb-outs at crosswalks along East Lewelling Boulevard between Mission Boulevard and Meekland Avenue to improve the pedestrian experience compared to what is provided under existing conditions.

- Where applicable, upgrade bus stops along East 14th/Mission to provide bench, shelter, bicycle parking, wayfinding and routing information, and a minimum 80 feet of bus stop and red curb to improve the transit user experience compared to what is provided under existing conditions.

Proposed typical cross section configuration along East 14th/Mission is shown in Figure 4.14-10 and in Figure 4.14-11 for the East Lewelling Boulevard segment between Mission Boulevard and Meekland Avenue. The segment of Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard was recently improved, therefore additional improvements are not proposed for this segment.



Recommended Transportation Network Improvements

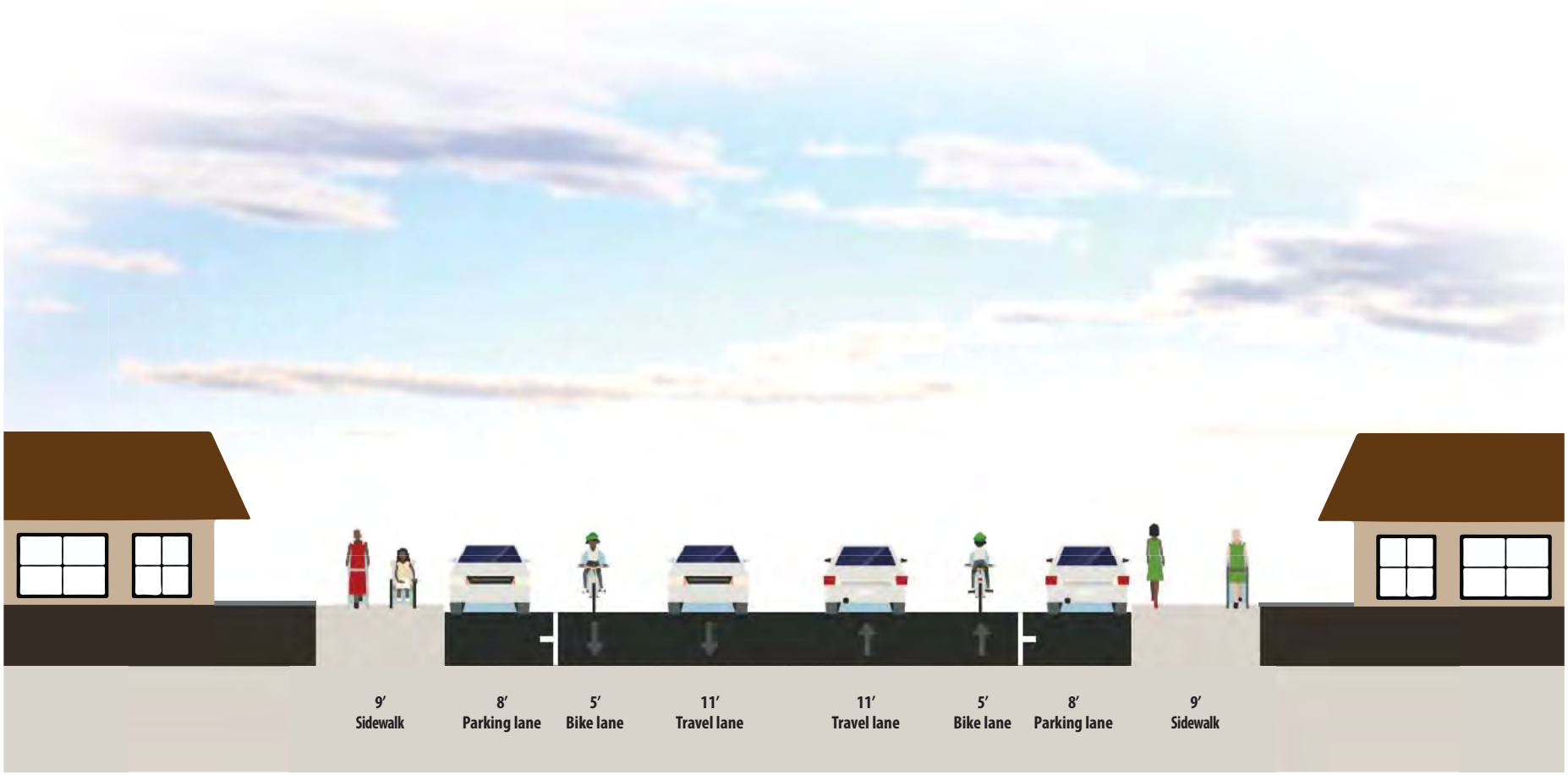
Figure 4.14-9

Source: Fehr & Peers, June 2015

Source: Fehr & Peers, June 2015

Proposed Typical Cross Section Along E. 14th St./Mission Blvd.

Figure 4.14-10



Proposed Typical Cross Section Along Lewelling Blvd.
Between Mission Blvd. and Meekland Ave.

Source: Fehr & Peers, June 2015

Figure 4.14-11

c. Traffic Scenarios. Traffic conditions along the study roadway segments listed in section 4.14.1.b above were evaluated for the following four scenarios:

- Existing Year (2013) conditions (discussed in Section 4.14.1 above)
- Existing Year (2013) with ACBD Specific Plan Update buildout
- Cumulative Year (2040) without ACBD Specific Plan Update buildout
- Cumulative Year (2040) with ACBD Specific Plan Update buildout

The Alameda County Transportation Commission (Alameda CTC) Countywide Travel Demand Model was used to estimate future year growth rates without proposed Specific Plan buildout; the model is a regional travel demand model that is used by local agencies in Alameda County to forecast travel demand for automobile, transit, and active transportation modes. The annual growth rates derived from the travel demand model (ranging between 0.7 to 1.5 percent per year) were applied to the existing traffic roadway counts (shown in Figure 4.14-5 above) to estimate year 2040 without proposed Specific Plan buildout forecasts. Estimated trips generated by proposed Specific Plan buildout were then added to the initial 2040 forecasts estimates to estimate year 2040 with proposed Specific Plan buildout forecasts, as described in the following section.

d. Trip Generation, Distribution and Assignment. Conventional methods used by traffic engineers through the U.S. to estimate a project trip generation rely on the data and analysis methods published by the Institute of Transportation Engineers (ITE) *Trip Generation* manual. The *Trip Generation* manual dataset is predominantly based on individual, single-use suburban developments whose trips are by private vehicle and whose origins or destinations lie outside the development. This method fails to account for project characteristics such as the mix and balance of land uses, compactness of design, neighborhood connectivity and walkability, infill versus new development in remote locations, and the variety of transportation choices offered. Failure to account for these benefits often exaggerates estimates of traffic impacts and result in excessive traffic mitigation, skews public perceptions, and results in decision-maker resistance.

In response to the limitations in the ITE methodology, and to provide a straightforward and empirically validated method of estimating vehicle trip generation at mixed-use developments, the US Environmental Protection Agency (EPA) sponsored a national study of the trip generation characteristics of multi-use sites. The resultant characteristics from this study were then related statistically to trip behavior observed at the study development sites. These statistical relationships produced equations, known as the EPA Mixed Used Development (MXD) model, that allows predicting external vehicle trip reduction as a function of the MXD characteristics. Applying the external vehicle trip reduction percentage to "raw trips", as predicted by ITE, produces an estimate for the number of vehicle trips traveling in or out of the site.

The MXD model has been approved for use by the EPA[1]. It has also been peer-reviewed in the ASCE Journal of Urban Planning and Development[2], peer-reviewed in a 2012 TRB paper

[1] *Trip Generation Tool for Mixed-Use Developments (2012).* www.epa.gov/dced/mxd_tripgeneration.html

evaluating various smart growth trip generation methodologies[3], recommended by SANDAG for use on mixed-use developments[4], promoted in an American Planning Association (APA) Planning Advisory Service (PAS)[5] which recommended it for evaluating traffic generation of mixed-use and other forms of smart growth, including in-fill and transit oriented development. In addition, the MXD model has been used successfully in multiple certified EIRs in California. The MXD model was applied to the proposed Specific Plan to more accurately account for the mix of land uses throughout the Plan Area. The model takes into account the unique characteristics of the Plan Area such as, but not limited to, proportion of households within a ¼-mile of transit, jobs available within 30 minutes by transit, and residential densities.

In order to accomplish this, the Plan Area was divided into two corridors: East 14th/Mission and Lewelling/East Lewelling Boulevard. This provided a better analysis of available transit facilities and pedestrian amenities along the two major corridors in the Plan Area. Using the Land Use descriptions from the proposed Specific Plan, vehicle trips generated by land uses along each corridor were calculated and corridor-specific reductions to the "raw trips" were applied. The total proposed Specific Plan trip generation results are shown in Table 4.14-6 below.

Table 4.14-6
ACBD Specific Plan Update Automobile Trip Generation[1]

	Total Automobile Trips		
	AM Peak Hour	**PM Peak Hour**	**Daily**
E. 14th/Mission Boulevard Corridor			
Raw ITE Trips	1,172	2,093	20,810
Reduction	29%	32%	21%
Net Trips	834	1,433	16,461
Lewelling/E. Lewelling Boulevard Corridor			
Raw ITE Trips	1,166	1,164	12,268
Reduction	33%	33%	24%
Net Trips	784	781	9,327
Total Combined Net Trips	**1,618**	**2,214**	**25,788**

1. *Trip generation estimates for proposed Specific Plan land use plan, which assumes the following growth: 167 single-family units, 771 multi-family units, 1,900 jobs.*

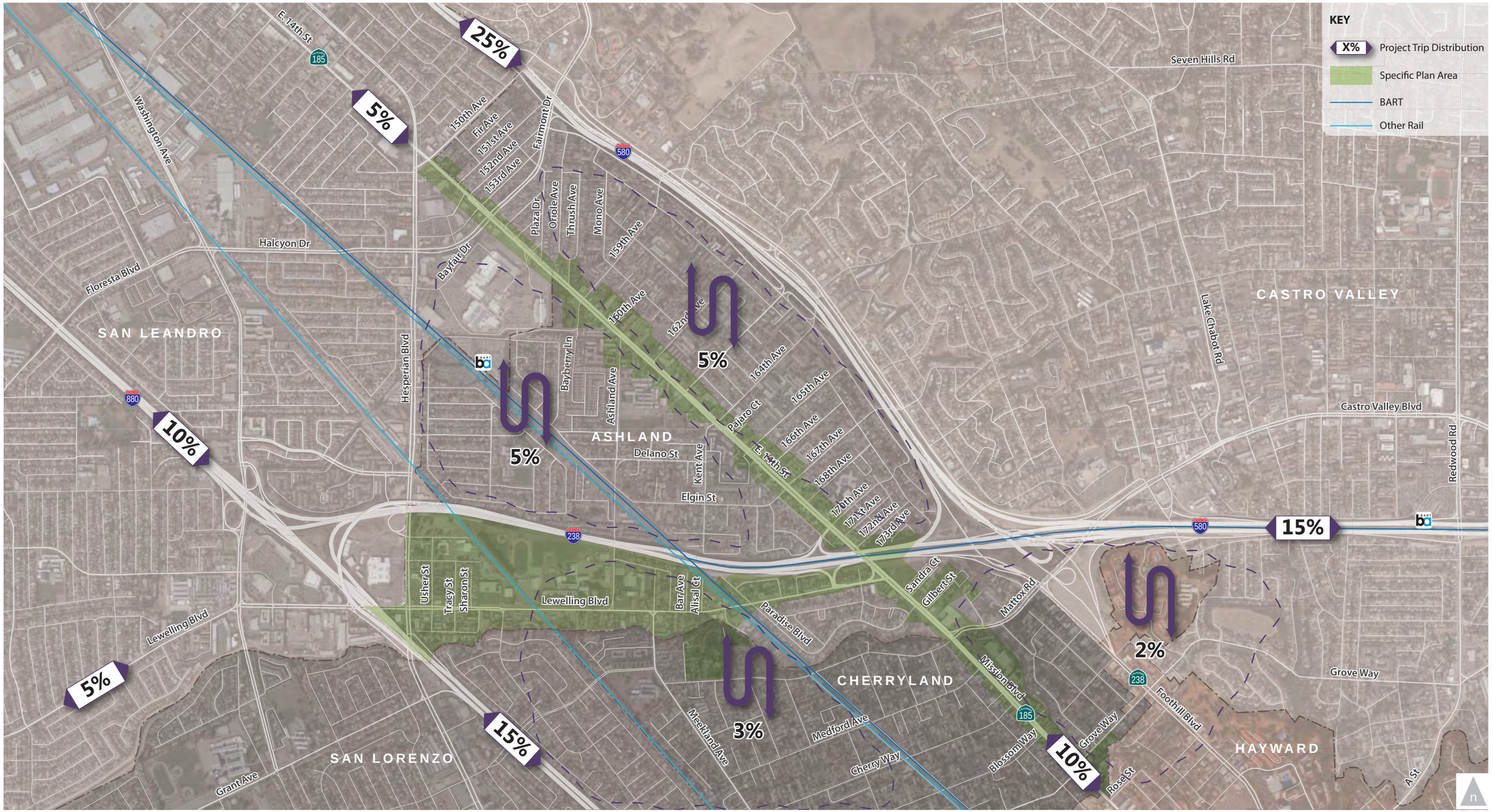
Source: Fehr & Peers, 2015.

[2] *"Traffic Generated by Mixed-Use Developments—Six-Region Study Using Consistent Built Environmental Measures." Journal of Urban Planning and Development, 137(3), 248–261.*

[3] *Shafizadeh, Kevan et al. "Evaluation of the Operation and Accuracy of Available Smart Growth Trip Generation Methodologies for Use in California". Presented at 91st Annual Meeting of the Transportation Research Board, Washington, D.C., 2012.*

[4] *SANDAG Smart Growth Trip Generation and Parking Study.*
http://www.sandag.org/index.asp?projectid=378&fuseaction=projects.detail

[5] *Walters, Jerry et al. "Getting Trip Generation Right – Eliminating the Bias Against Mixed Use Development". American Planning Association. May 2013.*



Project Trip Distribution

Figure 4.14-12

Source: Fehr & Peers, June 2015

County of Alameda

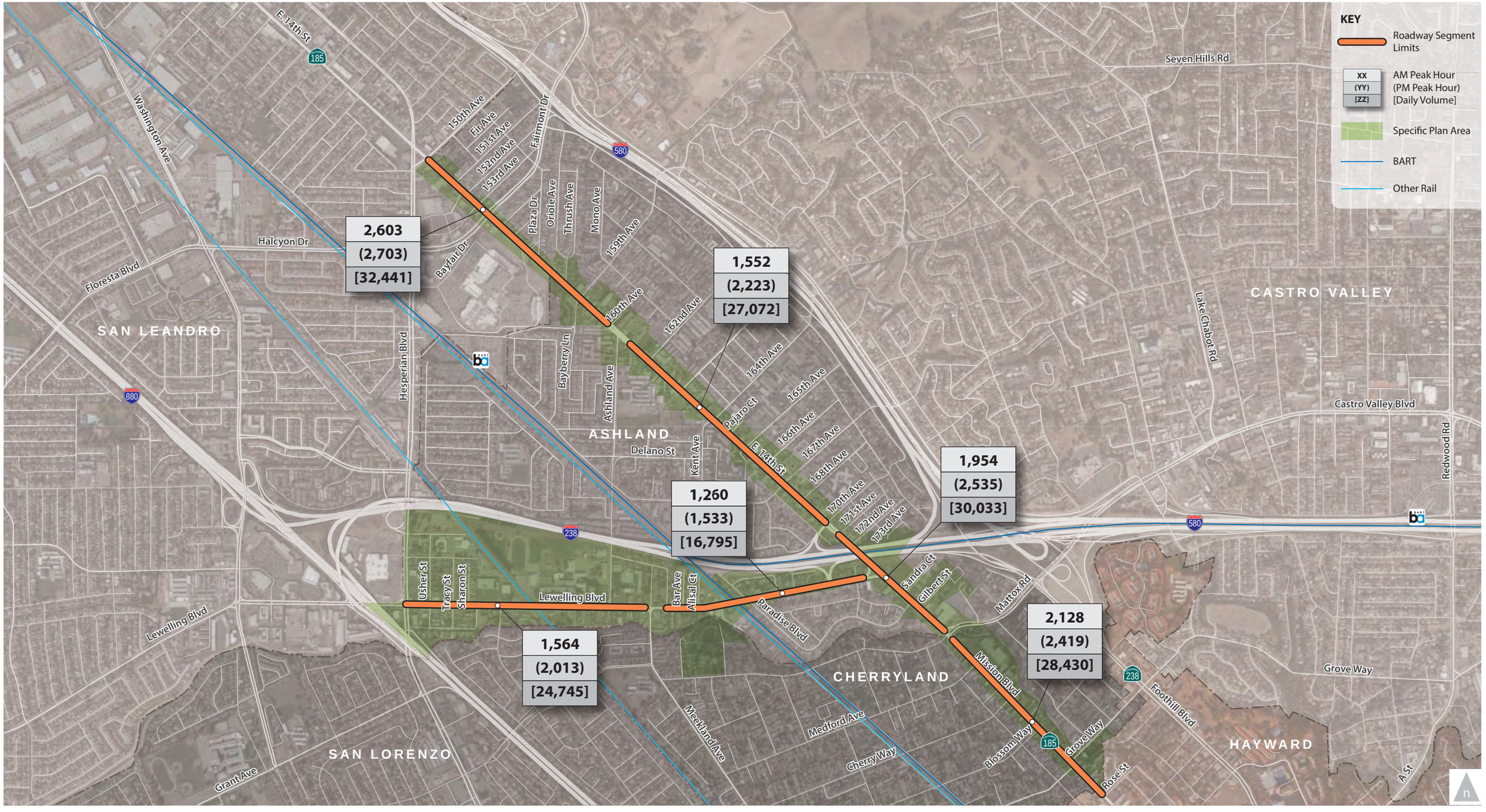
Generated project trips were assigned to the study roadway network based on the trip distribution assumptions shown in Figure 4.14-12. Trip distribution for the Plan Area was estimated utilizing the Alameda CTC Countywide Travel Demand Model. Estimated trips generated by the proposed Specific Plan buildout were then added to the initial 2040 forecasts to estimate Cumulative Year (2040) with ACBD Specific Plan Update buildout forecasts shown in Figure 4.14-13.

e. Automobile Impacts.

Impact T-1 Development facilitated by the proposed project would increase Existing Year (2013) traffic levels along East 14th/Mission and Lewelling/East Lewelling Boulevard. However, all study segments are projected to operate at acceptable levels of service (LOS D or better). Therefore, impacts on the local circulation system under the Existing Year (2013) scenario would be *less than significant*.

Existing Year (2013) without and with proposed Specific Plan buildout conditions were analyzed based on peak hour volume-to-capacity method for roadway segments. Table 4.14-7 and Table 4.14-8 summarize Existing Year AM and PM peak hour results, respectively. All six study roadway segments are expected to operate at LOS D or better conditions assuming proposed Specific Plan buildout, which is acceptable given the LOS D. Therefore, the proposed project would result in *less than significant* impacts along study roadway segments under Existing Year (2013) conditions.

This page intentionally left blank.



Year 2040 Forecasts Assuming Preferred Land Use Plan

Figure 4.14-13

Source: Fehr & Peers, June 2015

Table 4.14-7
Existing Conditions AM Peak Hour Volume-to-Capacity (V/C) Analysis

Roadway	Study Limits		Direction	Capacity (vph)[1]	Volume (vph)[2]	Volume to Capacity Ratio[2]	LOS[2]
	From	To					
E. 14th Street	San Leandro City Limit	Ashland Ave	NB	1,800	1,074 (1,211)	0.60 (0.67)	C (D)
			SB	1,800	514 (607)	0.29 (0.34)	B (B)
E. 14th Street	Ashland Ave	170th Ave	NB	1,800	411 (648)	0.23 (0.36)	A (B)
			SB	1,800	533 (709)	0.30 (0.39)	B (B)
E. 14th Street/ Mission Blvd	170th Ave	Mattox Rd	NB	1,800	587 (787)	0.33 (0.44)	B (B)
			SB	1,800	709 (898)	0.39 (0.50)	B (C)
Mission Blvd	Mattox Rd	Hayward City Limit	NB	1,800	400 (538)	0.22 (0.30)	A (B)
			SB	1,800	1,091 (1,281)	0.61 (0.71)	C (D)
E. Lewelling Blvd	Mission Blvd	Meekland Ave	EB	900	458 (584)	0.51 (0.65)	C (C)
			WB	900	405 (497)	0.45 (0.55)	B (C)
Lewelling Blvd	Meekland Ave	Hesperian Blvd	EB	1,800	461 (570)	0.26 (0.32)	A (B)
			WB	1,800	636 (766)	0.35 (0.43)	B (B)

Notes:

1. *Vph = vehicles per hour.*
2. *Values shown as: Existing Conditions Without Project (Existing Conditions With Specific Plan Update buildout).*

Source: Fehr & Peers, 2015.

Table 4.14-8
Existing Conditions PM Peak Hour Volume-to-Capacity (V/C)Analysis

Roadway	Study Limits		Direction	Capacity (vph)[1]	Volume (vph)[2]	Volume to Capacity Ratio[2]	LOS[2]
	From	To					
E. 14th Street	San Leandro City Limit	Ashland Ave	NB	1,800	700 (835)	0.39 (0.46)	B (B)
			SB	1,800	906 (1,074)	0.50 (0.60)	C (C)
E. 14th Street	Ashland Ave	170th Ave	NB	1,800	627 (951)	0.35 (0.53)	B (C)
			SB	1,800	732 (990)	0.41 (0.55)	B (C)
E. 14th Street/ Mission Blvd	170th Ave	Mattox Rd	NB	1,800	802 (1,093)	0.45 (0.61)	B (C)
			SB	1,800	854 (1,099)	0.47 (0.61)	B (C)
Mission Blvd	Mattox Rd	Hayward City Limit	NB	1,800	771 (1,016)	0.43 (0.56)	B (C)
			SB	1,800	851 (1,067)	0.47 (0.59)	B (C)
E. Lewelling Blvd	Mission Blvd	Meekland Ave	EB	900	570 (705)	0.63 (0.78)	C (D)
			WB	900	456 (615)	0.51 (0.68)	C (D)
Lewelling Blvd	Meekland Ave	Hesperian Blvd	EB	1,800	803 (1,975)	0.45 (0.54)	B (C)
			WB	1,800	598 (748)	0.33 (0.42)	B (B)

Notes:

1. *Vph = vehicles per hour.*
2. *Values shown as: Existing Conditions (Existing Conditions With Specific Plan Update buildout).*

Source: Fehr & Peers, 2015.

Mitigation Measures. Impacts would be less than significant; therefore, mitigation is not necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact T-2 Development facilitated by the proposed project would increase Cumulative Year (2040) traffic levels along East 14th/Mission and Lewelling/East Lewelling Boulevard. The proposed project is expected to degrade LOS from D to E along southbound Mission Boulevard between Mattox Road and Hayward City Limit during the AM peak hour, along southbound East 14th Street between San Leandro City Limit and Ashland Avenue

during the PM peak hour, and along eastbound East Lewelling Boulevard between Meekland Avenue and Mission Boulevard during the PM peak hour. All other segments along East 14th/Mission and Lewelling Boulevard are projected to operate at acceptable levels of service (LOS D or better). Capacity increasing mitigation measures along East 14th/Mission or East Lewelling Boulevard are not proposed as part of the project. Therefore, impacts on the local circulation system under the Cumulative Year (2040) scenario would be *significant and unavoidable*.

Cumulative Year (2040) without and with proposed Specific Plan buildout conditions were analyzed based on peak hour volume-to-capacity method for roadway segments. Table 4.14-9 and Table 4.14-10 summarize Cumulative Year AM and PM peak hour results; respectively. The Cumulative Year analysis assumes the future year forecasts as described above. Roadway capacity along East 14th/Mission and Lewelling/East Lewelling Boulevard within the Plan Area is expected to remain the same between existing conditions and year 2040. As shown in Table 4.14-9 and Table 4.14-10, the following study roadway segments are expected to degrade from LOS D to LOS E with proposed Specific Plan buildout:

- Southbound Mission Boulevard between Mattox Road and Hayward City Limit during the AM peak hour
- Southbound East 14th Street between San Leandro City Limit and Ashland Avenue during the PM peak hour
- Eastbound East Lewelling Boulevard between Meekland Avenue and Mission Boulevard during the PM peak hour

The proposed project would result in *significant and unavoidable* impacts along the three study roadway segments listed above under Cumulative Year (2040) conditions. All other study roadway segments are expected to operate at LOS D or better under Cumulative Year (2040) conditions.

Table 4.14-9
Cumulative Year (2040) AM Peak Hour Volume-to-Capacity Analysis

Roadway	Study Limits		Direction	Capacity (vph)[1]	Volume (vph)[2]	V/C Ratio[2]	LOS[2]
	From	To					
E. 14th Street	San Leandro City Limit	Ashland Ave	NB	1,800	1,605 (1,742)	0.89 (0.97)	**E** **(E)**
			SB	1,800	768 (861)	0.43 (0.48)	B (C)
E. 14th Street	Ashland Ave	170th Ave	NB	1,800	496 (733)	0.28 (0.41)	A (B)
			SB	1,800	643 (819)	0.36 (0.46)	B (B)
E. 14th Street/ Mission Blvd	170th Ave	Mattox Rd	NB	1,800	709 (909)	0.39 (0.51)	B (C)
			SB	1,800	856 (1,045)	0.48 (0.58)	C (C)
Mission Blvd	Mattox Rd	Hayward City Limit	NB	1,800	483 (621)	0.27 (0.35)	A (B)
			SB	1,800	1,317 (1,507)	0.73 (0.84)	D **(E)**
E. Lewelling Blvd	Mission Blvd	Meekland Ave	EB	900	553 (679)	0.61 (0.75)	C (D)
			WB	900	489 (581)	0.54 (0.65)	C (C)
Lewelling Blvd	Meekland Ave	Hesperian Blvd	EB	1,800	557 (666)	0.31 (0.37)	B (B)
			WB	1,800	768 (898)	0.43 (0.50)	B (C)

Notes:

1. *Vph = vehicles per hour.*
2. *Values shown as: Cumulative Year Conditions Without Specific Plan Update buildout (Cumulative Year Conditions With Specific Plan Update buildout).*

Source: Fehr & Peers, 2015.

Table 4.14-10
Cumulative Year (2040) PM Peak Hour Volume-to-Capacity Analysis

Roadway	Study Limits		Direction	Capacity (vph)[1]	Volume (vph)[2]	V/C Ratio[2]	LOS[2]
	From	To					
E. 14th Street	San Leandro City Limit	Ashland Ave	NB	1,800	1,046 (1,181)	0.58 (0.66)	C (C)
			SB	1,800	1,354 (1,522)	0.75 (0.85)	D **(E)**
E. 14th Street	Ashland Ave	170th Ave	NB	1,800	757 (1,081)	0.42 (0.60)	B (C)
			SB	1,800	884 (1,142)	0.49 (0.63)	C (C)
E. 14th Street/ Mission Blvd	170th Ave	Mattox Rd	NB	1,800	968 (1,259)	0.54 (0.70)	C (D)
			SB	1,800	1,031 (1,276)	0.57 (0.71)	C (D)
Mission Blvd	Mattox Rd	Hayward City Limit	NB	1,800	931 (1,176)	0.52 (0.65)	C (C)
			SB	1,800	1,027 (1,243)	0.57 (0.69)	C (D)
E. Lewelling Blvd	Mission Blvd	Meekland Ave	EB	900	688 (823)	0.76 (0.91)	D **(E)**
			WB	900	551 (710)	0.61 (0.79)	C (D)
Lewelling Blvd	Meekland Ave	Hesperian Blvd	EB	1,800	969 (1,141)	0.54 (0.63)	C (C)
			WB	1,800	722 (872)	0.40 (0.48)	B (C)

Notes:

1. *Vph = vehicles per hour.*
2. *Values shown as: Cumulative Year Conditions Without Specific Plan Update buildout (Cumulative Year Conditions With Specific Plan Update buildout).*

Source: Fehr & Peers, 2015.

Mitigation Measures. Roadway widening along East 14th/Mission or Lewelling/East Lewelling Boulevard are not proposed within the Plan Area as part of the project, therefore automobile impacts along the study roadway segments as a result of the proposed Specific Plan buildout would remain *significant and unavoidable*. As discussed in the sections below, the proposed Specific Plan does propose various improvements to transit, bicycle and pedestrian infrastructure within the Plan Area; these improvements will provide Plan Area residents, employees and visitors more transportation options to access the area and would therefore encourage more people to take transit, bike or walk. Travel Demand Management (TDM) strategies are also recommended as part of the proposed Specific Plan as TDM strategies, if implemented, can reduce traffic congestion and parking demand in and around the Plan Area.

Significance After Mitigation. Impacts would be significant and unavoidable.

f. Transit Impacts.

Impact T-3 The proposed project would not disrupt existing or planned transit facilities and would provide "Good" or "Best" conditions based on the established MMLOS method. The proposed project would not degrade existing or planned transit facilities to worse MMLOS conditions compared to existing conditions. Impacts to transit infrastructure would be *less than significant*.

Existing representative bus stops were evaluated based on their current Built Environment Factors, assessing important amenities such as inclusion of a bus bulb, shelter, wayfinding information, clear paths, ADA accessible door zones and presence of a dedicated on-street bikeway. The transit LOS scores are summarized in Table 4.14-11. The existing transit rating along East 14th/Mission Boulevard is "Poor" because of the absence of dedicated on-street bikeways and because the majority of bus stops do not provide a shelter or the minimum 80 feet of bus stop length and red curb. The proposed Specific Plan proposes that all bus stops along East 14th/Mission Boulevard would be redesigned to include shelter, bicycle parking, and the minimum 80 feet of bus stop length to maximize access, comfort and safety; proposed improvements would increase the MMLOS rating from "Poor" to "Best." The MMLOS scoring sheets are provided in the appendix.

The proposed Specific Plan recommends Class II bicycle lanes along the segments of East 14th/Mission Boulevard; the evaluation of a Class III bike route along East 14th Street is included in Table 4.14-11 for informational purposes to compare the impact of dedicated Class II bike lanes and a Class III bike route to transit MMLOS. As shown in Table 4.14-11, dedicated Class II bike lanes provide a better MMLOS rating than a Class III bike route.

Transit MMLOS was not evaluated along Lewelling/East Lewelling Boulevard as AC Transit does not operate routes that run along the majority of the study roadway segment between Mission Boulevard and Hesperian Boulevard.

Table 4.14-11
Transit MMLOS Rating Summary

Roadway	Segment Limits	Without ACBD Specific Plan Update Buildout	With ACBD Specific Plan Update Buildout[1]
E. 14th St.	San Leandro City Limit to E. Lewelling Blvd.	4 – Poor	8 – Best[2]
E. 14th St.	San Leandro City Limit to E. Lewelling Blvd.	4 – Poor	7 – Good[3]
Mission Blvd.	E. Lewelling Blvd. to Hayward City Limit	4 – Poor	8 – Best
E. Lewelling Blvd.	Mission Blvd. to Meekland Ave.	N/A[4]	
Lewelling Blvd.	Meekland Ave. to Hesperian Blvd.		

Notes:
1. *All bus stops are assumed to have bench, shelter, wayfinding information, bicycle parking, clear paths and ADA accessible door zones in the proposed condition.*
2. *Evaluation assumes that Class II dedicated bike lanes are provided along E. 14th Street between San Leandro City Limit to E. Lewelling Boulevard.*
3. *Evaluation assumes that Class III bike route is provided along E. 14th Street between San Leandro City Limit to E. Lewelling Boulevard.*
4. *Transit service is not available for the majority of the Lewelling/E. Lewelling Boulevard segment between Mission Boulevard and Hesperian Boulevard, transit service only provided along the segment between Meekland Avenue and Ashland Avenue.*

Source: Fehr & Peers, 2015.

Mitigation Measures. Impacts would be less than significant; therefore, mitigation is not necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

g. Bicycle Impacts.

Impact T-4 The proposed project would not disrupt existing or planned bicycle facilities and would provide "Good" conditions based on the established MMLOS method. The proposed project would not degrade existing or planned bicycle facilities to worse MMLOS conditions compared to existing conditions. Impacts to the bicycle network would be *less than significant*.

Bicycle conditions were analyzed based on the existing and proposed bicycle Built Environment Factors along East 14th/Mission and Lewelling/East Lewelling Boulevard, Table 4.14-12 summarizes the MMLOS rating results. The ACBD Specific Plan Update recommends Class II bicycle lanes along the segments of East 14th/Mission and Lewelling/East Lewelling Boulevard; the evaluation of a Class III bike route along East 14th Street is included in Table 4.14-12 for informational purposes to compare the benefit of dedicated Class II bike lanes to a Class III bike route. The majority of the arterials within the Plan Area do not provide on-street bicycle facilities under existing conditions due to previous policy resolutions, hence the "Poor" rating. Lewelling Boulevard between Hesperian Boulevard and Meekland Avenue currently provides Class II bike lanes, which results in a "Good" rating. Proposed Class II bike lanes along East 14th/Mission and E. Lewelling Boulevard between Mission Boulevard and Meekland Avenue will improve the bicycle MMLOS rating from "Poor" to "Good." The MMLOS scoring sheets are provided in the appendix.

Table 4.14-12
Bicycle MMLOS Rating Summary

Roadway	Segment Limits	Without ACBD Specific Plan Update Buildout	With ACBD Specific Plan Update Buildout
E. 14th St.	San Leandro City Limit to E. Lewelling Blvd.	0 – Poor	6 – Good[1]
E. 14th St.	San Leandro City Limit to E. Lewelling Blvd.	0 – Poor	2 – Fair[2]
Mission Blvd.	E. Lewelling Blvd. to Hayward City Limit	0 – Poor	6 – Good
E. Lewelling Blvd.	Mission Blvd. to Meekland Ave.	0 – Poor	6 – Good
Lewelling Blvd.	Meekland Ave. to Hesperian Blvd.	6 – Good	6 – Good

Notes:
1. *Evaluation assumes that Class II dedicated bike lanes are provided along E. 14th Street between San Leandro City Limit to E. Lewelling Boulevard.*
2. *Evaluation assumes that Class III bike route is provided along E. 14th Street between San Leandro City Limit to E. Lewelling Boulevard.*

Source: Fehr & Peers, 2015.

Mitigation Measures. Impacts would be less than significant; therefore, mitigation is not necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

h. Pedestrian Impacts.

Impact T-5 The proposed project would not disrupt existing or planned pedestrian facilities and maintains "Good" conditions based on the established MMLOS method. The proposed project would not degrade existing or planned pedestrian facilities to worse MMLOS conditions compared to existing conditions. Impacts to the pedestrian network would be *less than significant*.

Pedestrian conditions were analyzed based on the existing and proposed pedestrian Built Environment Factors along East 14th/Mission and Lewelling/East Lewelling Boulevard, Table 4.14-13 summarizes the results. The MMLOS analysis evaluates sidewalk width, presence of a buffer and crosswalk spacing and treatments. The majority of sidewalks along East 14th/Mission and Lewelling/East Lewelling Boulevard provide sidewalks greater than eight feet wide with a buffer between the sidewalk and roadway under existing conditions, resulting in a "Good" rating. The proposed Specific Plan will maintain an average sidewalk width greater than eight feet along the arterials within the Plan Area. The MMLOS scoring sheets are provided in the appendix.

Existing crosswalk spacing along East 14th/Mission and Lewelling/East Lewelling Boulevard is greater than 400 feet on average and proposed improvements would continue to result in average crosswalk spacing greater than 400 feet. To improve the pedestrian LOS rating from "Good" to "Best" would require average crosswalk spacing of 400 feet or less along the arterials. As development within the Plan Area occurs, Alameda County will continue to monitor the pedestrian demand along East 14th/Mission and Lewelling/East Lewelling Boulevard to determine if additional crosswalk locations are warranted.

Table 4.14-13
Pedestrian MMLOS Rating Summary

Roadway	Segment Limits	Without ACBD Specific Plan Update Buildout	With ACBD Specific Plan Update Buildout
E. 14th St.	San Leandro City Limit to E. Lewelling Blvd.	7 – Good	7 – Good
Mission Blvd.	E. Lewelling Blvd. to Hayward City Limit	7 – Good	7 – Good
E. Lewelling Blvd.	Mission Blvd. to Meekland Ave.	6 – Good	7 – Good
Lewelling Blvd.	Meekland Ave. to Hesperian Blvd.	7 – Good	7 – Good

Source: Fehr & Peers, 2015.

Mitigation Measures. Impacts would be less than significant; therefore, mitigation is not necessary.

Significance After Mitigation. Impacts would be less than significant without mitigation.

i. Required Congestion Management Program (CMP) Evaluation

Impact T-6 Traffic generated by the proposed project would increase traffic along the Alameda County Transportation Commission Congestion Management Plan freeway and arterial segments

under Near-Term (2020) and Cumulative Year (2040) PM peak hour conditions. However, the increase in Specific Plan buildout traffic would only exceed the CMP LOS thresholds along eastbound I-580 between Grand Avenue and 150th Avenue, by increasing the LOS from E to F during the PM peak hour under Near-Term (2020) conditions, and increasing the V/C ratio by more than 0.03 along a segment that operates at LOS F under Cumulative Year (2040) Without Specific Plan buildout conditions. In addition, the project would also exceed the CMP LOS thresholds along eastbound I-580 between 150th Avenue and 163rd Avenue, by increasing the V/C ratio by more than 0.03 along a segment that operates at LOS F under Cumulative Year Without Specific Plan buildout conditions. Capacity increasing mitigation measures along eastbound I-580 are not proposed by the project. Therefore, impacts to CMP network would be *significant and unavoidable*.

The Alameda County Congestion Management Program (CMP) requires the Near-Term (2020) and Cumulative Year (2040) assessment of development-driven impacts to regional roadways. Because the development under the proposed Specific Plan would generate more than 100 "net new" PM peak-hour trips, Alameda CTC requires the use of the Countywide Travel Demand Forecasting Model to assess the impacts on regional roadways in the Plan Area vicinity. The CMP and Metropolitan Transportation System (MTS) roadways in the Plan Area vicinity include:

- I-880, I-580, SR 238, East 14th/Mission, Jackson Street/SR 92, Hesperian Boulevard, A Street, D Street/Winton Avenue, Grove Way/Crow Canyon Road, and Fairmont Drive.

The Alameda CTC Model used in this study is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process takes into account changes in travel patterns due to future growth and balances trip productions and attractions. This version of the Countywide Model is based on Association of Bay Area Governments (ABAG) Projections 2013 land uses for year 2020 and 2040.

For the purposes of this CMP and MTS analysis, proposed development within the Plan Area is assumed to be included in the Alameda CTC Model; the model land use assumptions are based on ABAG land use projections that assume the *Eden Area General Plan* (Alameda County, March 2010) land use growth within the Eden Area, the proposed land use growth within the Plan Area is less than or equal to the land use growth assumed in the *Eden Area General Plan*. The traffic forecasts for the 2040 PM peak hour scenario were extracted from the Alameda CTC Model for the CMP and MTS roadway segments from that model and used as the "Cumulative Year (2040) With Specific Plan Update buildout" forecasts. Vehicle trips generated by the proposed Specific Plan were subtracted from the "Cumulative Year (2040) With Specific Plan Update buildout" forecasts to estimate the "Cumulative Year (2040) Without Specific Plan

Update buildout" forecasts.[6] In contrast, the traffic forecasts for the 2020 PM peak hour scenario were extracted from the Alameda CTC Model and used as the "Near-Term (2020) Without Specific Plan Update buildout" forecasts. Vehicle trips generated by the proposed Specific Plan were then added to the "Near-Term (2020) Without Specific Plan Update buildout" forecasts to estimate the "Near-Term (2020) With Specific Plan Update buildout" forecasts.

The CMP and MTS segments were assessed using a volume-to-capacity (v/c) ratio methodology (*Highway Capacity Manual*, Transportation Research Board, 1985). For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For arterial streets, a per-lane capacity of 900 vph was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F.

The Near-Term (2020) With Specific Plan Update buildout results were compared to the baseline results for Near-Term (2020) Without Specific Plan Update buildout conditions; Cumulative Year (2040) With Specific Plan Update buildout results were compared to Cumulative Year (2040) Without Specific Plan Update buildout conditions. The appendix provides the 2020 and 2040 peak-hour volumes, v/c ratios and the corresponding levels of service for Near-Term (2020) and Cumulative Year (2040) Without and With Specific Plan Update buildout conditions. As shown in the appendix, buildout of the ACBD Specific Plan Update will trigger impacts under Near-Term (2020) or Cumulative Year (2040) PM peak hour conditions along the following CMP segments:

- Eastbound I-580 between Grand Avenue and 150th Avenue, the project would degrade LOS from E to F during the PM peak hour under Near-Term (2020) conditions.
- Eastbound I-580 between Grand Avenue and 150th Avenue, the project would increase the V/C ratio by more than 0.03 along a segment that operates at LOS F under Cumulative Year (2040) Without Project PM peak hour conditions.
- Eastbound I-580 between 150th Avenue and 163rd Avenue, the project would increase the V/C ratio by more than 0.03 along a segment that operates at LOS F under Cumulative Year (2040) Without Project PM peak hour conditions.

Mitigation Measures. Neither freeway nor arterial widening to accommodate additional automobile travel lanes are proposed within or around the Plan Area, therefore CMP network impacts as a result of proposed Specific Plan buildout would remain *significant and unavoidable*. As discussed in the sections above, the proposed Specific Plan does propose various improvements to transit, bicycle and pedestrian infrastructure within the Plan Area; these improvements will provide Plan Area residents, employees and visitors more transportation options to access the area and would therefore encourage more people to take transit, bike or walk. Travel Demand Management (TDM) strategies are also recommended as part of the

[6] The Cumulative Year (2040) Forecasts assumed in the CMP evaluation are not the same as the forecasts used in the V/C analysis summarized in Table 4.1-10. The main difference is the approach for estimating forecasts; the CMP evaluation assumes unadjusted 2040 forecasts from the off-the-shelf Alameda CTC model. Cumulative Year (2040) forecasts summarized in Table 4.1-10 were estimated by applying annual growth rates (obtained from the 2010 and 2040 Alameda CTC model outputs) to the existing year (2013) roadway peak hour counts.

proposed Specific Plan as TDM strategies, if implemented, can reduce traffic congestion and parking demand in and around the Plan Area.

Significance After Mitigation. Impacts would remain significant and unavoidable.

This page intentionally left blank.

4.15 UTILITIES AND SERVICE SYSTEMS

This section analyzes potential impacts of the proposed Specific Plan implementation to utility and service systems in the Plan Area, including water and wastewater infrastructure as well as solid waste services

4.15.1 Setting

a. Water Supply. Water supply to the Plan Area is provided by the East Bay Municipal Utility District (EBMUD). EBMUD has water rights for up to 325 million gallons per day (mgd), or 997 acre-feet per day, from the Mokelumne River, (County of Alameda, 2010). About 90% of the water delivered by EBMUD originates from the Mokelumne River watershed, with the remaining 10% originating as runoff from the protected watershed lands in the East Bay Area. The Mokelumne River watershed upstream of Camanche Dam is relatively narrow and steep and is located northeast of the Sacramento-San Joaquin River Delta on the western slope of the Sierra Nevada; above Camanche Dam, the Mokelumne River drains over 600 square miles of mountains and foothills (EBMUD, 2010).

In addition to surface water supplies provided via the Mokelumne River Watershed, as described in Section 4.8, *Hydrology and Water Quality*, local groundwater accounts for about 15% of the EBMUD region's average water year supply. Conjunctive use programs have been implemented by EBMUD and other agencies in the Bay Area, such as the Alameda County Water District, which serves communities just south of the Plan Area, to optimize the use of groundwater and surface water resources. Throughout the region, additional groundwater resources continue to be investigated and developed to expand the role of conjunctive use programs.

EBMUD's water supply system consists of a network of reservoirs, aqueducts (pipelines), water treatment plants (WTPs), pumping plants, and other distribution facilities that convey Mokelumne River water from Pardee Reservoir, where it is contained by Pardee Dam, to Camanche Reservoir, where it is contained by Camanche Dam, and distributed to EBMUD customers. Raw water from these reservoirs is transported in tunnels and aqueducts via gravity flow to one of EBMUD's three in-line filtration WTPs or to one or more of the EBMUD terminal reservoirs. After the WTPs, water is distributed throughout EBMUD's service area, which is divided into more than 120 pressure zones ranging in elevation from sea level to 1,450 feet above mean sea level (amsl). About 50% of treated water is distributed by gravity (EBMUD, 2010).

The Plan Area is located in the southern portion of EBMUD's Central Pressure Zone (PZ), which serves the East Bay Plain. The Central PZ rises up to 100 feet amsl, running from Richmond in the north to San Lorenzo in the south. The Central PZ receives treated water from both the Orinda Water Treatment Plant (WTP) and the Upper San Leandro WTP. Water at these facilities is stored in the Central Reservoir and the Dunsmuir Reservoir (County of Alameda, 2006).

Under normal (non-drought) year conditions, in addition to the Mokelumne River water EBMUD reservoirs in the East Bay also receive an additional 30,000 acre-feet per year (AFY), or about 30 mgd of water from local watershed runoff. EBMUD's South Reservoir is located to the east of the Eden Area, and serves the southern portion of the Central PZ. EBMUD's other major water distribution facilities located in or immediately adjacent to the Eden Area include the following:

- El Portal Reservoir serves the Upper San Leandro PZ with a capacity of 2.8 mgd,
- Almond Pumping Plant serves the Almond PZ with a capacity of 15.4 mgd,
- Bayview Pumping Plant serves the Bayview PZ with a capacity of 17.3 mgd,
- John Rate Control Station serves the Bayview PZ,
- Oak Rate Control Station serves the Central PZ, and
- Gramercy Regulator serves the Almond PZ (County of Alameda, 2006).

In addition to the water distribution facilities listed above, other EBMUD facilities within the Eden Area include transmission mains and right-of-way (ROW) easements throughout the Plan Area. As noted, the EBMUD facilities listed above are only those located in or immediately adjacent to the Eden Area. EBMUD owns and operates an extensive water and wastewater system outside of the Eden Area, with a total water supply service area that encompasses 331 square miles and includes approximately 1.3 million people.

b. Wastewater. The Oro Loma Sanitary District (OLSD) provides wastewater collection and treatment services for 12.8 square miles including the Plan Area. In 2007, OLSD completed the *Wastewater Treatment Plant Capacity Restoration Project*, which upgraded the plant for consistency with new regulations, and increased treatment capacity of the plant. The plant treats approximately 15 mgd of wastewater, with a total capacity of 20 mdg (LWC, 2015). The OLSD Wastewater Treatment Plan is maintained and operated per guidance provided in the Sewer System Management Plan (SSMP), which provides direction for maintenance, repairs, rehabilitation, and funding, as well as for hydraulic modeling to use in system design planning, capacity studies to anticipate where and how system improvements are needed, and contingency plans for emergency response (OLSD, 2014).

c. Solid Waste. Solid waste and recycling collection service and programming in the Eden Area is overseen by the Alameda County Waste Management Authority (ACWMA). Most of Alameda County's unincorporated residents are within either the Oro Loma Sanitary District (OLSD) or the Castro Valley Sanitary District (CVSD). ACWMA contracts with OLSD to provide direct collection services for certain areas in the county, including the Plan Area. Of the two active landfills serving the county—Altamont Landfill Resource Recovery Facility and Vasco Road Sanitary Landfill—waste collected by OLSD is deposited at Altamont. Altamont's remaining capacity stands at 45.7 million cubic yards (CalRecycle, 2014a) and Vasco Road's stands at 8 million cubic yards (CalRecycle, 2014b).

Table 4.15-1 shows the maximum and remaining capacity for the Altamont and Vasco Road landfills. As shown, total remaining landfill capacity is approximately 56% of total permitted landfill capacity.

Table 4.15-1
County-Service Landfill Capacity

Site	Maximum Permitted Throughput per Day*		Maximum Permitted Capacity		Remaining Capacity	
	CY**	Tons	CY	Tons	CY	Tons
Altamont Landfill Resource Recovery Facility	23,000	11,500	62,000,000	31,000,000	45,720,000	22,860,000
Vasco Road Sanitary Landfill	4,500	2,250	32,970,000	16,485,000	7,959,079	3,979,540
Total	**27,500**	**13,750**	**94,970,000**	**47,485,000**	**53,679,079**	**26,839,540**

** CalRecycle. Facility/Site Summary Details: Retrieved http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0032/Detail/*
*** CalRecycle (2014) identifies Maximum Permitted Throughput only in Tons/Day, while Maximum Permitted Capacity and Remaining Capacity are only provided in Cubic Yards; therefore, standard conversion factors provided by the EPA (EPA 2015) are used to provide all figures in both Tons and Cubic Yards. EPA identifies a standard conversion factor for Municipal Solid Waste (MSW) compacted to "Landfill Density" of 750 to 1,250 pounds per cubic yard, or an average of 1,000 pounds per cubic yard, equating to approximately 0.5 ton per cubic yard of compacted MSW. Source: EPA (U.S. Environmental Protection Agency) 2015, Standard Volume-to-Weight Conversion Factors, http://www.epa.gov/epawaste/conserve/tools/recmeas/docs/guide_b.pdf, accessed April 30*

d. Regulatory Setting.

Water Supply.

State. Drinking water quality in the proposed Specific Plan area is regulated by the California Department of Public Health (CDPH), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region (Region 2). The California Code of Regulations, Title 22 (State Drinking Water Standards) is the primary body of state legislation providing water system standards, including standards for water supply, storage capacity, and water quality. Other considerations include the Porter-Cologne Water Quality Control Act, the Safe Drinking Water Act, and the SWRCB Non-degradation Policy.

The Urban Water Management Planning Act of 1983 amended California Water Code to require all urban water suppliers in California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AFY) of water. EBMUD adopted its first UWMP in 1985, and has been updating the plan every five years since then, adjusting for current and projected water usage, water supply programs, and conservation and recycling programs. Water demand projections described in the UWMP account for anticipated future water demands within the EBMUD service territory, and changes in land uses including but not limited to densification and associated increases in water usage.

Senate Bill (SB) 610 (2002) amended California Water Code to require detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water and land use planning by ensuring greater communication between water providers and local planning agencies, and ensuring that land use decisions for certain types of development projects are fully informed as to whether sufficient water supplies are available to meet project demands. SB 610 requires the preparation of a Water Supply Assessment (WSA) for a project that is subject to CEQA and meets certain requirements, including residential developments of more than 500 dwelling units. It is expected that a number of future projects within the Specific Plan area will meet the threshold

requirements for preparation of a WSA, and project-specific WSAs will be prepared by individual project proponents. The Specific Plan itself does not propose construction of individual projects, as residential build-out projections are based on development assumptions contained in the Eden Area General Plan EIR, and non-residential build-out projections are estimated based on employment projections in the Eden Area General Plan EIR. EBMUD's current UWMP provides water supply availability and reliability projections based on these projections and therefore, water supply requirements associated with the proposed Specific Plan area is accounted for in the UWMP.

The current UWMP which serves as a long-range planning document for the EBMUD service area contains the same types of water supply and demand projections that would be included in a WSA, and this document is therefore an appropriate resource to use in developing the impact analysis provided below. As described in Section 1, *Introduction*, this is a Program EIR, which will be used in the future for tiering of project-level environmental review and CEQA documents; those project-specific analyses will be accompanied by a WSA, where required by SB 610, and may tier off the analysis provided in this Program EIR.

The *Model Water Efficient Landscape Ordinance* was established by Assembly Bill 325 in 1990 and updated by Assembly Bill 2717 in 2004, requires the adoption of a water efficient landscape ordinance by cities and counties throughout the state. This ordinance promotes efficient landscapes in new developments and retrofitted landscapes, and reinforces landscape irrigation and water conservation best practices currently required by EBMUD Section 31 Regulations.

Regional and Local. EBMUD is the public water agency serving the proposed Specific Plan area, and regulates water efficiency for water service customers. All applicants/proponents for new and expanded water services are required to comply with specifications in the Water Efficiency Requirements checklist provided as Section 31. In order to meet *Water Efficient Landscape Ordinance* requirements, all landscaping meeting the 2,500-square-foot threshold must comply with the EBMUD's Section 31 Water Service Regulations for Outdoor Water Use. EBMUD will not furnish water service for new or expanded service unless all the applicable water-efficiency measures described in the Water Service Regulations are installed (at the project proponent's expense).

Wastewater.

State. Standards for wastewater treatment plant effluent are established using state and federal water quality regulations. After treatment, wastewater effluent is either disposed of or reused as recycled water. The RWQCBs set the specific requirements for community and individual wastewater treatment and disposal and reuse facilities through the issuance of Waste Discharge Requirements (WDR), required for wastewater treatment facilities under the California Water Code Section 13260. The CDPH is also involved in permitting water reuse facilities. Requirements for disposal are set to protect present and potential beneficial uses of the water which receives the effluent. The CDPH sets specific requirements for treated effluent reuse, or recycled water, through Title 22 of the California Code of Regulations (mentioned above with regards to drinking water quality standards). These requirements are primarily set to protect public health.

The California Code of Regulations Title 22, Division 4, Chapter 3, Sections 60301 through 60355 are used to regulate recycled wastewater and are administered jointly by the CDPH and the RWQCBs. Title 22 contains effluent requirements for four levels of wastewater treatment, from undisinfected secondary recycled water to disinfected tertiary recycled water. Higher levels of treatment have higher effluent standards, allowing for a greater number of uses under Title 22, including irrigation of freeway landscaping, pasture for milk animals, parks and playgrounds, and vineyards and orchards for disinfected tertiary recycled water.

Salt concentrations (such as chloride, nitrogen, sodium, etc.) in the effluent are regulated based on the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, which also considers local groundwater quality (discussed in Section 4.8, Hydrology and Water Quality). Recycled water quality goals for salts and other constituents would vary depending on the intended irrigation recipients. The RWQCB will develop waste discharge requirements based on the Basin Plan, designed to protect beneficial uses of the State waters. The RWQCB Basin Plan contains an anti-degradation policy so that existing quality shall be maintained.

Regional and Local.

Eden Area General Plan. The Plan Area is located within unincorporated Alameda County in the Eden Area planning unit. Applicable Eden Area General Plan actions related to wastewater are provided below.

Goal PF-10. Encourage the collection, treatment, and disposal of wastewater in a safe, sanitary, and environmentally acceptable manner.

Policy P1. The approval of new development shall be conditional on the availability of adequate, long-term capacity of wastewater treatment, conveyance and disposal sufficient to service the proposed development.

Policy P2. To the greatest extent feasible, upgrades to wastewater conveyance systems shall not disrupt the quality of life for Eden Area residents by significantly increasing noise, air pollution or traffic congestion.

Policy P3. All new development shall demonstrate to the County that the downstream sanitary sewer system is adequately sized and has sufficient capacity to accommodate anticipated sewage flows. If the downstream mains are found to be inadequate, the developer shall provide additional facilities to accept the additional sewage expected to be generated by the development.

Policy P4.The County shall ensure that Oro Loma Sanitary District maintains an up to-date, adequate plan and infrastructure for the delivery of wastewater collection, treatment and disposal in the Eden Area.

ACBD Specific Plan. In addition to the Eden Area General Plan, the proposed Specific Plan also identifies goals and policies relevant to wastewater, as described below.

Goal 7. Maintained and improved Plan Area infrastructure that matches infrastructure levels in newer parts of the County.

Policy 7.1. Repair, resurface, landscape, and maintain streetscape.

Policy 7.2. Provide utility, water, and sewer line capacity supportive of build-out.

Program 7.2.1. Program 7.2.1 establishes a fund to assist developers and property owners with sewer capacity studies when required by Oro Loma Sanitary District (OLSD) for new projects. Program 7.2.1 would make exempt from the sewer capacity studies small projects (under 10,000 sq. ft) in the Plan Area, and would prevent the entire burden of down-stream improvements from being placed solely on a project that tips existing capacity from adequate to inadequate. Any such project would be responsible for only its fair-share allocation of the total downstream infrastructure upgrade cost.

Development included under the proposed Specific Plan would occur in compliance with the goals and policies of the Eden Area General Plan and the proposed Specific Plan, including those listed above.

Solid Waste.

State. The California Integrated Waste Management Act of 1989 (AB 939), required each city or county's source reduction and recycling element to include an implementation schedule showing that a city or county must divert 50% of solid waste from landfill disposal or transformation on and after January 1, 2000. SB 1016, passed in 2008, now requires the 50% diversion requirement to be calculated in a per capita disposal rate equivalent.

Regional and Local.

Eden Area General Plan. The Plan Area is located within unincorporated Alameda County in the Eden Area planning unit. Applicable Eden Area General Plan actions related to solid waste are provided below.

Goal PF-8. Reduce the volume of solid waste generated in the Eden Area through reduction, recycling, and resource conservation.

Policy P1. The County should continue to work actively with the Alameda County Waste Management Authority to reduce the volume of solid waste generated in the Eden Area.

Policy P2. The County shall strive to meet or exceed the goals for reducing, recycling and safely storing waste stated in the Alameda County Integrated Waste Management Plan.

Policy P3. The County shall encourage local businesses to expand their recycling efforts and to reduce packaging of products manufactured in the Eden Area.

Policy P4. Public buildings shall be designed or improved with on-site storage facilities for solid waste and recyclable materials.

Policy P5. The salvage and reuse of construction and demolition materials and debris shall be encouraged at all construction projects in the Eden Area.

Policy P6. Residential buildings should be designed or improved to accommodate an increase in the amount and type of recyclable materials based on the Multi-Family Residential Guidelines and the Remodeling Guidelines distributed by the Alameda County Waste Management Authority.

Policy P7. The County should work with residents, businesses and other members of the community, including architects, builders and contractors, to implement the County's Green Building Ordinance for residential and non-residential projects.

Policy P8. The County should work to expand curbside recycling to all residential communities within the Eden area to ensure equal levels of service and divert solid waste from the landfill, in compliance with State law.

Development included under the proposed Specific Plan would occur in compliance with the goals and policies of the Eden Area General Plan, including those listed above.

4.14.2 Impact Analysis

a. Methodology and Significance Thresholds. Assessment of impacts is based on review of site information and conditions, analysis provided in EBMUD's current UWMP and Water Supply Management Program (WSMP) 2040, and County information regarding utility-related issues, including water supply and facilities, wastewater facilities, and solid waste. According to Appendix G of the *State CEQA Guidelines,* a significant impact associated with utilities would occur if implementation of the proposed Specific Plan would result in one of the following circumstances.

1) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;*
2) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
3) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
4) *Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed;*
5) *Result in a determination but the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's demand in addition to the provider's existing commitments;*
6) *Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or*
7) *Not comply with federal, state, and local statutes and regulations related to solid waste.*

Impacts regarding stormwater drainage facilities are discussed in Section 4.8, *Hydrology and Water Quality.*

b. Impacts and Mitigation Measures.

Impact U-1 Full buildout of development included under the proposed Specific Plan would generate an increased demand for water supply. Existing and projected water supply would be adequate to serve the Plan Area demands though the Year 2040, and

existing or planned water conveyance infrastructure is sufficient to deliver projected water supply requirements. Impacts would be *less than significant*.

The Plan Area is located within EBMUD's service area. Water supply would be provided by EDMUD using existing sources as well as existing storage and distribution facilities. EBMUD operates under a Water Supply Management Program and an Urban Water Management Plan, which project water supply requirements within their service area through the year 2040, as well as water supply availability and the reliability of existing and potential water sources through the year 2040 (EBMUD, 2012). The WSMP also assesses potential supplemental water supplies available to the area, and how development of supplemental sources could affect overall supply reliability. The Plan Area is located within the area assessed in EBMUD's WSMP and UWMP, and therefore the WSMP and UWMP are used for the purposes of this analysis, to characterize potential water supply effects associated with full buildout of development included under the proposed Specific Plan.

Table 4.15-2 provides water demand and supply projections included in EBMUD's 2010 UWMP, including projections made over a period of 30 years and with consideration to varying climatic (drought) scenarios.

Table 4.15-2
EBMUD Demand and Supply Projections

	2010	2015	2020	2025	2030	2035[1]	2040
Projected Demand (million gallons per day)							
Customer Demand[2]	251	266	280	291	304	308	312
Adjusted for Cumulative Conservation[3]	*(26)*	*(32)*	*(43)*	*(49)*	*(56)*	*(59)*	*(62)*
Adjusted for Recycled Water[4]	*(9)*	*(11)*	*(16)*	*(18)*	*(19)*	*(20)*	*(20)*
Planning Level of Demand	216	223	221	224	229	229	230
Projected Available Supply and Need for Supplemental Supply (million gallons per day)[5]							
Normal Year	>216	>223	>221	>224	>229	>229	>230
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Single Dry Year (Multiple Dry Years – Year 1)							
Available Supply	*211*	*217*	*215*	*218*	*223*	*222*	*222*
Customer Rationing[6]	*2%*	*3%*	*3%*	*3%*	*3%*	*3%*	*4%*
Supplemental Supply Need[7]	*5*	*6*	*6*	*7*	*7*	*8*	*8*
Single Dry Year (Multiple Dry Years – Year 2)							
Available Supply	*183*	*189*	*188*	*190*	*194*	*194*	*195*
Customer Rationing[6]	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*
Supplemental Supply Need[7]	*21*	*21*	*21*	*21*	*22*	*22*	*22*
Single Dry Year (Multiple Dry Years – Year 3)							
Available Supply	*183*	*189*	*188*	*190*	*183*	*164*	*144*
Customer Rationing[6]	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*
Supplemental Supply Need[7]	*21*	*21*	*21*	*21*	*33*	*53*	*73*
Three-year Drought							
Total Supplemental Supply Need (TAF)[7]	*53*	*54*	*54*	*55*	*69*	*93*	*115*

Table 4.15-2
EBMUD Demand and Supply Projections

	2010	2015	2020	2025	2030	2035[1]	2040

Source: EBMUD, 2010

1. Projected demand for 2035 is interpolated.

2. Customer demand values are based on the demand projections from the "2040 Demand Study," Feb 2009. These projected water demands are based on land use in EBMUD's ultimate service area and is unadjusted for conservation and non-potable water. The values are also unadjusted for the current suppressed demand due to the 2007-2010 rationing period and the economic downturn.

3. Existing conservation saving from the "1994 Water Conservation Master Plan" and planned conservation program savings based on the "2011 Water Conservation Master Plan".

4. Existing recycled water achieved per the "1993 Water Supply Management Program" and planned recycled water program savings as outlined in Chapter 5 of the UWMP 2010.

5. Projected available supply data includes dry year supply deliveries from the Freeport Regional Water Project (FRWP) and Bayside Groundwater Project, Phase 1. Delivery rules for the FRWP follow the rules as developed in the Freeport EIR, 2003. These projects are not located within the Specific Plan area, but would contribute to water supply availability and reliability within the Specific Plan area by contributing to the overall EBMUD water supply; in turn EBMUD would deliver water to the Specific Plan area in accordance with the UWMP.

6. Rationing reduction goals are determined according to projected system storage levels in the Long-Term Drought Management Program guidelines per Table 3-2 in Chapter 3 of the UWMP 2010.

7. TAF = thousand acre feet. The supplemental supply need is based on EBMUD SIM modeling studies. It is the amount of water needed based on EBMUD's updated demand projections, the provisions of the 1998 Joint Settlement Agreement and the rationing policy stated in Table 3-2, Chapter 3 of the UWMP 2010. The actual need will be dependent on antecedent conditions and the severity of actual drought conditions. Supplemental supply stored during the initial year of the drought could be later released, diminishing supplemental supply needs. During the drought that continued into 2010, the combined effects of water rationing and an economic downturn suppressed demand below the planning level of demand to maintain a sufficient water supply and deferred the need for supplemental water. However, if the drought had continued into its second year, most likely supplemental supplies would have been obtained from the Freeport Regional Water Facility as anticipated in the Interim Drought Management Program Guidelines.

Water demand associated with full buildout of development included under the proposed Specific Plan is anticipated to be approximately 0.26 million gallons per day, as detailed in the Table 4.15-3 (LWC, 2015).

Table 4.15-3
Water Demand Given ACBD Specific Plan Buildout

Use	ACBD Specific Plan Buildout		Water Demand Factor		Expected Demand	
			Gallons / Day	Unit	Gallons / Day	Million Gallons / Day
Commercial	59,100	Square feet	0.11	Square feet	6,501	0.0065
Retail	510,900	Square feet	0.11	Square feet	56,199	0.0562
Residential	938	Dwelling unit	215.00	Dwelling unit	201,670	0.2017
				Total	**264,370**	**0.2644**

Source: LWC 2015

The Specific Plan water demands detailed above are based on full buildout of the Specific Plan, which anticipates a 20-year lifetime, although the actual rate and amount of development will be dependent on market conditions and regulatory processes (see Chapter 2, *Project Description*). In comparison with the water demands identified above, EBMUD's forecast of demand/usage for 2020 is 229 mgd with recycling and conservation programs in place, or 277 mgd absent such programs, with maximum capacity of 320 mgd (LWC 2015). The UWMP uses 2020 as a planning horizon for compliance with Senate Bill 7 (SBx7-7), which established the Water Conservation Act of 2009 and requires urban water agencies to assist in reducing statewide per capita water consumption by 20% by the year 2020 (EBMUD 2010). In projecting future water demands in its service territory, EBMUD accounts for increased water demands associated with

increased densities in existing developed urban areas, as formerly lower consumption land uses are replaced with more intensive mixed use and other developments, including residential, commercial, institutional, and industrial (EBMUD 2010). Therefore, although the UWMP does not specifically identify the proposed Specific Plan and associated development, it accounts for the types of land uses and water demands associated with the Specific Plan.

EBMUD's UWMP characterizes anticipated water supply availability in its service area, in comparison with the anticipated water demand/usage rates, in order to identify whether water supply shortfalls would be experienced under varying climatic (drought) conditions, and to anticipate how such shortfalls can be compensated for. As shown in Table 4.15-2, *EBMUD Demand and Supply Projections*, projected water demands in the EBMUD service area exceed available supply, including with supplemental supplies from the Freeport Regional Water Facility and the Bayside Groundwater Facility (as described in the footnotes to Table 4.15-2, these facilities are not located immediately within the Plan Area, but they are EBMUD facilities and would contribute to water supply reliability and deliverability to the Plan Area). Under consecutive drought year conditions, demands in 2030 would require an additional 61.5 mgd (69,000 acre-feet) of supply to avoid deficit conditions. Demand would be met using supplemental supplies from Northern California Water Transfers and the Bayside Groundwater Project. Then in 2040, under consecutive-drought-year conditions, an additional 102.6 mgd (115,000 acre-feet) of water would be required to avoid deficit conditions.

Accounting for known current and reasonably anticipated supplemental water supplies, as well as water savings associated with rationing, conservation, and recycled water (alone or in combination), sufficient water supply would not be available through 2040 under consecutive-year drought conditions (EBMUD, 2012). However, it is also anticipated that additional water supplies and water savings will be developed, beyond what is currently known and/or anticipated. As described in EBMUD's 2010 UWMP, which will be updated every five years per the UWMP Act, supplemental water supply sources beyond 2030 will be quantified in subsequent UWMPs through refined project developments (EBMUD, 2010). The Eden Area General Plan does not specifically detail water uses associated with the proposed Specific Plan developments, but it does account for the type of growth and development included under the Specific Plan; the Eden Area General Plan also relies on water supply availability projections identified by EBMUD, as provided above. In addition, existing Goals and Policies identified in the Eden Area General Plan, which the proposed Specific Plan was designed for consistency with, would help to avoid adverse effects associated with water supply, including the potential for supply shortages during drought years. Goals and policies of the Eden Area General Plan related to water supply reliability are discussed below, in Table 4.15-4.

Table 4.15-4
Eden Area General Plan Goal PF-9: Ensure sufficient water supplies and facilities to serve the residents of the Eden Area in an efficient and financially sound manner.

#	Eden Area General Plan Text	Implications for Proposed Specific Plan
Goal PF-9 Policies		
P1	The County shall support the efficient use of water through such means as conservation and recycling, and shall encourage the development of water recycling facilities to help meet the needs in the Eden Area.	Increased water use efficiency in developments proposed under the Specific Plan, creating a possible new water supply (through availability of recycled water).

Table 4.15-4
Eden Area General Plan Goal PF-9: Ensure sufficient water supplies and facilities to serve the residents of the Eden Area in an efficient and financially sound manner.

#	Eden Area General Plan Text	Implications for Proposed Specific Plan
P2	The approval of new development shall be conditional on the availability of sufficient water for the project. Existing conditions should be considered in determining water availability.	Future development would be implemented with consideration of water supply availability at the time of implementation, minimizing potential for supply deficit or overdraft.
P3	Continue to support EBMUD's water conservation incentive and consumer outreach programs through partnerships and advocacy.	Residents, businesses, and community developments introduced with buildout of the proposed Specific Plan will be educated and incentivized to conserve water, which will reduce water demand.
P4	The County shall encourage the efficient use of water for non-residential landscape irrigation by supporting the use of recycled water.	Use of recycled water will continue to be encouraged, improving conservation of potable (drinking) water supply.
P5	The County shall require that new development meet the Landscape Water Conservation Guidelines adopted by the Alameda County Board of Supervisors as a condition of permit approval.	Water used for landscaping will continue to be conserved to maximize available water supply for residential, business, and community developments.
P6	The County shall work with EBMUD to ensure effective management and long-term allocation of water resources, to develop a contingency plan for potential short-term water shortages and to develop uniform water conservation programs.	The effectiveness of long-range water supply availability planning will continue to be improved through coordination with EBMUD, the area's water supplier.
P7	The County shall maintain regular communication with EBMUD and the Hayward Water District about upcoming street improvement projects and shall provide the Districts the opportunity to combine water service improvements with roadway improvements to minimize costs and reduce disruption to traffic.	Potential financial incentive to colocate water infrastructure and capture associated water use savings.
P8	The County shall identify opportunities to conserve water in public buildings in the Eden Area.	Public and community facilities will continue to be incentivized to conserve water.
P9	The County shall strive to balance water supplies for existing residences with demands of new development.	Future and ongoing development will continue to be required to address the physical availability of water to meet demand.
Goal PF-9 Actions		
A1	Develop water conservation measures based on Best Management Practices from the California Urban Water Conservation Council.	Effective BMPs to conserve water will continue to be implemented with future development, which will reduce water demand.
A2	Revise zoning and other County ordinances to enable the use of recycled water wherever feasible and permitted by law for irrigation needs in those locations where recycled water is available.	The use of recycled water will increase, which will conserve water supply.
A3	Implement water conservation guidelines for landscaping in Program 3.2.2 of the Resource Conservation Element of ROSA [the county-wide Resource and Conservation, Open Space and Agriculture Element] through site development review process.	Landscaping water use will be reduced, reducing overall water demand, through the County Water Efficient Landscape Ordinance.

As described in Section 2.1, *Project Summary*, and mentioned above, the proposed Specific Plan is intended to be consistent with and to implement the policies of the Eden Area General Plan (2010). As such, in accordance with Policy P2 under Goal PF-9 listed above, the approval of new development within the Specific Plan area would continue to be conditional on the availability of sufficient water for the project; the County currently implements this by confirming with EBMUD that sufficient water is available for a proposed project prior to approving the project. The availability of sufficient water would be demonstrated through a project-specific WSA, for projects subject to the requirements of SB 610, as well as through continuance of the

aforementioned coordination between the County and EBMUD to confirm that sufficient water supply is available prior to project approval. By withholding project approval based on water supply availability, implementation of the Specific Plan would avoid overextending water supplies available to the area. As previously mentioned, the rate of Specific Plan buildout will depend on issues such as market conditions and regulatory processes; because the rate of development is not known, the rate of water demand increase associated with Specific Plan development is also not known. Regardless, project-specific analyses and the implementation of General Plan goals and policies will minimize or avoid potential adverse effects to water supply, including as related to anticipated drought conditions. With implementation of and adherence to the General Plan policies and goals discussed in Table 4.15-4, as well as the anticipated future development of additional water supplies to be identified and analyzed in future 5-year UWMPs (as discussed above), it is anticipated that sufficient water supply will be available to meet needs associated with development under the proposed Specific Plan. Therefore, potential impacts would be *less than significant*.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-2 **Full buildout of development included under the proposed Specific Plan would generate a new source of wastewater, which would flow through the existing Oro Loma Sanitary District (OLSD) system. Local conveyance infrastructure would be upgraded in accordance with an existing maintenance plan, and would not need to be upgraded as a result of the proposed Specific Plan buildout. Impacts would be *less than significant*.**

Wastewater Treatment. The OLSD provides wastewater collection and treatment for the Specific Plan area. Wastewater collected by the OLSD system is directed through the OLSD Wastewater Treatment Plant, for treatment prior to discharge. In 2007, the OLSD Wastewater Treatment Plant was upgraded to restore the plant's treatment capacity to 20 mgd in compliance with newer regulations; the plant currently treats approximately 15 mgd (LWC, 2015). Table 4.15-4 shows estimated wastewater flows generated by buildout of the proposed Specific Plan area, based on proposed land uses.

Table 4.15-5
Project Generated Wastewater Flows

Use	Specific Plan Buildout		Wastewater Generation Factor		Expected Wastewater Generation	
			Gallons / Day	Unit	Gallons / Day	Million Gallons / Day
Commercial	59,100	Square feet	0.10	Square feet	5,910	0.0059
Retail	510,900	Square feet	0.05	Square feet	25,545	0.0255
Residential	938	Dwelling unit	105.00	Dwelling unit	98,490	0.0985
				Total	**129,945**	**0.1299**

Source: LWC, 2015

As indicated above, full buildout of development included under the proposed Specific Plan is expected to generate approximately 0.13 mgd of wastewater, which accounts for approximately 2.6% of the plant's remaining treatment capacity. With the 2007 upgrade of the OLSD Wastewater Treatment Plant, existing wastewater treatment capacity would be sufficient to accommodate projected development under the 2010 Eden Area General Plan, which accounted for growth throughout the Specific Plan area, and anticipated the types of developments included under the proposed Specific Plan. Therefore, buildout of the proposed Specific Plan area would result in a determination by OLSD that it has adequate capacity to serve the projected demand in addition to existing commitments.

Wastewater Conveyance. Wastewater (sewer) conveyance services in the proposed Specific Plan area are provided by the OLSD, which has a maintenance and capital improvement plan that provides for the continuing rehabilitation and replacement of sewer pipelines and other facilities, and includes specifications for manhole sealing, manhole raising to grade, private property repair, sewer grouting, sewer lining, sewer replacement and lower lateral replacement (County of Alameda 2009). As described in the Eden Area General Plan, the capacities of the existing sewer facilities are adequate for the current level of development (County of Alameda 2009). Full buildout of the Specific Plan would increase wastewater conveyance demand on the existing OLSD system by 0.13 mgd, as described above. It is anticipated that implementation of the OLSD continuous improvement plan to maintain and rehabilitate sewer pipelines would ensure sufficient wastewater conveyance capacity for Specific Plan development. Additionally, Policy P3 under Goal PF-10 of the 2010 Eden Area General Plan requires that all new development shall demonstrate to the County that the downstream sanitary sewer system is adequately sized and has sufficient capacity to accommodate anticipated sewage flows. Developers are required to provide additional conveyance facilities if it is determined that existing facilities are insufficient to accommodate future development.

In addition to the OLSD continuous improvement program and compliance with existing Goals and Policies, the proposed Specific Plan identifies Program 7.2.1, *Sewer Capacity Study Assistance Fund,* to provide funding assistance for studying and upgrading sewer capacity, should it become necessary. However, as determined by the Eden Area General Plan, the existing sewer facilities are considered adequate to accommodate the current level of development (County of Alameda 2009). Wastewater conveyance capacity would be sufficient to provide service for development included under the proposed Specific Plan, and impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact U-3 Implementation of the proposed Specific Plan would generate an increase of up to 12.1 tons of solid waste per day. However, because the Altamont Landfill has adequate capacity to serve

the proposed Specific Plan, impacts related to solid waste facilities would be *less than significant.*

Solid waste generated from residential uses is a function of the number of homes, household size, and per capita waste generation. CalRecycle estimates that residential uses in Alameda County generate an average of 1.5 pounds of solid waste per resident per day, for residents in unincorporated areas (CalRecycle, Solid Waste Characterization Database, 2014). Full implementation of the proposed Specific Plan would add 938 residential units that would generate 2,768 new residents (See Section 4.11, *Population and Housing*). Therefore, prior to implementation of recycling programs or State mandated diversion requirements, residential buildout of the proposed Specific Plan would generate approximately 4,152 pounds of solid waste per day or 2.1 tons of solid waste per day. Commercial solid waste generation is based on a per employee generation factor. The most recent and conservative solid waste generation rate per employee is provided by CalRecycle and assumes 10.53 pounds of solid waste generation per employee per day. The proposed Specific Plan would facilitate the development of approximately 1,900 new jobs. Therefore, as shown in Table 4.15-6, prior to implementation of recycling programs or State mandated diversion requirements, commercial buildout under the proposed Specific Plan would generate approximately 20,007 pounds of solid waste per day or 10.0 tons of solid waste per day.

Total, full buildout of the proposed Specific Plan would generate up to 12.1 tons of solid waste per day or 24.2 cubic yards of waste per day (see Table 4.15-6).

Table 4.15-6
Solid Waste Generation

Land Use	Development	Generation Rate	Solid Waste (Pounds per day)	Solid Waste (Tons per day)	Solid Waste (Cubic Yards per day)*
Residential	2,768 residents	1.5 lbs/resident/day	4,152	2.1	4.2
Non-Residential	1,900 employees	10.53 lbs/employee/day	20,007	10.0	20.0
		Total	**24,159**	**12.1**	**24.2**
		Total Assuming 50% Diversion Rate	**12,079.5**	**6.05**	**12.1**

Source: Residential Generation Rate - http://www.calrecycle.ca.gov/wastechar/ResDisp.htm; Non-residential - http://www.calrecycle.ca.gov/wastechar/wastegenrates/Commercial.htm
** Based on the conversion factor described under Table 4.15-1, County-Service Landfill Capacity for "landfill density" Municipal Solid Waste, of approximately 750 to 1,250 pounds per cubic yard, or an average of 1,000 pounds per cubic yard.*

In accordance with California's Integrated Waste Management Act of 1989, cities and counties are required to divert 50% of all solid wastes from landfills. Therefore, assuming 50% of generated waste is diverted, full buildout would send an estimated 6.05 tons of solid waste per day to area landfills, equating to approximately 12.1 cubic yards of solid waste per day.

As described in Section 4.15.1(c), both Altamont Landfill Resource Recovery Facility and Vasco Road Sanitary Landfill both provide waste disposal services to the County of Alameda, although waste collected by OLSD is currently deposited at the Altamont facility. Table 4.15-1 indicates that the Altamont facility has approximately 45,720,000 cubic yards of remaining disposal capacity, while the Vasco Road facility has a remaining capacity of 7,959,079 cubic yards. Eventual full buildout of the Specific Plan would need to dispose of approximately 12.2

cubic yards per day of solid waste, equating to approximately 4,416.5 cubic yards per year, or 88,330 cubic yards over the 20-year implementation period for full buildout of the proposed Specific Plan. This total project waste disposal need is approximately 0.16% of the current total remaining landfill capacity. In addition, waste disposal facilities throughout the County are managed per the Countywide Integrated Waste Management Plan (CoIWMP), which anticipates disposal needs and identifies policies for achieving waste management goals throughout the county (ACWMA 2003). Continued implementation of the CoIWMP would ensure sufficient solid waste disposal capacity for full buildout of the proposed Specific Plan. No new or expanded waste disposal facilities would be needed to serve the proposed Specific Plan. Therefore, impacts would be *less than significant.*

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts.

Water. The analysis provided under Impact UTL-1 is cumulative in nature and considers water demand associated with the development included under full buildout of the proposed Specific Plan, as well as water demands associated with other developments (existing and projected) within EBMUD's service area. As described above, projected water demands in the EBMUD service area would exceed available supply (based on existing data and water savings programs) during certain drought years. However, it is anticipated that additional water supplies and water savings will be developed, and those future supplies/savings would contribute to long-term water supply reliability. Additionally, the Specific Plan's water supply requirements reflect a full buildout scenario, when in actuality, the rate of buildout (and associated water requirements) is not presently known. Projects that would be proposed as part of the Specific Plan buildout would be subject to project-level environmental review, including preparation of WSAs where applicable. There are multiple thresholds for WSA review; however, all projects requiring a WSA-level evaluation have the following factors in common: are subject to CEQA; identify groundwater as a potential supply source; and would introduce a water demand equivalent to that associated with a 500-unit residential development.

Furthermore, in compliance with Policy P2 under Goal PF-9 of the Eden Area General Plan, no project would be approved for development until the availability of sufficient water supply is confirmed (likely through the development of a project-level WSA, based on current information at the time of project proposal). The County also refers proposed projects to EBMUD for evaluation of water requirements, and confirmation by EBMUD of water supply availability. Therefore, the proposed project would not result in cumulatively considerable water supply impacts, and the proposed Specific Plan would not contribute to cumulative water supply impacts.

Wastewater. Buildout of cumulative projects in the City will continue to increase demands on the existing wastewater treatment and conveyance facilities. The OLSD Wastewater Treatment Plant, which has provided wastewater conveyance and treatment while accounting for community growth for over 100 years, would continue to provide service to its

jurisdiction, including the proposed Specific Plan districts of Ashland and Cherryland, in addition to the communities of San Lorenzo, Fairview, portions of Castro Valley, and portions of the Cities of Hayward and San Leandro. As described, current capacity of the OLSD Wastewater Treatment Plant is sufficient to serve planned and pending development within its service area, and existing conveyance facilities in the Specific Plan area are sufficient to accommodate planned and pending development included under the Specific Plan. With respect to future growth in the OLSD service area and associated increases in wastewater treatment demands, continued implementation of system improvements occurring per guidance of the OLSD Sewer System Management Plan (SSMP) would ensure sufficient conveyance and treatment capacity to meet cumulative needs.

In addition, in compliance with Eden Area General Plan policies, individual projects included in full buildout of the proposed Specific Plan would be required to mitigate wastewater collection and conveyance system capacity impacts on a case-by-case basis, should existing facilities become insufficient. Funding for such increases is available through a combination of connection fees paid by developers, service districts, and general fund monies (in addition to the funding guidance provided in the SSMP). Compliance with these requirements would reduce cumulative impacts to wastewater treatment and collection systems to a less than significant level.

Solid Waste. Planned and pending development in the Specific Plan area would continue to increase solid waste generation. As discussed under Impact UTL-3, area landfills have capacity to accommodate additional solid waste, and potential impacts of full buildout of the Specific Plan would be less than significant. Cumulatively, other areas which utilize the same landfills as the proposed Specific Plan would likely also continue to experience growth and associated increases in solid waste generation. State-mandated solid waste diversion rates (for recycling) would continue to minimize the quantity of waste directed to area landfills, and compliance with General Plan and Specific Plan policies would maintain or improve upon existing solid waste diversion rates.

According to the CoIWMP, the Altamont Landfill is expected to remain open with sufficient disposal capacity to accommodate it existing service territory until 2071. The County's strategy for meeting disposal capacity needs include increasing waste diversion, and potentially expanding landfill capacity, such as but not limited to the use of a publicly-owned Integrated Waste Management Facility in the Altamont Hills to provide reserve landfill capacity. Solid waste disposal facilities and management approach would continue to adjust as needed to provide adequate disposal capacity throughout the county (ACWMA, 2003). Thus, cumulative impacts to solid waste facilities would be less than significant.

5.0 OTHER CEQA-REQUIRED DISCUSSIONS

This section addresses other topics required to be addressed under the *State CEQA Guideline* that are not covered in other parts of this EIR, including growth inducing effects and significant irreversible changes.

5.1 GROWTH EFFECTS

Section 15126(d) of the *CEQA Guidelines* requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed Specific Plan's growth effects are considered significant if they could result in significant physical effects in one or more environmental issue areas. The most commonly cited example of how an economic effect might create a physical change is where economic growth in one area could create blight conditions elsewhere by causing existing competitors to go out of business and the buildings to be left vacant.

5.1.1 Economic and Population Growth

As discussed in Section 2.0, *Project Description*, and Section 4.11, *Population and Housing,* the proposed Specific Plan would add up to 2,768 residents and 1,900 employees to the Plan Area. According to ABAG growth projections for unincorporated Alameda County, the increase of 2,768 residents associated with Specific Plan buildout would make up approximately 17% of projected growth in unincorporated Alameda County through 2040. The 1,900 new jobs associated with project buildout would make up approximately 20% of the projected job growth in unincorporated Alameda County. Neither Specific Plan-generated population nor employment estimates would exceed countywide projections.

Growth associated with the proposed Specific Plan is also consistent with the Eden Area General Plan buildout assumptions for the Plan Area and surrounding area. Further, development facilitated within the Plan Area would be required to adhere to the goals and policies contained in the Eden Area General Plan. It is the specific purpose of the Eden Area General Plan to guide decisions about the location, type and design of development in the Eden Area over the life of the General Plan. Therefore, by its nature, the Eden Area General Plan is intended to reduce the potential for uncontrolled growth and associated environmental impacts in the Eden Area, including the ACBD Specific Plan Area. Thus the proposed uses and development have already been planned for within the Eden Area by the County and programmatically analyzed in the Eden Area General Plan.

Buildout under the proposed Specific Plan would generate temporary employment opportunities in industries such as construction. However, this would not be expected to draw a significant number of new employees to the community, because it is anticipated that, given the extent and time frame of development, most construction jobs would be filled by the workforce already existing in the area at the time of construction.

5.1.2 Removal of Obstacles to Growth

As discussed above, approval of the proposed Specific Plan would lead to increased development and population within the Plan Area. The project area is surrounded on all sides by urban development, and these areas are served by existing municipal services and utilities including roads, water, sewer, and other infrastructure. No substantial expansion of these facilities is proposed or would be necessary to accommodate buildout of the Specific Plan (see Section 4.12, *Public Services,* and Section 4.15, *Utilities and Service Systems)*. The proposed Specific Plan would therefore not require or induce extension of utilities or other services into undeveloped areas within or around the project area that would induce growth that would not otherwise occur. The proposed Specific Plan would not have any significant effect from removing obstacles to growth outside of the Plan Area.

5.2 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL EFFECTS

The *State CEQA Guidelines* require that EIRs evaluating projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses nonrenewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed development.

Construction activity associated with the proposed Specific Plan Area would involve the use of building materials and energy, some of which are nonrenewable resources. Consumption of these resources would occur with any development in the region and are not unique to the Plan Area. The addition of new residential and non-residential development in the Plan Area would irreversibly increase local demand for nonrenewable energy resources such as petroleum and natural gas. Increasingly efficient building fixtures and automobile engines, as well as implementation of policies included in the Specific Plan and the Eden Area General Plan, are expected to offset this demand to some degree. As discussed below, it is not anticipated that the development envisioned by the proposed Specific Plan would significantly affect local or regional energy supplies.

Growth associated with the proposed Specific Plan would require an irreversible commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. However, as discussed in sections 4.12, *Public Services,* and 4.15, *Utilities and Service Systems*, impacts related to public services and utilities would be less than significant with incorporated mitigation.

The additional vehicle trips associated with the proposed Specific Plan would incrementally increase local traffic, noise levels and regional air pollutant emissions. As discussed in Section 4.2, *Air Quality*, emissions would be less than significant. As discussed in Section 4.10, *Noise*, increased noise levels from traffic noise associated with the project would not expose sensitive receptors to noise levels exceeding applicable standards, and this impact would be less than significant. Construction and other operational noise impacts would be less than significant.

Finally, as discussed in Section 4.14, *Transportation and Circulation*, the proposed Specific Plan would involve modifications to roads and intersections within the Plan Area. These modifications would also be considered difficult to reverse. In addition, impacts to the local circulation system and to the I-580 freeway would be significant and unavoidable.

5.3 ENERGY EFFECTS

The *State CEQA Guidelines* Appendix F requires that EIRs include a discussion of the potential energy consumption and/or conservation impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, or unnecessary consumption of energy.

As discussed previously, implmentation of the proposed Specific Plan would involve the use of energy during construction and operation of the residences and non-residential uses. Energy use during the construction phase would be in the form of fuel consumption (e.g., gasoline and diesel fuel) to operate heavy equipment, light-duty vehicles, machinery, and generators for lighting. In addition, temporary grid power may also be provided to any temporary construction trailers or electric construction equipment. Long-term operation of the proposed new development would require permanent grid connections for electricity and natural gas service to power internal and exterior residential lighting, appliances, and heating and cooling systems. In addition, the increase in vehicle trips associated with the project would increase fuel consumption within the County. The required water supply for the project would require electrical power as well. Gas and electric service for the proposed Specific Plan would be provided by Pacific Gas and Electric Company (PG&E). PG&E's power mix consists of approximately 30 percent renewable energy sources (approximately 11percent large hydroelectric facilities and approximately 19 percent other renewable resources such as wind, geothermal, biomass, solar, and small hydro) (PG&E website, 2014).

Development associated with the proposed Specific Plan would be subject to the energy conservation requirements of the Title 24 of the California Code of Regulations, known as the California Building Standards Code or Title 24, which requires numerous energy savings measures. In addition, development associated with the proposed Specific Plan would be subject to the Alameda County Green Building Ordinance (County Code Chapter 15.08). This ordinance requires that new residential and commercial construction incorporate green building features such as energy-efficiency measures. Adherence to Title 24 and County energy conservation requirements would ensure that energy is not used in an inefficient, wasteful, or unnecessary manner.

This page intentionally left blank.

6.0 ALTERNATIVES

As required by Section 15126(d) of the *State CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed project that could feasibly achieve similar objectives. The discussion focuses on alternatives that would achieve different economic and planning goals than the proposed Specific Plan. Included in this analysis are the CEQA-required "no project" alternative and three additional alternatives. These are listed and summarized below, and subsequently discussed in greater detail within the impact analysis for each alternative:

- *Alternative 1: No Project*
- *Alternative 2: Expanded Jobs*
- *Alternative 3: Spread Growth*

This section also identifies the Environmentally Superior Alternative in accordance with CEQA.

Table 6-1 provides a summary comparison of the development characteristics of the proposed Specific Plan and the alternatives. A more detailed description of the alternatives is included in the impact analysis for each alternative.

Table 6-1
Comparison of Proposed Project Alternatives Buildout Characteristics

Characteristic	Alternatives			
	Proposed Project	Alternative 1: No Project	Alternative 2: Expanded Jobs	Alternative 3: Spread Growth
Residential				
Single-Family Units	167	0	249	264
Multi-Family Units	771	0	326	1,111
Total Residential Units	*938*	*0*	*575*	*1,375*
Non-Residential				
Development (square feet)	570,000	0	717,000	778,500
Jobs	1,900	0	2,390	2,595

As listed in Section 2.0 *Project Description*, the project objectives for the proposed project are:

1) *Achieve economic revitalization of the Ashland and Cherryland Business District Specific Plan Area.*
2) *Attain Plan Area recognition as a destination that draws visitors and customers to the area.*
3) *Realize attractive and high quality public and private improvements along East 14th Street/Mission Boulevard and of Lewelling/East Lewelling Boulevard.*
4) *Develop and use the East 14th Street/Mission Boulevard as a place for higher intensity uses.*
5) *Build Plan Area landscaped areas, parks, open space, and trails that are supportive of the public life of the community and part of the SP area revitalization.*
6) *Enhance the quality of and conservation of Plan Area residential neighborhoods; improve compatibility between residential and commercial uses; and implement mixed-use development that improves the edge between business districts and adjacent residential areas.*

7) *Maintain and improve Plan Area infrastructure that matches infrastructure levels in newer parts of the County.*
8) *Balance and complete a circulation network that creates a strong economy and vibrant community and accommodates the internal and external transportation needs of the Plan Area by promoting walking, biking, and transit while continuing to serve automobile traffic.*
9) *Establish complete neighborhoods in the Plan Area with adequate shopping, jobs, housing, infrastructure, and daily services f or Plan Area residents.*

6.1 NO PROJECT

This alternative assumes that the proposed Specific Plan is not approved and that the Plan Area would continue to be zoned according to the existing 1995 ACBD Specific Plan. The existing growth assumptions for the Plan Area and surrounding neighborhoods under the Eden Area General Plan would continue to apply. Since the adoption of the 1995 ACBD Specific Plan, little growth has occurred within the Plan Area. This alternative assumes that this pattern would continue and limited growth well under Eden Area General Plan projections would occur within the Plan Area.

6.1.1 Impact Analysis

The No Project alternative would involve no changes to the existing regulatory controls and land use policies for the Plan Area. The circulation and infrastructure improvements within the Plan Area associated with the proposed Specific Plan would not occur. In addition, the zoning changes and changes to the form-based code would not occur. No development associated with the proposed Specific Plan would occur. As such, this alternative would have no impact with respect to aesthetics, air quality, biological resources, cultural resources, geology, greenhouse gas (GHG) emissions, hazards and hazardous materials, hydrology, noise, population and housing, public services, traffic, or utilities and service systems. Construction impacts associated with the proposed Specific Plan would be avoided. This alternative would avoid the proposed project's significant and unavoidable impacts with respect to traffic. No mitigation measures would be required for the No Project alternative. This alternative would not preclude development in the Plan Area; however, since the adoption of the 1995 ACBD Specific Plan, little growth has occurred within the Plan Area. This alternative assumes that this pattern would continue and that limited new development would occur within the Plan Area. Overall impacts would be lower than those of the proposed project since no change to environmental conditions would occur. The beneficial effects associated with the proposed Specific Plan (pedestrian facility, bicycle facility, intersection, and streetscape improvements) would not occur.

The No Project Alternative would not meet any of the objectives of the proposed Specific Plan, which is designed to economically revitalize the Plan Area (objective 1), draw visitors (objective 2), improve streetscapes (objective 3), increase the intensity of development (objective 4,) build landscaped areas, parks, and open space (objective 5), enhance and develop residential and mixed-use areas (objective 6), improve infrastructure (objective 7), improve the circulation network (objective 8), and establish complete neighborhoods (objective 8).

6.2 ALTERNATIVE 2: EXPANDED JOBS

Alternative 2 is based on the "expanded jobs" alternative of the Eden Area General Plan EIR, and considers the impact of increasing job production by 25%. Under this scenario available land would be maximized for non-residential uses, resulting in a decrease of overall residential growth in the Plan Area. This alternative would include development of up to 575 total residential units in the Plan Area compared to 938 units with the proposed Specific Plan (a decrease of 363 units, or 39%) and 717,000 square feet of non-residential development compared to 570,000 square feet with the proposed Specific Plan (an increase of 147,000 square feet, or 26%). This alternative would result in approximately 2,390 jobs, an increase of 490 (26%) compared to the estimated 1,900 jobs associated with the proposed Specific Plan.

The Expanded Jobs alternative differs from the proposed Specific Plan as follows:

- No Residential Uses in Districts: To accommodate additional non-residential buildout, residential as a secondary use would not be allowed in Districts.
- Less Focus on Anti-Displacement: Provisions for residential protection/improvement would be reduced.
- Added Allowed Uses: To maximize commercial growth, additional commercial uses would be allowed by right throughout the Plan Area, such as auto-related uses in the Districts.
- Increased Development Intensity: Development density and height (up to one additional story or 10 feet) would increase throughout the Districts and Corridors to accommodate additional commercial build-out

This alternative would meet most of the project objectives. However, it would meet objective 6 to "enhance the quality of and conservation of Plan Area residential neighborhoods; improve compatibility between residential and commercial uses; and implement mixed-use development that improves the edge between business districts and adjacent residential areas" and objective 9 to "establish complete neighborhoods in the Plan Area with adequate shopping, jobs, housing, infrastructure, and daily services f or Plan Area residents" to a lesser extent than the proposed Specific Plan as fewer housing units would be accommodated.

6.2.1 Aesthetics

This alternative would increase the density and height of commercial development within the Districts and Corridors in the Plan Area compared to the proposed Specific Plan. The Plan Area is visible from Interstate 580 but not within its designated scenic corridor. The Plan Area is also visible from Interstate 238 which is a County-designated scenic freeway near the Plan Area. However, like the proposed Specific Plan, although heights may increase with this alternative, increases in the intensity and visibility of non-residential urban development in the Plan Area associated with Alternative 2 would not affect scenic views from Interstate 580 or Interstate 238 of the East Bay hills and San Francisco Bay. An additional one story in height for buildings within the Plan Area compared to the proposed Specific Plan would not block views. Impacts would be similar to the proposed Specific Plan and would be *less than significant.*

Like the proposed project, this alternative would facilitate changes to the visual character of the Plan Area by establishing new form-based zoning codes. With this alternative, development in the districts and corridors would be more intense compared to the proposed Specific Plan. Like the proposed Specific Plan, this alternative would allow substantial increases in height and massing of commercial development, which could result in visual incompatibility with existing residences. However, with adherence to the design review process, like the proposed Specific Plan, impacts would be *less than significant.*

The introduction of light and glare to the neighborhoods with this alternative would be comparable to the proposed Specific Plan as development in the neighborhoods would be comparable to that facilitated by the proposed Specific Plan. The introduction of light and glare to the districts and corridors within the Plan Area may be increased under this alternative as the intensity of development in the Districts and Corridors would be increased (i.e.: buildings may be taller and closer together). Nonetheless, new sources of light and glare in an already urbanized area would not substantially increase the amount of light and glare in the Plan Area, and would be regulated by the policies of the Eden Area General Plan. In addition, this alternative would still include policies related to signage and lighting, similar to the proposed General Plan. Impacts related to light and glare would therefore continue to be *less than significant.*

6.2.2 Air Quality

A project is consistent with the *2010 Bay Area Clean Air Plan* if its direct and indirect emissions are accounted for in the growth assumptions of the *2010 Bay Area Clean Air Plan* (or the most recent ABAG population projections). This alternative would decrease residential development by 363 units, or 39%, when compared to the proposed Specific Plan. This alternative would result in 2,390 jobs, an increase of 490 (26%) compared to the 1,900 jobs associated with the proposed Specific Plan. The 2,390 new jobs associated with this alternative would exceed the projected job growth within the Ashland and Cherryland communities by 12%. However, this job growth would not exceed the job projections for the Eden Area or for unincorporated Alameda County. The 2,390 new jobs would make up approximately 62% of projected job growth in the Eden Area and 26% of job growth in unincorporated Alameda County. Although this alternative would exceed job projections for the Ashland and Cherryland communities, it would not exceed ABAG job projections for the Eden Area or for unincorporated Alameda County. In addition, this alternative would be consistent with the general aim of the *Bay Area Clean Air Plan* to encourage growth in transit-oriented districts and corridors. Impacts would remain *less than significant,* similar to the proposed project.

Temporary construction-related air quality impacts of this alternative would increase compared to the proposed Specific Plan as the amount of non-residential construction would increase. However, this alternative would be required to comply with the Eden Area General Plan's requirement that future projects within the Specific Plan area implement measures to reduce PM_{10} emissions. Therefore, similar to the proposed Specific Plan, impacts would be *less than significant*.

This alternative would reduce residential and increase non-residential buildout in the Plan Area. Similar to the proposed Specific Plan, this alternative would include a Multimodal Access

Plan that would implement Transportation Control Measures included in the *2010 Bay Area Clean Air Plan* that identify cities as implementing agencies. Therefore, impacts would be *less than significant*. Additionally, although this alternative would reduce residential land uses, available land would be maximized for non-residential uses and operational emissions would be similar to the proposed Specific Plan. Therefore, individual projects under this alternative would be required to undergo project-specific review to reduce operational emissions to below BAAQMD's daily thresholds. Impacts would remain *less than significant*.

As discussed in subsection 6.2.14, *Transportation and Circulation,* Alternative 2 would generate 2% more AM peak hour, 13% more PM peak hour, and 11% more daily vehicle trips than the proposed Specific Plan. The one-hour concentration of carbon monoxide (CO) was estimated to be approximately 7 ppm and the eight hour concentration was estimated to be approximately 4 ppm, including both traffic-related CO emissions and background CO concentrations for the proposed Specific Plan. These concentrations are less than half of the State Ambient Air Quality Standard of 20 ppm for one hour concentration and 9 ppm averaged over eight hours at the major intersection in the Plan Area. As this alternative would not double traffic in the Plan Area, CO emissions from traffic would not double and, therefore, would not exceed the State Ambient Air Quality Standard for one-hour or eight-hour CO concentrations. Therefore, CO emissions from traffic would incrementally increase when compared to the proposed Specific Plan, but impacts related to CO hotspot creation would remain *less than significant.*

This alternative would not include land uses typically producing objectionable odors, such as agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Similar to the proposed project, this alternative's impacts related to odors would be *less than significant*.

6.2.3 Biological Resources

This alternative would increase the intensity of non-residential development within the Plan Area. Nonetheless, this alternative would still involve development of the same areas as the proposed Specific Plan (the Plan Area). As a result, biological resources impacts would be similar to those resulting from the proposed Specific Plan. Mitigation outlined in Section 4.3, *Biological Resources,* would continue to apply and impacts would remain *significant but mitigable.*

6.2.4 Cultural Resources

This alternative would increase the intensity of non-residential development within the Plan Area. Nonetheless, this alternative would still involve development of the same areas as the proposed Specific Plan (the Plan Area). As a result, cultural resources impacts would be similar to those resulting from the proposed Specific Plan. Mitigation outlined in Section 4.4, *Cultural Resources,* would continue to apply and impacts would remain *significant but mitigable.*

6.2.4 Geology and Soils

This alternative would accommodate 363 fewer residential units and 147,000 more non-residential development compared to the proposed Specific Plan. Therefore, development under this alternative would expose fewer residential structures and additional non-residential

structures geologic hazards, including groundshaking, liquefaction, and expansion. Development under this alternative would still be subject to the Alquist-Priolo Earthquake Fault Zone Act, California Building Code (CBC) provisions, and policies contained in the Eden Area General Plan. Therefore, impacts related to groundshaking and soil instability would remain *less than significant* with adherence to existing regulations.

6.2.6 Greenhouse Gas Emissions

This alternative would accommodate 363 fewer residential units, 147,000 more non-residential development, and 490 more jobs compared to the proposed Specific Plan. The service population (sum of population and employees) of this alternative would be 4,087 (1,697 residents plus 2,390 employees), which is smaller than the proposed Specific Plan's service population of 4,668. Although development of residential units would decrease, available land would be maximized for non-residential uses. Therefore, greenhouse gas (GHG) emissions per service population would be similar to those of the proposed project. Therefore, impacts related to GHG would be similar and would be Class II, *significant but mitigable*. Mitigation Measure GHG-1 would continue to apply.

6.2.7 Hazards and Hazardous Materials

This alternative would increase residential and non-residential development, and would still involve the development of residential or commercial land uses that may involve the use, storage, disposal or transportation of hazardous materials. This alternative may also involve mixed-use structures that would place new residences near hazardous waste users. However, as with the proposed project, required adherence to existing regulations and Eden Area General Plan policies would reduce impacts to *less than significant*.

This alternative may also involve demolition or redevelopment of structures that could contain asbestos or lead based paints. Impacts related to lead and asbestos hazards would be similar to those of the proposed project and would be *less than significant* with adherence to existing regulations. In addition, it is not anticipated that this alternative would involve any new uses that would produce or emit hazardous materials near any schools. Impacts would continue to be *less than significant* in this regard.

There are many properties within the Plan Area where past uses could have produced localized containment or concentrations of hazardous substances. This alternative would increase the amount and intensity of development within the Plan Area. Therefore, this alternative could increase the amount of workers or residents exposed to residual contaminants in the soils. However, as with the proposed Specific Plan, new development would be subject to existing policies regarding development in contaminated areas. Therefore, impacts would be *less than significant.*

6.2.8 Hydrology and Water Quality

Alternative 2 would increase the intensity and amount of non-residential development compared to the proposed Specific Plan. Construction-related and operational erosion and sedimentation, and pollutant discharges would therefore be increased under this alternative.

Compliance with NPDES Permit requirements and County ordinances would ensure that temporary construction related water quality impacts would remain *less than significant,* similar to the proposed project.

A portion of the Plan Area is within a FEMA-designated Flood Hazard Area associated with San Lorenzo Creek. Because this alternative would increase overall development potential in non-residential areas, additional structures may be located in potentially affected areas. However, compliance with County building standards would reduce potential effects associated with flood events and like the proposed project, impacts would be *less than significant*.

6.2.9 Land Use and Planning

This alternative would increase development intensity throughout the Plan Area, and allow more commercial uses by right. This alternative would continue the existing pattern of commercial development in the Districts and Corridors but would add more commercial development (instead of residential) compared to the Specific Plan. As outlined in Section 4.9, *Land Use and Planning,* the proposed Specific Plan would be potentially consistent with all relevant policies of the Eden Area General Plan with incorporation of mitigation included in sections 4.3, *Biological Resources,* 4.6, *Greenhouse Gas Emissions,* and 4.14, *Transportation and Circulation*. This alternative would also be consistent with relevant policies in the Eden Area General Plan with mitigation. Though this alternative would still be consistent with most policies in the Eden Area General Plan and Alameda County General Plan, it would meet goals related to increasing housing to a lesser extent than the proposed General Plan. In addition, this alternative would not meet goals regarding placing housing in transit corridors. Similar to the proposed project, impacts would be *significant but mitigable*.

As with the proposed project, this alternative would allow new development that may be incompatible with surrounding residential land uses and the existing pattern of development in the Plan Area. However, similar to the proposed Specific Plan, this impact would be *less than significant*.

6.2.10 Noise

This alternative would reduce residential and increase non-residential buildout in the Plan Area. Noise and vibration levels would be similar to the proposed Specific Plan as the same type of construction equipment would be used. The overall duration of noise and vibration associated with construction would not change as available land would be maximized for non-residential uses. However, this alternative would introduce fewer sensitive receptors to the Plan Area. Similar to the proposed project, noise and vibration impacts from construction-related noise would be *less than significant,* with adherence to the Eden Area General Plan and implementation of Eden Area General Plan EIR Mitigation Measure NOI-2.
Similar to the proposed project, this alternative would involve development adjacent to residential neighborhoods. Existing and future sensitive receptors within the Plan Area would be exposed to operational noise from buildout under this alternative, although fewer sensitive receptors would be introduced to the Plan Area under this alternative. Similar to the proposed Specific Plan, development under this alternative would be subject to the Eden Area General

Plan's goals, policies, and Land Use and Noise Compatibility Guidelines. Similar to the proposed project, impacts would be *less than significant*. As with the proposed Specific Plan, no mitigation would be required.

As discussed in subsection 6.2.14, *Transportation and Circulation,* Alternative 2 would generate 2% more AM peak hour, 13% more PM peak hour, and 11% more daily vehicle trips than the proposed Specific Plan. Consequently, noise level increases on roadways near and within the Plan Area would be higher. However, roadway noise from Alternative 2 would not double roadway noise associated with the proposed Specific Plan and therefore would not exceed the 3 dBA threshold identified in the Eden Area General Plan EIR. Therefore, impacts would incrementally increase when compared to the proposed project, but would remain *less than significant.* As with the proposed Specific Plan, no mitigation would be required.

6.2.11 Population and Housing

This alternative would decrease residential development by 363 units (39%) and therefore population would decrease by 1,071 residents (39%) compared to buildout under the proposed Specific Plan. Therefore, this alternative would not exceed population ABAG or Eden Area population or housing projections. This alternative would also increase jobs by 490 (26%). The 2,390 new jobs associated with this alternative would exceed the projected job growth within the Ashland and Cherryland communities by 12%. However, this job growth would not exceed the job projections for the Eden Area or for unincorporated Alameda County. The 2,390 new jobs would make up approximately 62% of projected job growth in the Eden Area and 26% of job growth in unincorporated Alameda County. Like the proposed project, the increases in population, housing, and jobs associated with this alternative would not exceed ABAG growth projections for unincorporated Alameda County or Eden Area General Plan growth projections for the Eden Area. As with the proposed Specific Plan, impacts would remain *less than significant.*

Provisions for residential protection/improvement would be reduced. Nonetheless, this alternative would increase the Plan Area's housing stock by adding 575 new residential units. Impacts related to displacement would be *less than significant,* similar to the proposed project.

6.2.12 Public Services

This alternative would result in 363 fewer residential units than the proposed but would increase non-residential development by 147,000 square feet. Consequently, demand for police and fire protection would be comparable to the proposed Specific Plan and impacts would remain *less than significant.*

Based on the students per household generation rates used in the public services analysis for the proposed project (see Section 4.12, *Public Services*), this alternative would generate approximately 403 new students. This represents a reduction of 254 students (39%) when compared to the proposed project. Therefore, demand for school services would also decrease. Impacts to schools would be Class III, *less than significant,* under this alternative, similar to the proposed project.

Upon full buildout under this alternative, approximately 1,697 new residents would reside within the Plan Area. This is a reduction of 1,071 (39%) compared to the proposed Specific Plan. Therefore, impacts to library services would be reduced and would remain *less than significant.*

6.2.13 Recreation

This alternative would reduce the number of units compared to the proposed project, and therefore would reduce population within the Plan Area compared to full buildout of the proposed Specific Plan. Therefore, the demand for parks and recreational facilities would be reduced compared to the proposed Specific Plan and impacts to parks and recreation facilities would be reduced. Impacts would remain *less than significant.*

6.2.14 Transportation and Circulation

Alternative 2 would generate more peak hour and daily trips compared to the proposed Specific Plan (see Table 6-2). Alternative 2 would generate 2% more AM peak hour, 13% more PM peak hour, and 11% daily vehicle trips than the proposed Specific Plan.

Table 6-2
Alternative 2 Trip Generation

	Total Automobile Trips		
	AM Peak Hour	**PM Peak Hour**	**Daily**
E. 14th/Mission Boulevard Corridor			
Raw ITE Trips	1,031	2,080	20,145
Reduction	22%	24%	16%
Net Trips	*805*	*1,577*	*16,839*
Lewelling/E. Lewelling Boulevard Corridor			
Raw ITE Trips	1,226	1,465	15,528
Reduction	31%	34%	23%
Net Trips	*848*	*965*	*11,996*
Total Combined Net Trips – Alternative 2	**1,653**	**2,542**	**28,835**
Alternative 2 Net Trip Difference Compared to Preferred Plan	***+35***	***+328***	***+3,047***

Note: Trip generation estimates assume the following growth: 249 single-family units, 326 multi-family units, 2,390 jobs.
Source: Fehr & Peers, 2015.

Although specific roadway segment evaluation was not conducted for the alternatives analysis, since Alternatives 2 would generate more traffic than the proposed Specific Plan, it can be reasonably assumed that Alternative 2 would cause additional *significant but mitigable* or *significant and unavoidable* impacts not identified for the proposed Specific Plan and increase the magnitude of the already identified *significant and unavoidable* impacts.

Alternative 2 is expected to have similar effects on non-traffic operation topics, such as transportation safety and consistency with adopted policies, plans or programs supporting active transportation modes, because Alternative 2 would continue to provide similar policies as the proposed Specific Plan.

Similar to the proposed Specific Plan, this alternative would improve bicycle, pedestrian, and public transit facilities. Impacts would be similar to those of the proposed Specific Plan and would remain *less than significant*.

6.2.15 Utilities and Service Systems

Compared to the proposed Specific Plan, this alternative would reduce residential buildout by 363 units (39%) and would increase non-residential buildout by 147,000 square feet (26%). As shown on Table 6-3, water demand would be reduced by 61,875 gallons per day (23%) under this alternative compared to the proposed Specific Plan. Impacts would be reduced compared to the proposed Specific Plan and would remain *less than significant.*

Table 6-3
Alternative 2 Water Demand

Use	Alternative 2 Buildout		Water Demand Factor*		Expected Demand	
			Gallons / Day	Unit	Gallons / Day	Million Gallons / Day
Non-residential	717,000	Square feet	0.11	Square feet	78,870	0.0787
Residential	575	Dwelling unit	215.00	Dwelling unit	123,625	0.1236
Total Alternative 2					**202,495**	**0.2023**
Proposed Specific Plan					**264,370**	**0.2644**

As shown in Table 6-4 and based on the wastewater demand factors used in Section 4.15, *Utilities and Service Systems*, this alternative would generate an 99,810 gallons per day or 0.1 million gallons per day. This represents a reduction of 30,135 gallons per day (23%) when compared to the proposed project. Therefore, impacts to wastewater infrastructure and treatment systems would be reduced compared to the proposed project and would remain *less than significant.*

Table 6-4
Alternative 2 Project Generated Wastewater Flows

Use	Alternative 2 Buildout		Wastewater Generation Factor		Expected Wastewater Generation	
			Gallons / Day	Unit	Gallons / Day	Million Gallons / Day
Commercial	71,700*	Square feet	0.10	Square feet	7,170	0.01
Retail	645,300*	Square feet	0.05	Square feet	32,265	0.03
Residential	575	Dwelling unit	105.00	Dwelling unit	60,375	0.06
Total Alternative 2					**99,810**	**0.10**
Proposed Specific Plan					**129,945**	**0.1299**

**** Assumes 717,000 sf of non-residential uses is 10% commercial and 90% retail***

As shown on Table 6-5 and based on the solid waste generation rates used in the public services analysis for the proposed Specific Plan (see Section 4.15, *Utilities and Service Systems*), this alternative would generate approximately 13.0 tons of solid waste per day prior to the consideration of any waste reduction efforts. This represents an increase of 0.9 tons per day more (7%) when compared to buildout of the proposed Specific Plan. Nonetheless, landfills that

serve the Plan Area would be able to accommodate this increase in solid waste. Impacts would continue to be *less than significant.*

Table 6-5
Alternative 2 Solid Waste Generation

Use	Alternative 2 Units or Employees	Solid Waste Generation Rate	Overall Solid Waste Generation (tpd)[1]	
			Proposed Specific Plan	Alternative 2
Residential	575 units	1.5 lbs/resident/day	2.1	0.4
Non-Residential	2,390 employees	10.53 lbs/employee/day	10.0	12.6
		Total	**12.1**	**13.0**

tpd – tons per day
[1] tpd was calculated by multiplying the unit amount by the generation factor and then dividing by 2,000 (the number of pounds in a ton)

6.3 ALTERNATIVE 3: SPREAD GROWTH

Alternative 3 is based on the "spread development" alternative of the Eden Area General Plan FEIR (adopted 2010) and considers the impact of spreading growth, particularly residential growth, in a non-centralized fashion. In the Eden Area General Plan FEIR "spread development" meant development was to be dispersed across the Eden Area corridors as land is available, rather than focused in areas specified for growth. Total build-out was the same in the preferred and "spread" scenarios; however the location of development differed. The intent was to assess how "scattershot" development measured up to a project objective to "increase the quality of life in the area and to create meeting places for residents with nodes of activity."

Spreading Eden Area General Plan build-out across the Eden Area General Plan corridors would increase the amount of residential and non-residential growth within the Plan Area since the Plan Area is receiving the "spread" growth. The increased development within the Plan Area would be spread throughout the corridors, districts, and neighborhoods, instead of being centralized in the corridors and districts as would occur under the proposed Specific Plan.

To maintain consistency with the Eden Area General Plan analysis, this alternative uses the same build-out numbers as the "spread development" Eden Area General Plan EIR alternative. This alternative would include development of up to 1,375 total residential units in the Plan Area compared to 938 units with the proposed Specific Plan (an increase of 437 units, or 47%) and 778,500 square feet of non-residential development compared to 570,000 square feet with the proposed Specific Plan (a 208,500 sf increase, or 37%). This alternative would result in 2,595 jobs, an increase of 695 (37%) compared to the 1,900 jobs associated with the proposed Specific Plan.

The Spread Growth alternative differs from the proposed Specific Plan as follows:

- Residential as a Primary Use: This alternative would accommodate residential growth that is not proposed under the proposed Specific Plan. A General Plan amendment would be required to allow residential as a primary use in more areas and as a

secondary use anywhere not currently allowed (in order to achieve the proposed residential build-out).

- No Revitalization: Revitalization efforts (such as infrastructure, bicycle, and pedestrian improvements and open space development) would not occur.
- Greater Development Intensity: Development density and height (up to one additional story or 10 feet) would be increased throughout the Plan Area. Districts and Corridors would be treated similarly with no difference in allowed uses, design guidelines, or development standards.

6.3.1 Aesthetics

This alternative would increase the density and height of development within the Districts and Corridors in the Plan Area compared to the proposed Specific Plan and would spread out development throughout the Plan Area instead of focusing it within the districts and corridors. The Plan Area is visible from Interstate 580 but not within its designated scenic corridor. The Plan Area is also visible from Interstate 238 which is a County-designated scenic freeway near the Plan Area. However, like the proposed Specific Plan, although heights may increase with this alternative, increases in the intensity and visibility of non-residential urban development in the Plan Area associated with Alternative 2 would not affect scenic views from Interstate 580 or Interstate 238 of the East Bay hills and San Francisco Bay. An additional one story in height for buildings within the Plan Area compared to the proposed Specific Plan would not block views. Impacts would be similar to the proposed Specific Plan and would be *less than significant.*

Like the proposed project, this alternative would facilitate changes to the visual character of the Plan Area by establishing new form-based zoning codes. With this alternative, overall development in the Plan Area would be more intense than the proposed Specific Plan and growth would not be focused in the Districts. Like the proposed Specific Plan, this alternative would allow substantial increases in height and massing of commercial development, which could result in visual incompatibility with existing residences. However, like the proposed Specific Plan, impacts would be *less than significant.*

The introduction of light and glare within the Plan Area may be increased under this alternative as the intensity of development would be increased (i.e.: buildings may be taller and closer together). Nonetheless, new sources of light and glare in an already urbanized area would not substantially increase the amount of light and glare in the Plan Area, and would be regulated by the policies of the Eden Area General Plan. In addition, this alternative would still include policies related to signage and lighting, similar to the proposed General Plan. Impacts related to light and glare would therefore continue to be *less than significant.*

6.3.3 Air Quality

A project is consistent with the *2010 Bay Area Clean Air Plan* if its direct and indirect emissions are accounted for in the growth assumptions of the *2010 Bay Area Clean Air Plan* (or the most recent ABAG population projections). This alternative would include development of up to 1,375 total residential units in the Plan Area compared to 938 units with the proposed Specific Plan (an increase of 437 units, or 47%) and result in 2,595 jobs, an increase of 695 (37%) compared to the 1,900 jobs associated with the proposed Specific Plan. Based on the average of

2.95 persons per household in unincorporated Alameda County, the proposed addition of 1,375 residential units would generate an increase of approximately 4,057 residents. The 4,057 new residents associated with this alternative would make up 43% of the projected population growth in the Ashland and Cherryland communities, approximately 27% of projected population growth in the Eden Area and 25% of the population growth in unincorporated Alameda County. The 2,595 new jobs associated with this alternative would exceed the projected job growth in the Ashland and Cherryland communities by 22%. However, this job growth would not exceed the job projections for the Eden Area or for unincorporated Alameda County. The 2,595 jobs associated with this alternative would make up approximately 67% of projected job growth in the Eden Area and 28% of job growth in unincorporated Alameda County. Although this alternative would exceed job projections for the Ashland and Cherryland communities, it would not exceed ABAG job projections for the Eden Area or for unincorporated Alameda County. Impacts would remain *less than significant,* similar to the proposed project.

Temporary construction-related air quality impacts of this alternative would increase compared to the proposed Specific Plan as the amount of construction would increase. However, this alternative would be required to comply with the Eden Area General Plan's requirement that future projects within the Specific Plan area implement measures to reduce PM_{10} emissions. Therefore, similar to the proposed Specific Plan, impacts would be *less than significant*.

This alternative would increase residential and non-residential buildout in the Plan Area. Similar to the proposed Specific Plan, this alternative includes a Multimodal Access Plan that would implement Transportation Control Measures included in the *2010 Bay Area Clean Air Plan* that identify cities as implementing agencies. Therefore, impacts would be *less than significant*. This alternative would increase development and operational emissions in the Plan Area in comparison to the proposed Specific Plan. However, similar to the proposed Specific Plan, individual projects under this alternative would be required to undergo project-specific review to reduce operational emissions to below BAAQMD's daily thresholds. Impacts would remain *less than significant*.

As discussed in subsection 6.3.14, *Transportation and Circulation,* Alternative 3 would generate 17% more AM peak hour, 22% more PM peak hour, and 23% daily vehicle trips than the proposed Specific Plan. The one-hour CO concentration was estimated to be approximately 7 ppm and the eight hour concentration was estimated to be approximately 4 ppm, including both traffic-related CO emissions and background CO concentrations for the proposed Specific Plan. These concentrations are less than half of the State Ambient Air Quality Standard of 20 ppm for one hour concentration and 9 ppm averaged over eight hours at the major intersection in the Plan Area. As this alternative would not double traffic in the Plan Area, CO emissions from traffic would not double and, therefore, would not exceed the State Ambient Air Quality Standard for one-hour or eight-hour CO concentrations. Therefore, CO emissions from traffic would incrementally increase when compared to the proposed Specific Plan, but impacts related to CO hotspot creation would remain *less than significant.*
This alternative would not include land uses typically producing objectionable odors, such as agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Similar to the proposed project, this alternative's impacts related to odors would be *less than significant*.

6.3.3 Biological Resources

This alternative would increase the intensity and amount of development within the Plan Area. Nonetheless, this alternative would still involve development of the same areas as the proposed Specific Plan (the Plan Area). As a result, biological resources impacts would be similar to those resulting from the proposed Specific Plan. Mitigation outlined in Section 4.3, *Biological Resources,* would continue to apply and impacts would remain *significant but mitigable.*

6.3.4 Cultural Resources

This alternative would increase the intensity of non-residential development within the Plan Area and would spread out development within the Plan Area. As a result, additional cultural may be effected. Mitigation outlined in Section 4.4, *Cultural Resources,* would continue to apply and impacts would remain *significant but mitigable.*

6.3.5 Geology and Soils

This alternative would accommodate 437 more residential units and 208,500 more non-residential development compared to the proposed Specific Plan. Therefore, development under this alternative would expose more residential and non-residential structures to geologic hazards, including groundshaking, liquefaction, and expansion. Development under this alternative would still be subject to the Alquist-Priolo Earthquake Fault Zone Act, CBC provisions, and policies contained in the Eden Area General Plan. Therefore, impacts related to groundshaking and soil instability would remain *less than significant* with adherence to existing regulations.

6.3.6 Greenhouse Gas Emissions

This alternative would accommodate 437 more residential units, 208,500 more non-residential development, and 695 more jobs compared to the proposed Specific Plan. The service population (sum of population and employees) of this alternative would be 6,652 (4,057 residents plus 2,995 employees), which is larger than the proposed Specific Plan's service population of 4,668. As residential and non-residential development would increase proportionally to the increase in service population, greenhouse gas (GHG) emissions per service population would, therefore, be similar when compared to the proposed project. Therefore, impacts related to GHG would be similar and would be Class II, *significant but mitigable*. Mitigation Measure GHG-1 would continue to apply.

6.3.7 Hazards and Hazardous Materials

This alternative would increase residential and non-residential development, and would still involve the development of residential or commercial land uses that may involve the use, storage, disposal or transportation of hazardous materials. This alternative may also involve mixed-use structures that would place new residences near hazardous waste users. However, as with the proposed project, required adherence to existing regulations and Eden Area General Plan policies would reduce impacts to *less than significant*.

This alternative may also involve demolition or redevelopment of structures that could contain asbestos or lead based paints. Impacts related to lead and asbestos hazards would be similar to those of the proposed project and would be *less than significant* with adherence to existing regulations. In addition, it is not anticipated that this alternative would involve any new uses that would produce or emit hazardous materials near any schools. Impacts would continue to be *less than significant* in this regard.

There are many properties within the Plan Area where past uses could have produced localized containment or concentrations of hazardous substances. This alternative would increase the amount and intensity of development within the Plan Area. Therefore, this alternative could increase the amount of workers or residents exposed to residual contaminants in the soils. However, as with the proposed Specific Plan, new development would be subject to existing policies regarding development in contaminated areas. Therefore, impacts would be *less than significant.*

6.3.8 Hydrology and Water Quality

Alternative 2 would increase the intensity and amount of development compared to the proposed Specific Plan. Construction-related and operational erosion and sedimentation, and pollutant discharges would therefore be increased under this alternative. Compliance with NPDES Permit requirements and County ordinances would ensure that temporary construction related water quality impacts would remain *less than significant,* similar to the proposed project.

A portion of the Plan Area is within a FEMA-designated Flood Hazard Area associated with San Lorenzo Creek. Because this alternative would increase overall development potential in the Plan Area, additional structures may be located in potentially affected areas. However, compliance with County building standards would reduce potential effects associated with flood events and like the proposed project, impacts would be *less than significant.*

6.3.9 Land Use and Planning

This alternative would be contrary to regional and County goals of concentrating residential development along transportation corridors. This alternative would involve residential as a primary use in some areas where residential is not allowed as a primary use under the proposed Specific Plan. Therefore, this alternative would be inconsistent with the Eden Area General Plan. An Eden Area General Plan amendment would be needed to allow residential as a primary use in more areas and as a secondary use anywhere not currently allowed. In addition, under this alternative development intensities would be increased and there would be no variation in allowed uses, design guidelines, or development standards for the Districts and Corridors. Further, full buildout associated with this alternative would exceed growth projections in the Eden Area General Plan for the Plan Area and surrounding neighborhoods. However, assuming an amendment to the Eden Area General Plan is approved, this alternative would have a *less than significant* impact with regard to inconsistency with the Eden Area General Plan.

As with the proposed project, this alternative would allow new development that may be incompatible with surrounding residential land uses and the existing pattern of development in the Plan Area. However, similar to the proposed Specific Plan, this impact would be *less than significant*.

6.3.10 Noise

This alternative would increase residential and non-residential buildout in the Plan Area. Noise and vibration levels would be similar to the proposed project as the same type of construction equipment would be used, however, noise and vibration levels may be greater, as construction amounts would increase and may occur simultaneously. In addition, more construction may be located next to existing sensitive receptors within the Plan Area. The overall duration of noise and vibration associated with construction would increase as residential and non-residential construction would intensify. However, similar to the proposed project, noise and vibration impacts from construction-related noise would be Class III, *less than significant,* with adherence to the Eden Area General Plan and implementation of Eden Area General Plan EIR Mitigation Measure NOI-2.

Similarly to the proposed project, this alternative would involve development adjacent to residential neighborhoods. Existing and future sensitive receptors within the Plan Area would be exposed to operational noise from buildout under this alternative. However, similar to the proposed Specific Plan, development under this alternative would be subject to the Eden Area General Plan's goals, policies, and Land Use and Noise Compatibility Guidelines. Similar to the proposed project, impacts would be Class III, *less than significant*. As with the proposed project, no mitigation would be required.

As discussed in subsection 6.3.14, *Transportation and Circulation,* Alternative 3 would generate 17% more AM peak hour, 22% more PM peak hour, and 23% daily vehicle trips than the proposed Specific Plan. Consequently, noise level increases on roadways near and within the Plan Area would be higher. However, roadway noise from Alternative 3 would not double roadway noise associated with the proposed Specific Plan and therefore would not exceed the 3 dBA threshold identified in the Eden Area General Plan EIR. Therefore, impacts would incrementally increase when compared to the proposed project, but would remain Class III, *less than significant.* As with the proposed project, no mitigation would be required.

6.3.11 Population and Housing

This alternative would add up to 437 more residential units (47% increase) compared to the proposed Specific Plan. Therefore, this alternative would generate up to 1,290 more residents (based on rates contained in Section 4.11, *Population and Housing).* This increase in population and housing would not exceed ABAG or Eden Area General Plan population or housing growth projections. The 2,595 new jobs associated with this alternative would exceed the projected job growth in the Ashland and Cherryland communities by 22%. However, this job growth would not exceed the job projections for the Eden Area or for unincorporated Alameda County. The 2,595 jobs associated with this alternative would make up approximately 67% of projected job growth in the Eden Area and 28% of job growth in unincorporated Alameda County. Although this alternative would exceed job projections for the Ashland and Cherryland

communities, it would not exceed ABAG job projections for the Eden Area or for unincorporated Alameda County. Like the proposed project, the increases in population, housing, and jobs associated with this alternative would not exceed ABAG growth projections for unincorporated Alameda County or Eden Area General Plan growth projections for the Eden Area. As with the proposed Specific Plan, impacts would remain *less than significant.*

This alternative would increase the Plan Area's housing stock by adding 1,375 housing units. Impacts related to displacement would be *less than significant,* similar to the proposed project.

6.3.12 Public Services

This alternative would accommodate up to 437 additional housing units and 208,500 additional square feet of non-residential space compared to the proposed Specific Plan and would spread out development throughout the Plan Area. Therefore, this alternative would increase demand for police and fire protection services. Nonetheless, impacts to police and fire protection services would remain *less than significant* with adherence to Eden Area General Plan policies and with future CEQA review for any potential future police and fire facilities. Should new facilities be required in the future they would likely be developed on infill sites or would replace existing facilities.

This alternative would result in up to 437 additional housing units (1,375) compared to the proposed Specific Plan. Based on the student generation rate discussed in Section 4.12, *Public Services*, this alternative would generate approximately 963 new students, an increase of 305 (46%) compared to the proposed Specific Plan. Therefore, demand for school services would increase. Nonetheless, for future residential projects, payment of State-mandated school impact fees would reduce impacts to a *less than significant* level, similar to the proposed project.

This alternative would result in additional 1,289 residents upon full buildout, a 47% increase. However, libraries that serve the Plan Area would be able to accommodate this increase in demand. Similar to the proposed Specific Plan, impacts would be less than significant.

6.3.13 Recreation

This alternative would result in up to 1,375 housing units or up to 4,057 new residents, compared to 938 units or 2,768 new residents with the proposed Specific Plan. Based on Alameda County's adopted standard of five acres per 1,000 persons, the estimated future population of 4,057 residents would generate demand for 20.3 total acres of parkland. However, like the proposed Specific Plan, payment of in-lieu park fees would result in funding equivalent to the provision of neighborhood and community parks in accordance with the County's Park Dedication Ordinance standards. Impacts would be *less than significant,* similar to the proposed Specific Plan.

6.3.14 Transportation and Circulation

As shown in Table 6-6, Alternative 3 would generate more peak hour and daily trips compared to the proposed Specific Plan. Alternative 3 would generate 17% more AM peak hour, 22% more PM peak hour, and 23% daily vehicle trips than the proposed Specific Plan.

Table 6-6
Alternative 3 Trip Generation

	Total Automobile Trips		
	AM Peak Hour	**PM Peak Hour**	**Daily**
E. 14th/Mission Boulevard Corridor			
Raw ITE Trips	1,460	2,616	25,790
Reduction	29%	32%	21%
Net Trips	*1,043*	*1,789*	*20,377*
Lewelling/ E. Lewelling Boulevard Corridor			
Raw ITE Trips	1,317	1,605	17,028
Reduction	32%	35%	23%
Net Trips	*901*	*1,051*	*13,066*
Total Combined Net Trips – Alternative 3	**1,944**	**2,840**	**33,443**
Alternative 3 Net Trip Difference Compared to Preferred Land use Plan	***+326***	***+626***	***+7,655***

Trip generation estimates assume the following growth: 264 single-family units, 1,111 multi-family units, 2,595 jobs.
Source: Fehr & Peers, 2015.

Alternative 3 would continue to cause the same significant impacts as identified for the proposed Specific Plan. Although specific roadway segment evaluation was not conducted for the alternatives analysis, since Alternatives 3 would generate more traffic than the proposed Specific Plan, it can be reasonably assumed that Alternative 3 would cause additional *significant but mitigable* or *significant and unavoidable* impacts not identified for the proposed Specific Plan and increase the magnitude of the already identified *significant and unavoidable* impacts.

Alternative 3 is expected to have similar effects on non-traffic operation topics, such as transportation safety and consistency with adopted policies, plans or programs supporting active transportation modes, because Alternative 3 would continue to provide similar policies as the proposed Specific Plan.

Similar to the proposed Specific Plan, this alternative would improve bicycle, pedestrian, and public transit facilities. Impacts would be similar to those of the proposed Specific Plan and would remain *less than significant*.

6.3.15 Utilities and Service Systems

Compared to the proposed Specific Plan, this alternative would increase residential buildout by 437 units (47%) and non-residential buildout by 208,500 square feet (37%). As shown on Table 6-7, based on the water demand factors used in Section 4.15, *Utilities and Service Systems,* water demand would be increased by 116,890 gallons per day (44%) under this alternative compared to the proposed Specific Plan. Since this alternative exceeds growth assumed for the Plan Area and surrounding neighborhoods under the Eden Area General Plan, impacts to water supply would be potentially significant.

Table 6-7
Alternative 3 Water Demand

Use	Alternative 3 Buildout		Water Demand Factor*		Expected Demand	
			Gallons / Day	Unit	Gallons / Day	Million Gallons / Day
Non-residential	778,500	Square feet	0.11	Square feet	85,635	0.086
Residential	1,375	Dwelling unit	215.00	Dwelling unit	295,625	0.295
Total Alternative 3					**381,260**	**0.381**
Proposed Specific Plan					**264,370**	**0.2644**

As shown in Table 6-8 and based on the wastewater demand factors used in Section 4.15, *Utilities and Service Systems*, this alternative would generate an estimated 187,193 gallons per day or 0.1872 million gallons per day. This represents an increase of 57,247 gallons per day (44%) when compared to the proposed project. Since this alternative exceeds growth assumed for the Plan Area and surrounding neighborhoods under the Eden Area General Plan, impacts to wastewater infrastructure would be potentially significant. Mitigation would be required to expand the capacity of the wastewater system to accommodate the additional wastewater. If mitigation to expand the capacity of the system would not be feasible, the impacts would be *significant and unavoidable.*

Table 6-8
Alternative 3 Project Generated Wastewater Flows

Use	Alternative 3 Buildout		Wastewater Generation Factor		Expected Wastewater Generation	
			Gallons / Day	Unit	Gallons / Day	Million Gallons / Day
Commercial	77,850*	Square feet	0.10	Square feet	7,785	0.0078
Retail	700,650*	Square feet	0.05	Square feet	35,032.5	0.0350
Residential	1,375	Dwelling unit	105.00	Dwelling unit	144,375	0.1444
Total Alternative 3					**187,192.5**	**0.1872**
Proposed Specific Plan					**129,945**	**0.1299**

***** *Assumes 778,500 sf of non-residential uses is 10% commercial and 90% retail*

As shown on Table 6-9 and based on the solid waste generation rates used in the public services analysis for the proposed Specific Plan (see Section 4.15, *Utilities and Service Systems*), this alternative would generate approximately 14.7 tons of solid waste per day prior to the consideration of any waste reduction efforts. This represents an increase of 2.6 tons per day (21% more) when compared to buildout of the proposed Specific Plan. Nonetheless, landfills that serve the Plan Area would be able to accommodate this increase in solid waste. Impacts would continue to be *less than significant.*

Table 6-9
Alternative 3 Solid Waste Generation

Use	Alternative 3 Units or Employees	Solid Waste Generation Rate	Overall Solid Waste Generation (tpd)[1]	
			Proposed Specific Plan	Alternative 3
Residential	1,375 units	1.5 lbs/resident/day	2.1	1.0
Non-Residential	2,595 employees	10.53 lbs/employee/day	10.0	13.7
		Total	**12.1**	**14.7**

tpd – tons per day
[1] tpd was calculated by multiplying the unit amount by the generation factor and then dividing by 2,000 (the number of pounds in a ton)

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative among the options studied. When the "No Project" alternative is determined to be environmentally superior, CEQA also requires identification of the environmentally superior alternative among the development options.

Table 6-10 indicates whether each alternative's environmental impact is greater, lesser, or similar to the proposed project. As shown therein, the No Project would avoid all of the proposed project impacts and would be environmentally superior to the proposed project. However, this alternative would not fulfill the project objectives.

Among the other alternatives being considered, the Expanded Jobs alternative (Alternative 2) could be considered environmentally superior, as it would reduce impacts in many issue areas, due primarily to the reduction in housing units. However, this alternative would not eliminate the *significant and unavoidable* impact related to the local circulation system and the I-580 freeway. This alternative would generally meet most of the project objectives but would meet objectives 6 and 9 which involve providing adequate housing and residential uses to a lesser extent than the proposed Specific Plan.

Table 6-10
Comparison of Environmental Impacts of Alternatives

Issue	Proposed Project	Alternative 1: No Project	Alternative 2: Expanded Jobs	Alternative 3: Spread Growth
Aesthetics	*Significant but Mitigable*	+	=	=/-
Air Quality	*Less than Significant*	+	-/=	-
Biological Resources	*Significant but Mitigable*	+	=	=
Cultural Resources	*Significant but Mitigable*	+	=	=
Geology and Soils	*Less than Significant*	+	=	=
Greenhouse Gas Emissions	*Significant but Mitigable*	+	-/=	-
Hazards and Hazardous Materials	*Less than Significant*	+	=	=
Hydrology and Water Quality	*Less than Significant*	+	=	=
Land Use and Planning	*Significant but Mitigable*	+	=	-
Noise	*Less than Significant*	+	-	-
Population and Housing	*Less than Significant*	+	=	=
Public Services	*Less than Significant*	+	+	-
Recreation	*Less than Significant*	+	+	=/-
Transportation and Circulation	*Significant and Unavoidable*	+	-	-
Utilities and Service Systems	*Less than Significant*	+	+	-
Overall	*n/a*	+	=	-

+Superior to the proposed Specific Plan
- Inferior to the proposed Specific Plan
= Similar impact to the proposed Specific Plan

This page intentionally left blank.

7.0 REFERENCES AND PREPARERS

7.1 REFERENCES

Alameda, County of. Alameda County Municipal Code. Available at: http://www.acgov.org/government/admincode.htm

Alameda, County of. 2010. Community Development Agency. Eden Area General Plan.

Alameda, County of. Community Development Agency. 2006. Eden Area General Plan Draft EIR.

Alameda, County of. Community Development Agency. 2009. Eden Area General Plan Revised Final EIR.

Alameda, County of. Community Development Agency. 2012. Hayward Executive Airport: Airport Land Use Compatibility Plan. Available at: http://www.acgov.org/cda/planning/generalplans/airportlandplans.htm

Alameda, County of. Community Development Agency. 2011. Housing Element Alameda County 2009-2014.

Alameda, County of. Community Development Agency. 2014. Safety Element of the Alameda County General Plan.

Alameda, County of. Flood Control & Water Conservation District. 2015a. San Lorenzo Creek Watershed. Available at: http://acfloodcontrol.org/resources-go/explore-watersheds/estudillo-canal-watershed#map. Accessed June 2015.

Alameda, County of. Flood Control & Water Conservation District. 2015b. Estudillo Canal Watershed. Available at: http://acfloodcontrol.org/resources-go/explore-watersheds/estudillo-canal-watershed#map. Accessed June 2015.

Alameda, County of. 1994. Conservation Element of the Alameda County General Plan.

Alameda, County of. 1975. Noise Element of the Alameda County General Plan.

Alameda, County of. 1973. Open Space Element of the Alameda County General Plan.

Alameda, County of. Economic & Civic Development Department. Cherryland Fire Station. http://www.acgov.org/cda/ecd/projects/cherryland_fire_station.htm Accessed May 2015.

Alameda, County of. Fire Department. Frequently Asked Questions. http://www.acgov.org/fire/faqs/#07 Accessed May 2015.

Alameda, County of. Planning Department. 1995. Ashland and Cherryland Business Districts Specific Plan.

Alameda, County of. 1994. Scenic Route Element of the Alameda County General Plan.

Alameda, County of, Sustainability. Green Building Ordinance – Unincorporated Communities. Accessed at http://www.acgov.org/sustain/what/greenbuilding/gbouc.htm. Accessed May 2015.

Alameda County Library. Fiscal Year 2013-2014 Annual Statistics. http://lgdata.s3-website-us-east-1.amazonaws.com/docs/1159/1328103/0_Annual_Stats_2013-2014_MASTER_REV1.pdf Accessed May 2015.

ACWMA (Alameda County Waste Management Authority), 2003. Alameda County Integrated Waste Management Plan – Countywide Element, Countywide Siting Element / Countywide Summary Plan. [online]: http://naco.org/programs/csd/Lists/GGLinksNew/Attachments/62/Alameda%20County%20CA%20Integrated%20Waste%20Management%20Program.pdf. Accessed May 4, 2015.

Association of Bay Area Governments (ABAG). July 2013. *Plan Bay Area.* Accessed at http://planbayarea.org/plan-bay-area.html. Accessed May 2015.

Bay Area Air Quality Management District (BAAQMD). 1999. *Thresholds of Significance*. Accessed at http://www.baaqmd.gov/Divisions/Planning-and-Research/Planning-Programs-and-Initiatives/~/media/8C1411130E9947DC939B618A43732FCF.ashx. Accessed May 2015.

BAAQMD. December 2005. *Bay Area 2005 Ozone Strategy*.

BAAQMD. December 2010. *2010 Clean Air Plan*.

BAAQMD. Updated May 2011. *CEQA Guidelines*.

California Air Pollution Control Officers Association (CAPCOA). *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA)*. January 2008.

CAPCOA. *Quantifying Greenhouse Gas Mitigation Measures,* August 2010.

CAPCOA. *California Emissions Estimator Model: User's Guide, Version 2013.2.* July 2013. Available: http://www.caleemod.com/

California Air Resources Board. March 2014. *Greenhouse Gas Inventory Data – 2000 to 2012 by Category as defined in the 2008 Scoping Plan*. Available: http://www.arb.ca.gov/cc/inventory/data/data.htm

California Air Resources Board. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles*. December 7, 2011. Retrieved from: http://www.arb.ca.gov/regact/2012/leviiighg2012/levisor.pdf

California Air Resources Board. August 2013. *Greenhouse Gas Inventory Data – 2020 Emissions Forecast*. Available: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

California Air Resources Board. AB 32 Scoping Plan Website. Updated June 2014. Accessed September, 2014. Available: http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm

California Attorney General's Office. 2008. *Global Warming Measures.*

California Climate Action Registry (CCAR) General Reporting Protocol, *Reporting Entity-Wide Greenhouse Gas Emissions*, Version 3.1, January 2009.

California Climate Change Center. *Climate Scenarios for California*. 2006.

California Climate Change Center. *The Impacts of Sea-Level Rise on the California Coast*. May 2009.

California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2014, with 2010 Benchmark*. May 2014.

California Department of Fish and Wildlife (CDFW). 2015a. California Natural Diversity Database, Rarefind V. 5.

California Department of Fish and Wildlife (CDFW). 2015b. Biogeographic Information and Observation System (BIOS). from http://bios.dfg.ca.gov

California Department of Water Resources. October 2008. *Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water*.

California Energy Commission. *Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature*. March 2009.

California Environmental Protection Agency (CalEPA). *Climate Action Team Biennial Report*. Final Report. April 2010.

California Environmental Protection Agency (CalEPA), March 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

California Native Plant Society. 2015. Inventory of Rare and Endangered Plants (online edition, v8). Retrieved from http://www.cnps.org/inventory

California Natural Resources Agency. December 2009. *2009 California Climate Adaption Strategy.*

California Department of Transportation (Caltrans). Scenic Highway Program. 2013. Eligible (E) and Official Designation (OD) Routes. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

East Bay Municipal Utilities District (EBMUD), 2010. Urban Water Management Plan. Available: http://www.ebmud.com/sites/default/files/pdfs/UWMP-2010-2011-07-21-web-small.pdf. Accessed April 1, 2015.

East Bay Municipal Utilities District (EBMUD), 2012. Water Supply Management Program 2040 Plan. Final April. [online]: http://www.ebmud.com/sites/default/files/pdfs/wsmp-2040-revised-final-plan.pdf. Accessed April 1, 2015.

Hayward Area Historical Society. 2015. Meek Estate History. Available at: http://www.haywardareahistory.org/meek-estate-history/

Hayward, City of. *Hayward Executive Airport Master Plan Draft Environmental Impact Report*. April 2001.

Institute of Transportation Engineers. 2012. *Trip Generation Manual, 9th Edition.*

Intergovernmental Panel on Climate Change [IPCC], 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Intergovernmental Panel on Climate Change [IPCC], 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Intergovernmental Panel on Climate Change [IPCC], 2014: Summary for Policymakers. In: *Climate Change 2014, Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Lisa Wise Consulting, Inc. (LWC), 2015. Ashland Cherryland Business District Specific Plan, Administrative Draft. March 17.

Metropolitans Transportation Commission (MTC). 2005. San Francisco Bay Area Vehicle Miles of Travel (VMT) Population and Employment, 1990-2030. Accessed at http://www.mtc.ca.gov/maps_and_data/datamart/stats/vmt.htm. Accessed May 2015.

MTC. 2009. *Transportation 2035: Change in Motion.* Accessed at http://www.mtc.ca.gov/planning/2035_plan/. Accessed May 2015.

National Oceanic and Atmospheric Administration (NOAA). *Annual Greenhouse Gas Index*. September 2010, updated 2014. Accessed September 2014. Retreived from: http://www.esrl.noaa.gov/gmd/aggi/aggi.html.

OLSD (Oro Loma Sanitary District), 2014. Sewer System Management Plan. [online]: http://www.oroloma.org/docs/sewer-system-management-plan/sewer-system-management-plan/files/assets/common/downloads/publication.pdf. Accessed May 4, 2015.

Pacific Gas & Electric (PG&E). 2014. Clean Energy Solutions webpage. Available: http://www.pge.com/en/about/environment/pge/cleanenergy/index.page

Parmesan, C. August 2006. *Ecological and Evolutionary Responses to Recent Climate Change*.

San Francisco Bay RWQCB (Regional Water Quality Control Board). 2009. Municipal Regional Stormwater NPDES Permit. Order R2-2009-0074. NPDES Permit No. CAS612008. October 14. Available: http://www.swrcb.ca.gov/rwqcb2/board_decisions/adopted_orders/2009/R2-2009-0074.pdf. Accessed June 11, 2015.

San Luis Obispo Air Pollution Control District. April 2012. *CEQA Air Quality Handbook*. Accessed at http://www.slocleanair.org/images/cms/upload/files/CEQA_Handbook_2012_v1.pdf. Accessed May 2015.

United Nations (n.d.). November 2011. *Gateway to the United Nations Systems Work on Climate Change: Durban conference delivers breakthrough in international community's response to climate change***.** Accessed September 2014. Retrieved from: http://www.un.org/climatechange/blog/2011/12/durban-climate-conference-delivers-breakthrough/

United Nations Framework Convention on Climate Change (UNFCCC). August 2007. *United Nations Framework Convention on Climate Change.*

United Nations Framework Convention on Climate Change (November 2011). *Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its sixteenth session.*

United Nations Framework Convention on Climate Change. March 15, 2012. *Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011.*

United States Environmental Protection Agency (U.S. EPA). *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012*. U. S. EPA #430-R-11-005. April 2014. Available: http://www.epa.gov/climatechange/emissions/usinventoryreport.html

United States Environmental Protection Agency (U.S. EPA). 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments. USEPA Approval Date: June 28, 2007.

Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/state_usepa_combined.pdf. Accessed June 10, 2015.

U.S. Fish and Wildlife Service. 2015a. Environmental Conservation Online System: Information, Planning and Conservation System. Available at: http://ecos.fws.gov/ecos/home.action

U.S. Fish and Wildlife Service. 2015b. Critical Habitat Portal. Available at: http://criticalhabitat.fws.gov

U.S. Fish and Wildlife Service. 2015c. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/Data/Mapper.html

World Meteorological Organization. March 2013. A summary of current and climate change findings and figures.

U.S. Department of Transportation, Federal Highway Administration [FHWA]. Traffic Noise Model Version 2.5 Look-Up Tables. February 2004.

U.S. Department of Transportation, Federal Transit Administration. (May 2006). *Transit Noise and Vibration Impact Assessment*. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

7.2 PERSONS CONTACTED

Terra, Bonnie S., Division Chief/Fire Marshal, Alameda County Fire Department, email communication, May 28, 2015.

7.3 LIST OF PREPARERS

This EIR was prepared by Rincon Consultants, Inc. under contract to Lisa Wise Consulting, Inc. Persons involved in data gathering analysis, project management, and quality control include:

Rincon Consultants, Inc.

Richard Daulton, Principal-in-Charge
Abe Leider, AICP, Project Manager
Karly Kaufman, MESM, Associate Project Manager
Chris Bersbach, Air Quality and Noise Program Manager
Colby Boggs, Principal/Senior Ecologist
Christina McAdams, Environmental Scientist
Aubrey Mescher, Senior Environmental Planner
Kyle Brudvik, Paleontologist
Lindsey Sarquilla, MESM, Environmental Planner
Jonathan Berlin, MESM, Environmental Planner
Ken Chen, Environmental Planner
Craig Huff, GIS Analyst

Katherine Warner, GIS Analyst
Wade Sherman, Graphics Technician
Emily Smith, Production Coordinator

Fehr & Peers (Traffic Analysis)

Francisco J. Martin, P.E., Senior Engineer

This page intentionally left blank.

Appendix A

Initial Study/NOP and NOP Comment Letters

County of Alameda

Ashland and Cherryland Business District Specific Plan

Initial Study

July 2015

rincon

Environmental Scientists Planners Engineers

Ashland and Cherryland Business District Specific Plan

Initial Study

Prepared by:

County of Alameda
224 West Winton Avenue, Suite 111
Hayward, CA 94544
Contact: Rodrigo Orduña, (510) 670-6503

Prepared with the assistance of:

Rincon Consultants, Inc.
180 Grand Avenue, Suite 400
Oakland, CA 94612

July 2015

This report is printed on 50% recycled paper.

Table of Contents

Page

INITIAL STUDY

1. Project Title:	Ashland and Cherryland Business District Specific Plan
2. Lead Agency/Project Sponsor Name and Address:	County of Alameda 224 West Winton Avenue, Suite 111 Hayward, CA 94544
3. Contact Person and Phone Number:	Rodrigo Orduña, AICP, Bay-Friendly QLP, Senior Planner (510) 670-6503, rodrigo.orduna@acgov.org
4. Project Location:	The Plan Area covers approximately 246 acres along a three-mile stretch of East 14th Street/Mission Boulevard and a 1.5-mile section of Lewelling/East Lewelling Boulevard between 150th Avenue to the north, Grove Way to the south, and Hesperian Boulevard to the west.
5. General Plan Designation:	Various
6. Zoning:	Various

7. Description of Project:

The proposed project involves the adoption of the Ashland and Cherryland Business District (ACBD) Specific Plan ("proposed Specific Plan"). The proposed Specific Plan would update the existing ACBD Specific Plan adopted in 1995. The proposed Specific Plan includes policies and development standards to guide future development in the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard corridors in Ashland and Cherryland, two unincorporated communities within the County of Alameda. The ACBD Specific Plan is intended to be consistent with and to implement the policies of the Eden Area General Plan (2010) and the Alameda County General Plan. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses, adding up to: (1) 167 single-family units, (2) 771 multi-family units, and (3) 570,000 square feet of non-residential development. The additional development assumed in the Specific Plan could occur over a 20-year time period.

8. Surrounding Land Uses and Setting:

The ACBD Specific Plan Area ("Plan Area") is situated in the unincorporated communities of Ashland and Cherryland within the County of Alameda. The County of Alameda is located in the East Bay area of the San Francisco Bay region of California. The unincorporated communities of Ashland and Cherryland are located in the western portion of the County between the City of San Leandro to the north and the City of Hayward to the south, approximately 0.5 miles west of the unincorporated community of Castro Valley.

The Plan Area covers approximately 246 acres along a three-mile stretch of East 14th Street/Mission Boulevard and a 1.5-mile section of Lewelling/East Lewelling Boulevard between 150th Avenue to the north, Grove Way to the south, and Hesperian Boulevard to the west. The Plan Area is bisected by Interstate 238 and adjacent to interstates 880 and 580. The Bay Fair Bay Area Rapid Transit (BART) station is located just outside the northern corner of the Plan Area. The Plan Area is between two and four miles from the San Francisco Bay.

The Plan Area is almost entirely built out with residential, commercial, and institutional uses and is relatively flat with elevations ranging from 35 to 85 feet above mean sea level. The Plan Area is located in proximity to the San Andreas Fault Zone. The Hayward Fault, one of the ten major faults that comprise the San Andreas Fault Zone, runs along the western edge of the Plan Area. Most of the Plan Area is within one mile of the Hayward Fault.

9. Other Public Agencies Whose Approval is Required:

In order for the ACBD Specific Plan to be implemented, it would require adoption by the Board of Supervisors of the County of Alameda. No other discretionary approvals would be required for adoption of the Specific Plan.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant" or "Potentially Significant Unless Mitigation Incorporated" as indicated by the checklist on the following pages.

■ Aesthetics	□ Agriculture and Forest Resources	■ Air Quality
■ Biological Resources	■ Cultural Resources	■ Geology/Soils
■ Greenhouse Gas Emissions	■ Hazards & Hazardous Materials	■ Hydrology/Water Quality
■ Land Use/Planning	□ Mineral Resources	■ Noise
■ Population/Housing	■ Public Services	■ Recreation
■ Transportation/Traffic	■ Utilities/Service Systems	■ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Signature Date

ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
I. AESTHETICS				
-- 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 the site and its surroundings?	■	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	■	☐	☐	☐

a) ***POTENTIALLY SIGNIFICANT IMPACT***. The Plan Area is located adjacent to Interstate 238, which the County's Scenic Route Element (amended in May 1994) identifies as a scenic freeway. An officially designated State scenic highway, Interstate 580, also provides views of the Plan Area. Therefore, impacts on scenic vistas are potentially significant and will be analyzed further in an EIR.

b) ***LESS THAN SIGNIFICANT IMPACT.*** The Plan Area includes scenic trees and historic buildings at Meek Estate Park, located across San Lorenzo Creek to the south of the Central Lewelling Corridor. The Meek Mansion and Carriage House, designed in an Italianate style, is listed on the National Register of Historic Places, and its landscaped grounds include prominent mature trees. To encourage visitation of Meek Estate Park, the proposed Specific Plan calls for improved wayfinding and signage in the Cherryland Corridor and visual access from Lewelling Boulevard. These improvements would increase public appreciation of scenic resources at Meek Estate Park, without adversely affecting such resources. The Plan Area does not have other identified scenic trees, rock outcroppings, or historic buildings within a scenic highway. Therefore, the proposed Specific Plan would have a less than significant impact on scenic resources.

c) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate an increase in the intensity of development in the Plan Area and changes in land use, which could substantially alter the existing visual character or quality of the area. Therefore, impacts on visual character and quality are potentially significant and will be analyzed further in an EIR

d) ***POTENTIALLY SIGNIFICANT IMPACT***. New development under the proposed Specific Plan would increase the intensity of land uses in the Plan Area, introducing new sources of light and glare. Impacts related to light and glare are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES				
-- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project:				
a) Convert Prime Farmland, Unique Farmland, 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?	☐	☐	☐	■

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES				
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?	☐	☐	☐	■

a, b, e) ***NO IMPACT***. The Plan Area is within and urban area and is almost entirely developed. No areas within the Plan Area are zoned or designated for agricultural land. The California Department of Conservation's 2012 map of Alameda County Important Farmland shows that the project site is within an area of "urban and built-up land" and not within an area of "prime farmland" (Department of Conservation, 2012). The Plan Area is not under Williamson Act contract. The Plan Area is not located on agricultural land and the proposed Specific Plan would not involve any development that could result in the conversion of farmland to non-agricultural uses. For these reasons, the project would have no impact with respect to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use; conflict with existing agricultural zoning or Williamson Act contract; or other conversion of farmland to non-agricultural use.

c, d) ***NO IMPACT***. The Plan Area is not located on or near forest land or timberland, and the project would have no impact on such resources.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY				
-- Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	■	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	■	☐	☐	☐
c) 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)?	■	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY				
-- Would the project:				
d) Expose sensitive receptors to substantial pollutant concentrations?	■	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	■	☐	☐	☐

a, b, c, d) ***POTENTIALLY SIGNIFICANT IMPACT***. The SFBAAB is in nonattainment for the federal and state standards for ozone, as well as the state standard for particulate matter (PM_{10} and $PM_{2.5}$) and the federal standard for 24 hour $PM_{2.5}$ (Bay Area Air Quality Management District [BAAQMD] Website, November 2013). Thus, the County currently exceeds several state and federal ambient air quality standards and is required to implement strategies to reduce pollutant levels to recognized acceptable standards.

The *2010 Clean Air Plan* is the most recently approved regional Clean Air Plan (CAP). It was adopted in September 2010 by BAAQMD and updated the Bay Area ozone plan. This plan provides an integrated, multi-pollutant strategy to improve air quality, protect public health, and protect the climate. The plan is designed to provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan. The *2010 Clean Air Plan* developed Transportation Control Measures (TCMs) by reviewing the *2005 Ozone Strategy* measures, and modifying and expanding them based on new investment and policy decisions and public input. In particular, the TCMs have been updated to reflect the policy and investment decisions made in the Metropolitans Transportation Commission's (MTC) regional transportation plan, *Transportation 2035: Change in Motion*. The 2010 Clean Air Plan is also based on population and employment forecasts from the Association of Bay Area Governments (ABAG). The proposed Specific Plan may be inconsistent with the 2010 Clean Air Plan. Therefore, impacts related to the CAP are potentially significant and will be analyzed further in an EIR.

Emissions generated by development under the proposed Specific Plan would include temporary construction emissions and long-term operational emissions. Construction activities such as the operation of construction vehicles and equipment over unpaved areas, grading, trenching, and disturbance of stockpiled soils have the potential to generate fugitive dust (PM_{10}) through the exposure of soil to wind erosion and dust entrainment. In addition, exhaust emissions associated with heavy construction equipment would potentially degrade air quality. Emissions could exceed BAAQMD significance thresholds and could expose nearby sensitive receptors to pollution.

Long-term emissions associated with operational impacts would include emissions from vehicle trips, natural gas and electricity use, landscape maintenance equipment, and consumer

products and architectural coating associated with onsite development. Emissions could exceed BAAQMD significance thresholds and could expose nearby sensitive receptors to pollution.

The EIR will analyze construction and operational emissions associated with development under the proposed Specific Plan and identify what, if any, further mitigation measures may be required to reduce air quality impacts, including those associated with the most recent air quality plan.

e) ***POTENTIALLY SIGNIFICANT IMPACT***. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

The proposed Specific Plan would allow for the construction of residential and commercial development in the Plan Area. This type of use may generate objectionable odors that would affect a substantial number of people. Therefore, impacts related to odor are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES				
-- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or 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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	■	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES				
-- Would the project:				
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?	☐	☐	☐	■

a) ***POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATED***. Implementation of development facilitated by the proposed Specific Plan may result in impacts to special status plant and animal species and sensitive natural communities. There are 49 special status species known to occur or with potential to occur within the vicinity of the Plan Area. Direct impacts to special status species may include injury or mortality occurring during implementation and/or operation of development facilitated by the proposed Specific Plan. Direct impacts may also include habitat modification and loss such that it results in the mortality or otherwise alters the foraging and breeding behavior substantially enough to cause injury. Indirect impacts could be caused by the spread of invasive non-native species that out-compete native species and/or alter habitat towards a state that is unsuitable for special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats, potentially eliminating special status plant species and reducing the availability of suitable forage and breeding sites for special status animal species. Impacts would be potentially significant unless mitigation is incorporated.

b) ***POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATED***. Implementation of development facilitated by the proposed Specific Plan may result in impacts to sensitive and riparian habitats, including San Lorenzo Creek. Projects in the vicinity of San Lorenzo Creek may involve development along riparian corridors. Riparian areas provide wildlife habitat, and movement corridors, enabling both terrestrial and aquatic organisms to move along river systems between areas of suitable habitat. Development facilitated by the proposed Specific Plan could have both direct impacts associated with the disturbance of riparian flora and fauna and indirect impacts caused by increased erosion and sedimentation. Impacts would be potentially significant unless mitigation is incorporated.

c) ***POTENTIALLY SIGNIFICANT UNLESS MITIGATION INCORPORATED***. Implementation of development facilitated by the proposed Specific Plan may result in impacts to sensitive habitats, including San Lorenzo Creek, a federally protected non-wetland water that may also contain riparian wetlands. Projects in the vicinity of San Lorenzo Creek may involve development along riparian corridors. Riparian areas provide wildlife habitat, and movement corridors, enabling both terrestrial and aquatic organisms to move along river systems between areas of suitable habitat. Development facilitated by the proposed Specific Plan could have both direct impacts associated with the disturbance of riparian flora and fauna and indirect impacts caused by increased erosion and sedimentation. Impacts would be potentially significant unless mitigation is incorporated.

d) ***LESS THAN SIGNIFICANT IMPACT***. The Plan Area is located in a highly urbanized and developed area surrounding two heavily trafficked roadways: East 14th Street/Mission Boulevard and East Lewelling Boulevard. Existing development and roadway traffic in the Plan Area likely limit wildlife movement through the Plan Area. The CDFW BIOS (2015) mapped one essential connectivity area immediately north of the Plan Area; however, this corridor does not extend into the plan area. Further, the plan area is surrounded by Interstate 580, Interstate 880, and Interstate 330 which further inhibit wildlife movement through the Plan Area.

Riparian corridors, waterways, and flood control channels, including San Lorenzo Creek, may provide local scale opportunities for wildlife movement throughout the Plan Area. However, development facilitated by the proposed Specific Plan would not inhibit wildlife movement within San Lorenzo Creek. The development envisioned in the proposed Specific Plan would primarily involve development within urbanized or already developed areas and the majority of future development projects would be on parcels that provide limited or no wildlife movement. Impacts would be less than significant.

e) ***LESS THAN SIGNIFICANT IMPACT***. The Alameda County Tree Ordinance (no. 0-2004-23) and Chapter 12.11 (Regulation of Trees in County Right-of-Way) of the Alameda County Code of Ordinances finds that the preservation of trees within the County right-of-way enhances the natural scenic beauty, sustains the long term potential increase in property values, protects the surrounding area from soil erosion, moderates the effects of extreme weather conditions and temperatures, improves air quality including increasing the oxygen output of the area which is needed to combat air pollution, creates the identity and quality of the County's businesses and residences, and improves the attractiveness of the County to visitors. The ordinance provides protection to any tree in the public right-of-way (ROW) within the Eden Area which meets the following criteria:

> "Any woody perennial plant characterized by having a single trunk or multi-trunk structure at least ten feet high and having a major trunk that is at least two inches in diameter taken at breast height (DBH) taken at 4.5 feet from the ground. It shall also include those plants generally designated as trees and any trees that have been planted as replacement trees under the County Tree Ordinance or any trees planted by the County."

Under the Tree Ordinance and Chapter 12.11 of the County Code, any tree removed from the County ROW must be authorized by a permit issued by the Director and must be mitigated

through efforts to replace an existing tree or trees with one or more trees of a type consistent with the character of the neighborhood. In addition, East 14th/Mission is under Caltrans jurisdiction and trees removed within the Caltrans ROW would require Caltrans approval. Development and redevelopment activities within the Plan Area would be required to adhere to these existing policies. Impacts would be less than significant.

f) ***NO IMPACT***. There are no habitat conservation plans or natural community conservation plans in force within the Plan Area. No impact would occur.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
V. CULTURAL RESOURCES				
-- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	■	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	■	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	■	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	■	☐	☐	☐

a-d) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate intensification of development and redevelopment of existing uses within the Plan Area. The proposed Specific Plan may impact existing historical resources within the Plan Area. In addition, archaeological resources, paleontological resources, geologic resources, or human remains may be affected or changed during construction associated with the proposed Specific Plan. Impacts to cultural resources are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VI. GEOLOGY AND SOILS				
-- Would the project:				
a) Expose people or structures to 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?	■	☐	☐	☐
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 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 1-B of the Uniform Building Code, creating substantial risks to life or property?	■	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	■	☐

a.i) ***POTENTIALLY SIGNIFICANT IMPACT***. The Plan Area is located in a seismically active region of California, and is subject to strong seismic groundshaking events particularly along the Hayward Fault and connecting faults of the San Andreas Fault system. The southerly end of the Plan Area on Mission Boulevard between Phylmore Court and Grove Way is located within a designated Alquist-Priolo Fault Zone, and is subject to the Alquist-Priolo Act. Therefore, impacts are potentially significant and will be analyzed further in an EIR.

a.ii) ***POTENTIALLY SIGNIFICANT IMPACT***. As described above in subjection (a.1), the Plan Area is located in a seismically active area and the Hayward Fault traverses a portion of the

Plan Area. Potential impacts associated with seismic activity are potentially significant and will be analyzed further in an EIR.

a.iii) ***POTENTIALLY SIGNIFICANT IMPACT***. As described above, the Plan Area is located in a seismically active area; potential impacts associated with seismic-related ground failure including liquefaction are potentially significant and will be further evaluated in an EIR.

a.iv) ***NO IMPACT***. The Plan Area is characterized by generally flat topography (0 to 2 percent slope) and not considered subject to landslide hazards. Approximately 0.2 acre of the 246-acre area is characterized by Los Osos silty clay loam on slopes of approximately 9 to 30 percent grade; this type of slope would be more susceptible to potential landslide hazards; however, considering that these slopes only comprise a small fraction of the overall Plan Area, they are not considered to pose landslide hazards. No impact would occur, and the potential for landslides to result in adverse effect(s) associated with the proposed Specific Plan will not be further evaluated in the EIR.

b) ***LESS THAN SIGNIFICANT IMPACT***. Topsoil is typically considered to comprise the top few inches of ground surface and contain the highest concentration of organic matter and microorganisms; i.e. it is typically the most fertile soil in the subsurface profile. The Plan Area is almost entirely developed and paved, and therefore is not considered to provide a source of topsoil. Ground-disturbing activities that would occur with implementation of the proposed Specific Plan would include site-specific grading for foundations, building pads, access roads, and utility trenches. These activities would occur in compliance with erosion control standards administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB) through the National Pollutant Discharge Elimination System (NPDES) permit process, which requires implementation of nonpoint source control of stormwater runoff. Such controls would be included as best management practices (BMPs) identified in Stormwater Pollution Prevention Plans (SWPPP) for future development in the Plan Area.

Unincorporated Alameda County is subject to the Municipal Regional Stormwater NPDES Permit, issued by the San Francisco Bay RWQCB, with compliance determined by the County Public Works Agency (PWA) Land Development and Building Inspection Division (BID). A SWPPP is required for compliance with the State Construction General Permit for projects that disturb more than one acre. The County PWA will ensure NPDES compliance through implementation of Provision C.6 of the Municipal Regional Stormwater NPDES Permit. Issuance of a Stormwater Permit by the County will be contingent upon NPDES compliance.

The California Stormwater Quality Association (CASQA) *BMP Handbook for Construction (2009)* is typically used for guidance in drafting project-specific BMPs for erosion control, amongst other stormwater issues. For example, CASQA Measure WE-1 (Wind Erosion Control) identifies a variety of BMPs to stabilize exposed surfaces and minimize activities that suspend to track dust particles (CASQA, 2009). This is commonly achieved by applying soil binders or water to disturbed surfaces.

In addition, the Air Quality Management District (AQMD) with jurisdiction over the Plan Area, the Bay Area AQMD, specifies measures that are aimed at air quality control but also address the minimization or avoidance of erosion and topsoil lost. The Conservation Element (Section

9.6.3) of the BAAQMD CEQA Guidelines includes the following BMPs relevant to the avoidance of erosion and topsoil degradation:

- Include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits;
- Require subdivision designs and site planning to minimize grading and use landform grading in hillside areas; and
- Condition grading permits to require that graded areas be stabilized from the completion of grading to the commencement of construction (BAAQMD, 2012).

Erosion and sedimentation issues are addressed more fully in Section IX (Hydrology and Water Quality) of this Initial Study. Due to the existing developed characteristics of the Plan Area, and with consideration to the typical BMPs for erosion control that would be applied with future development in the Plan Area under required permits such as the SWPPP, potential geology- and soil-related impacts of Specific Plan development associated with soil erosion and the loss of topsoil would be less than significant. Therefore, further investigation in an EIR is not warranted.

c) ***POTENTIALLY SIGNIFICANT IMPACT***. It is anticipated that site-specific geotechnical evaluations would be conducted with proposed build-out of the Area, and that infrastructure would not be placed on unstable geologic units, or cause geologic units to become unstable. Compliance with CBC standards and County General Plan policies would avoid or minimize potential adverse effects associated with a geologic unit or soil that may be unstable as a result of the proposed development. However, due to the expansive nature of soils present throughout the Plan Area, as well as the "Moderate" potential for liquefaction throughout most of the Plan Area, the potential for Specific Plan build-out to result in geologic hazards associated with unstable soils will be further investigated in the EIR.

d) ***POTENTIALLY SIGNIFICANT IMPACT***. Soils throughout the Plan Area are characterized as having medium to high potential for expansive behavior. Impacts are potentially significant and will be analyzed further in an EIR.

e) ***NO IMPACT***. The Plan Area is already served by the Oro Loma Sanitary District sewer system which serves the County. No septic tanks or alternative wastewater disposal systems would be required. No impact would occur and further analysis of this issue in an EIR is not required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS				
-- Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	■	☐	☐	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	■	☐	☐	☐

a, b) ***POTENTIALLY SIGNIFICANT IMPACT***. Project construction and operation would generate greenhouse gas (GHG) emissions through the burning of fossil fuels or other emissions of GHGs, thus potentially contributing to cumulative impacts related to global climate change. Emissions could potentially exceed locally adopted significance thresholds and the project could potentially conflict with local and regional plans adopted for the purpose of reduce GHG emissions. Impacts related to GHG gas emissions are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VIII.HAZARDS AND HAZARDOUS MATERIALS				
-- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	■	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	■	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
VIII.HAZARDS AND HAZARDOUS MATERIALS				
-- Would the project:				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	■	☐	☐	☐
d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	■
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	■

a, b, c, d) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate intensification of development and redevelopment of existing uses within the Plan Area. San Lorenzo High School and St. John Elementary School are located within the Eastern arm of the Plan Area, just south of State Route 238 on East Lewelling Boulevard. The REACH Ashland Youth Center is also located within the Plan Area, along East 14th Street between 163rd and 164th Avenue.

The proposed project could facilitate the construction of residential or commercial uses that could involve the use, storage, or disposal of hazardous materials. In addition, the proposed

Specific Plan could involve the redevelopment or demolition of existing structures which. due to their age, may contain asbestos and lead-based paints and materials. Impacts are potentially significant and will be further analyzed in an EIR.

e, f) ***NO IMPACT***. The Hayward Executive Airport (HWD) is the closest airport to the Plan Area. Hayward Executive Airport is a full service airport located approximately 1.5 miles south of the Plan Area, just east of Hesperian Boulevard in the City of Hayward. The Plan Area is located entirely outside of the airport safety and traffic pattern zones (Eden Area General Plan EIR, 2006). The Plan Area is not located within the vicinity of a private airstrip. Therefore, no impact related to airport safety would occur and further analysis in an EIR is not warranted.

g) ***LESS THAN SIGNIFICANT IMPACT***. As required by State law, Alameda County has established emergency preparedness procedures to be prepared for and respond to a variety of natural and manmade disasters that could confront the community. Emergency and disaster planning is primarily conducted through the Public Health Department, in collaboration with other County departments. Resources are also available to the public at the Department of Public Health website (Eden Area General Plan EIR, 2006).

The proposed Specific Plan would not interfere with any existing emergency or evacuation plan, as no element of the Specific Plan would alter existing routes. In addition, the proposed Specific Plan involves intersection improvements at the intersections of E. 14th Street/Ashland Avenue, Mission Boulevard/Lewelling Boulevard and Mission Boulevard/Mattox Road. These improvements would help facility emergency response and/or evacuation.

The Eden Area General Plan Policy Goal CIR-5 states that "the County should maintain street connectivity in the Eden Area in order to disperse traffic on multiple streets and ensure adequate response time for emergency service." The proposed Specific Plan would be consistent with this goal. In addition, Goal SAF-6 seeks to prepare and keep current County emergency procedures in the event of potential natural or manmade disasters. Policy P2 under this goal requires that adequate emergency water flow, emergency vehicle access and evacuation routes to be incorporated into any new development prior to project approval. In addition, all development in the Plan Area County and California Fire Code regulations for emergency access. With adherence to existing General Plan policies and other regulations, the proposed Specific Plan would not impair or interfere with an emergency response or evacuation plan and further analysis in an EIR is not warranted.
h) ***NO IMPACT***. The Plan Area is within an urban area in Alameda County. The Plan Area does not fall within any Very High Fire Hazard Severity Zones (VHFHSZ). Wildland fires are not a concern in the Plan Area (Eden Area General Plan EIR, 2006). Further analysis of this issue in an EIR is not warranted.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY				
-- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	■	☐	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering or the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	■	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	■	☐
d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	■
e) 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?	■	☐	☐	☐
f) Otherwise substantially degrade water quality?	■	☐	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	■	☐	☐	☐
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	■	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY				
-- Would the project:				
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	■	☐
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

a, e, f) ***POTENTIALLY SIGNIFICANT IMPACT***. Ground-disturbing activities that would occur during construction of future development could generate sediment and/or result in an accidental release of hazardous materials such as vehicle fuels and lubricant, and such an occurrence would have the potential to affect water quality and result in the violation of a water quality standard or waste discharge requirement. In addition, development that could be facilitated by the proposed Specific Plan could create or contribute runoff water which would exceed the capacity of existing stormwater drainage facilities. Potential water quality impacts and impacts associated with the capacity of stormwater drainage systems will be further analyzed in an EIR.

b) ***LESS THAN SIGNIFICANT IMPACT***. The Plan Area is largely developed, and buildout under development that could be facilitated under the Specific Plan would not introduce substantial new impervious areas such that the areas or rates of groundwater recharge would be interfered with. The Plan Area obtains water supply through the East Bay Municipal Utility District (EBMUD). Development under the proposed Specific Plan does not include installation of new groundwater wells, or use of groundwater from existing wells. Therefore, development under the proposed Specific Plan would not result in a net deficit in aquifer volume or a lowering of the groundwater table. Impacts would be less than significant and this issue is not further assessed in the EIR.

c) ***LESS THAN SIGNIFICANT IMPACT***. Implementation of development that could be facilitated by the proposed Specific Plan would not alter the course of any stream or river. San Lorenzo Creek runs along the southern boundary of the proposed Four Corners Neighborhood, Four Corners District, and the Central Lewelling Corridor, crossing through a short portion of the Plan Area north of the proposed/existing park. The creek again crosses through the Plan Area in the West Eden Corridor at Mission Boulevard and then continues along the eastern boundary of the proposed Cherryland District and Cherryland Corridor. This area is currently developed, and buildout under the proposed Specific Plan would not alter the course of this creek or any other stream or river (no other surface water features are identified in the Plan Area). In addition, the Plan Area is currently urbanized, and is connected to an existing stormwater drainage system located in the Alameda County Water Conservation District's Zone 2. Stormwater runoff in the Plan Area is currently directed through a series of stormwater

drainage facilities to San Lorenzo Creek, and eventually to the San Francisco Bay; these drainage patterns would be maintained with implementation of development under the proposed Specific Plan. Potential impacts would be less than significant and further investigation in the EIR is not warranted.

d) ***NO IMPACT***. As described above, buildout under the Plan Area would not alter the course of any stream or river. Site-specific drainage pattern alterations would occur with development that could be facilitated by full buildout, but such alterations would not result in substantial adverse effects. The area is largely paved, and proposed development would not introduce new paved areas to the extent that the rate or amount of surface runoff would substantially increase. Development that could be facilitated by full buildout would not introduce new surface water discharges, and would not result in flooding on- or off-site. No impact would occur and this issue is not further assessed in the EIR.

g) ***POTENTIALLY SIGNIFICANT IMPACT***. There is a FEMA-designated 100-year Flood Hazard Area, or Special Flood Hazard Area (SFHA), along the southern portion of the Plan Area, associated with San Lorenzo Creek. The SFHA is defined all along San Lorenzo Creek, and structures located within the SFHA are subject to inundation of up to one foot during extreme (100-year) flood events. The southwestern-most portion of the Four Corners District is proposed for Neighborhood development, indicating an area of residential development, and is partially located within a Flood Hazard Area. There is also a small portion of both a FEMA-designated 100-year Flood Hazard Area and 500-year Flood Hazard Area located in the western portion of the Ashland District. This portion of the Plan Area is proposed for mixed use development, including office space, community gathering places, and retail. This issue will be further assessed in the EIR.

h) ***POTENTIALLY SIGNIFICANT IMPACT***.As described above, portions of the Plan Area are identified as FEMA-designated Flood Hazard Areas. Development that could be facilitated by the proposed Specific Plan would place structures in areas subject to flooding. This issue will be further assessed in the EIR.

i) ***LESS THAN SIGNIFICANT IMPACT***. There are no dams located within the Plan Area; however four dams are located in the vicinity and may pose inundation threat to the area, including the South Reservoir Dam, Almond Reservoir Dam, San Lorenzo Creek Dam, and Cull Creek Dam. The areas that are potentially subject to inundation associated with dam failure include areas in Cherryland just south of Highway 238, as well as areas along San Lorenzo Creek; these areas are highly urbanized and almost completely build out under current conditions. Development that could be facilitated by the proposed Specific Plan would not expose new areas to potential inundation from dam failure, but would alter the nature and characteristics of development in areas that are currently subject to inundation. The proposed Specific Plan would not alter existing risks associated with the potential for dam failure; potential impacts would be less than significant and further investigation in the EIR is not warranted.

j) ***NO IMPACT***. According to the Eden Area General Plan, which encompasses the Plan Area as well as surrounding unincorporated areas, the communities of Ashland and Cherryland (which comprise the Plan Area) would not be affected by a potential tsunami. In addition, the nearest water body that could experience a seiche event is the San Francisco Bay, and it is not

anticipated that a seiche in the Bay would have potential to affect the Plan Area. As described in Section VI, *Geology and Soils*, only 0.2 acre of the 246-acre area is characterized by slopes of up to 30 percent; this type of slope would be more susceptible to potential landslide hazards; however, considering that these slopes only comprise a small fraction of the overall Plan Area, they are not considered to pose mudflow hazards. Therefore, the Plan Area is not considered subject to inundation by seiche, tsunami, or mudflow; no impact would occur and this is not further assessed in the EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
X. LAND USE AND PLANNING				
-- Would the project:				
a) Physically divide an established community?	☐	☐	☐	■
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	■	☐	☐	☐
c) Conflict with an applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

a) ***NO IMPACT***. The Plan Area is located in an already urbanized portion of unincorporated Alameda County. It is surrounded on all sides by urban development. Implementation of the proposed Specific Plan would continue the existing residential and commercial development pattern in the Plan Area, and would not cut off connected neighborhoods or land uses from each other. No new roads, linear infrastructure or other development features are proposed that would divide and established community or limit movement, travel or social interaction between established land uses. Impacts would be less than significant. No further discussion of this issue in an EIR is warranted.

b) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would establish new form-based zoning codes that would facilitate an increase in the density and intensity of existing land uses. Potential conflicts with the Eden Area General Plan and Alameda County General Plan are potentially significant and will be discussed in an EIR.

c) ***NO IMPACT***. The Plan Area is not covered by a habitat conservation plan, natural community conservation plan, or other adopted conservation plan. Therefore, the proposed Specific Plan would have no impact from conflicts with a conservation plan. No further discussion of this issue in an EIR is warranted.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XI. MINERAL RESOURCES				
-- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a, b) ***NO IMPACT***. No areas within the Plan Area are zoned or designated for mining uses or are actively mined. The proposed Specific Plan does not involve the use or mining of mineral resources. No further discussion of this issue in an EIR is warranted.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XII. NOISE				
-- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	■	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	■	☐	☐	☐
c) A substantial permanent increase in ambient noise levels above levels existing without the project?	■	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise	■	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XII. NOISE				
-- Would the project result in:				
levels?				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise?	■	□	□	□

a) ***POTENTIALLY SIGNIFICANT IMPACT***. The Plan Area is bisected by Interstate 238 and BART tracks and is adjacent to interstates 880 and 580. Freeway and rail noise is audible within the Plan Area. The proposed Specific Plan may involve placing residential uses near a freeway and rail noise sources and may not comply with County noise standards. New residents living within the Plan Area may be subject to unacceptable noise levels. Impacts would be potentially significant and will be further analyzed in the EIR.

b) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate intensification of development and redevelopment of existing uses within the Plan Area. This would involve construction activities such as demolition, asphalt removal, grading, and excavation activities. Each of these is anticipated to result in some vibration that could affect nearby sensitive receptors depending on the location of the receptors. Impacts would be potentially significant and will be further analyzed in an EIR.

c) ***POTENTIALLY SIGNIFICANT IMPACT***. As discussed in Section XVI, *Transportation/Traffic*, the proposed project would increase traffic compared to existing conditions. Traffic related noise may impact existing and future sensitive receptors in the Plan Area. Therefore, traffic related noise impacts would be potentially significant and will be analyzed further in an EIR.

d) ***POTENTIALLY SIGNIFICANT IMPACT***. The project could generate temporary noise increases during construction. Temporary noise increases would result from construction activities such as demolition, asphalt removal, grading, and excavation activities. Noise sensitive land uses within the Plan Area include residences scattered along Mission Boulevard, as well as residential neighborhoods and San Lorenzo High School and St. John Elementary School along Lewelling Boulevard. REACH Ashland Youth Center and Meek Park would also be considered noise sensitive land uses, as they provide recreational opportunities for residences within and surrounding the Plan Area. In addition, there are several churches within and immediately surrounding the Plan Area which may be sensitive to noise levels during church services and other community functions held at those facilities. Noise sensitive land uses near the Plan Area primarily include residential subdivisions on both sides of Lewelling Boulevard, as well as Meek Park to the south. Other adjacent land uses include commercial, industrial, and public facilities. Residential buildout under the proposed Specific Plan would also introduce new sensitive receptors to the Plan Area. Temporary construction-related noise

could affect sensitive receptors within the Plan Area. Construction noise impacts would be potentially significant and will be analyzed further in an EIR.

e, f) ***NO IMPACT***. There are two sources of aircraft noise in the Eden Area. These are aircraft originating at the Hayward Executive Airport and flight operations at the Metropolitan Oakland International Airport. The former is primarily a general aviation aircraft facility. Noise issues related to its operations are described in the *Hayward Executive Airport Master Plan Draft Environmental Impact* Report (*April 23, 2001)*.The noise generated from aircraft using the Oakland International Airport is regulated by the FAA and is outside of the jurisdiction and influence of local governments. Several flight paths from this airport pass over the Eden Area. While noise from flight operations at the Hayward and Oakland Airports are audible, the Plan Area is located outside of the both airports' 65 dBA CNEL noise contours (Eden Area General Plan, 2010). The Plan Area is not located within any airport noise impact contours and would therefore not expose residents or workers to excessive noise levels from airport or private air strip operations.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XIII. POPULATION AND HOUSING				
-- Would the project:				
a) Induce substantial 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 housing, necessitating the construction of replacement housing elsewhere?	■	☐	☐	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	■	☐	☐	☐

a-c) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate intensification of development and redevelopment of existing uses within the Plan Area. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses accommodating up to: (1) 167 single-family units, (2) 771 multi-family units, and (3) 570,000 square feet of non-residential development. The proposed Specific Plan may impact existing residences or neighborhoods within the Plan Area. Impacts to population and housing are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XIV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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?	■	☐	☐	☐

ai-av) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate intensification of development and redevelopment of existing uses within the Plan Area. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses accommodating up to 938 residential units and 570,000 square feet of non-residential development. The increase of population and intensification of development would lead to increased demand of police and fire protection services, further fill capacity of schools and libraries, and also increase usage of parks and other public facilities. Impacts to public services are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	■	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XV. RECREATION				
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?	■	☐	☐	☐

a-b) ***POTENTIALLY SIGNIFICANT IMPACT***. The proposed Specific Plan would facilitate intensification of development and redevelopment of existing uses within the Plan Area. Full implementation of the proposed Specific Plan would increase density and intensity of existing land uses accommodating up 938 residential units and 570,000 square feet of non-residential development. The increase of population and intensification of development would lead to increased demand and usage of parks and recreational facilities that could potentially accelerate physical deterioration of such facilities or require new or expanded recreational facilities. Impacts to recreation are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC				
-- Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?	■	☐	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	■	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC				
-- Would the project:				
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	■
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
e) Result in inadequate emergency access?	☐	☐	■	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?	■	☐	☐	☐

a, b, f) ***POTENTIALLY SIGNIFICANT IMPACT.*** The proposed project would increase traffic compared to existing conditions. Trips generated as a result of the proposed project have the potential to impact area intersections and roadway segments and contribute to cumulative traffic increases. The proposed project may also conflict with applicable plans and policies, including the County's Congestion Management Program. Traffic impacts would be potentially significant and will be analyzed further in an EIR.

c) ***NO IMPACT***. No airport or airstrip is located within the Plan Area. The proposed Specific Plan would not affect air traffic patterns. No impact would occur and further analysis of this issue in an EIR is not warranted.

d) ***LESS THAN SIGNIFICANT IMPACT***. The proposed Specific Plan does not include any design features that would increase hazards. The proposed Specific Plan would involve improvements to vehicle, bicycle, and pedestrian facilities which would reduce hazards to motorists and pedestrians. In addition, the proposed Specific Plan would involve residential and commercial development and would not result in vehicles or equipment, such as farm equipment or tractors, that would be incompatible with the existing land uses surrounding the area. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

e) ***LESS THAN SIGNIFICANT IMPACT***. Development associated with the proposed Specific Plan would be required to conform to traffic and safety regulations that specify adequate emergency access measures. The proposed Specific Plan involves roadway improvements that would improve vehicular access and circulation. The Plan Area is located along existing roadway lacking any identified significant safety hazards. The site would facilitate infill

development that would not be expected to hinder emergency access or evacuation. Adherence to existing state and federal regulations and Eden Area General Plan policies and goals would reduce impacts. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS				
-- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	■	☐	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐	☐	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	■	☐	☐	☐
e) 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?	■	☐	☐	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	■	☐	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	■	☐	☐	☐

a, e, f) ***POTENTIALLY SIGNIFICANT IMPACT***. The Oro Loma Sanitary District (OLSD) currently provides wastewater collection and treatment services to the Plan Area. Development that could be facilitated by the proposed Specific Plan would introduce new residential and non-residential uses to the Plan Area. New uses would generate additional wastewater which may exceed the capacity of sewer infrastructure or the OLSD Wastewater Treatment Plant. Impacts are potentially significant and will be analyzed further in an EIR.

c) ***POTENTIALLY SIGNIFICANT IMPACT***. As discussed in subsection (a, e, f) in Section IX, *Hydrology and Water Quality,* development that could be facilitated by the proposed Specific Plan could create or contribute runoff water which would exceed the capacity of existing stormwater drainage facilities. Potential impacts associated with the capacity of stormwater drainage systems will be further analyzed in an EIR.

d) ***POTENTIALLY SIGNIFICANT IMPACT***. Development that could be facilitated by the proposed Specific Plan would provide new residential units and eventually increase population in the Plan Area; associated water demand would also increase. It is possible that new or expanded entitlements may be needed to meet water supply requirements associated with full buildout that could be facilitated by the proposed Specific Plan. Therefore, this issue will be further investigated in the EIR.

f, g) ***POTENTIALLY SIGNIFICANT IMPACT***. The Alameda County Waste Management Authority (ACWMA) oversees solid waste and recycling collection throughout the county, including the Plan Area. As mentioned above, the OLSD provides wastewater collection and treatment services to the Plan Area; ACWMA contracts with OLSD to provide solid waste direct collection services for certain areas in the county, including the Plan Area. There are two active landfills which serve the county for solid waste disposal, the Altamont Landfill Resource Recovery Facility, and the Vasco Road Sanitary Landfill. Solid waste collected by OLSD (under contract to the ACWMA) is deposited at Altamont facility, which has a remaining capacity of 45.7 million cubic yards.

The proposed Specific Plan would intensity development within the Plan Area. New residential and non-residential uses would generate solid waste which may exceed the available capacity at area landfills. Impacts are potentially significant and will be analyzed further in an EIR.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	■	□	□	□

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	■	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	■	☐	☐	☐

a) ***POTENTIALLY SIGNIFICANT IMPACT***. As noted under Section V, *Cultural Resources*, and Section IV, *Biological Resources*, implementation of the proposed Specific Plan may have potentially significant impacts on biological or cultural resources. Impacts are potentially significant and will be addressed in an EIR.

b) ***POTENTIALLY SIGNIFICANT IMPACT***. Cumulative impacts with respect to aesthetics, air quality, biological resources, cultural resources, geology and soils, GHG emissions, hydrology and water quality, hazards and hazardous materials, population and housing, public services, recreation, traffic, and utilities are potentially significant will be discussed further in an EIR.

c) ***POTENTIALLY SIGNIFICANT IMPACT***. In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in the preceding responses, the proposed Specific Plan may have potentially significant impacts with respect to air quality, hazardous materials, and noise. Impacts to human beings will be further analyzed in an EIR.

REFERENCES

Bibliography

BAAQMD (Bay Area Air Quality Management District), 2012. California Environmental Quality Act – Air Quality Guidelines. Updated May. [online]: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en. Accessed April 2, 2015.

California Department of Conservation. April 2014. Alameda County Important Farmland 2012. Available: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/ala12.pdf

CASQA (California Stormwater Quality Association), 2009. California Stormwater BMP Handbook for Construction. WE-1 Wind Erosion Control. November. [online]: http://www.cleanwaterprogram.org/uploads/C6%20CASQA%20BMPs%20Wind%20Erosion%20Control.pdf. Accessed April 2, 2015.

Persons Contacted

None

ALAMEDA COUNTY
Community Development Agency

Notice of Preparation of an Environmental Impact Report

Date: April 13, 2015

To: Responsible Agencies, Agencies with Jurisdiction by Law, Trustee Agencies, Involved Federal Agencies, and Agencies/People Requesting Notice

From: County of Alameda Community Development Agency, Planning Department

Re: **Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Ashland Cherryland Business District Specific Plan**

The County of Alameda (Lead Agency) will prepare an EIR for the proposed Ashland Cherryland Business District Specific Plan (Specific Plan). This Notice of Preparation (NOP) is being distributed to applicable responsible agencies, trustee agencies, and interested parties as required by the California Environmental Quality Act (CEQA). Comments from agencies and interested parties are requested as to the scope and content of the environmental review in connection with the proposed Specific Plan. The proposed Specific Plan's location and description are summarized below.

Project Location: The Specific Plan Area covers approximately 246 acres along a three-mile stretch of E.14th Street/Mission Boulevard and a 1.5-mile section of Lewelling/E. Lewelling Boulevard between 150th Avenue to the north, Grove Way to the south, and Hesperian Boulevard to the west. The Plan Area is bisected by Interstate 238 and adjacent to Interstates 880 and 580. (See Figure 1)

Proposed Project: The proposed Specific Plan is composed of two major components: (1) a long term vision and policy component and (2) a regulatory component. The vision and policy component provides goals and policies related to land use, circulation, infrastructure, and design, and recommends implementing programs and financing options to achieve these goals. The regulatory component would enact zoning for the Plan Area; establishing zones, uses, and development standards. Together, these two components would serve as a comprehensive document for development within the Plan Area.

The underlying general plan governing the Plan Area is the 2010 Alameda County Eden Area General Plan, one of several plans constituting the Alameda County General Plan. Under Government Code Section 65450 et seq., a specific plan implements and must be consistent with the governing general plan. However, a specific plan is a separate document from the general plan and contains a greater degree of detail, including functions of zoning, land use regulations, design standards, and capital improvement plans.

Buildout of the proposed Specific Plan would accommodate development of up to 167 single-family units, 771 multi-family units, and 570,000 square feet of non-residential development. Under CEQA *Guidelines* Section 15206(b)(2)(A), the proposed Specific Plan is classified as a project of "regional significance" because it includes more than 500 housing units.

Probable Environmental Effects: Based on the Draft Specific Plan and the Lead Agency's understanding of the environmental issues associated with the proposed Specific Plan, the topics anticipated to require analysis in the EIR will include, but not be limited to: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services and recreation, transportation and traffic, and utilities and service systems. Impacts related to agricultural, forestry and mineral resources are anticipated to be less than significant, but will be evaluated in an Initial Study, which will be an appendix to the EIR.

NOP Notice: The Lead Agency solicits comments regarding the scope and content of the EIR from all interested parties requesting notice, responsible agencies, agencies with jurisdiction by law, trustee agencies, and involved agencies.

Comments should focus on discussion of possible impacts on the physical environment, ways in which potential adverse effects might be minimized, and alternatives to the proposed Specific Plan in light of the EIR's purpose to provide useful and accurate information about such factors. In addition, comments may be provided at the meeting indicated below.

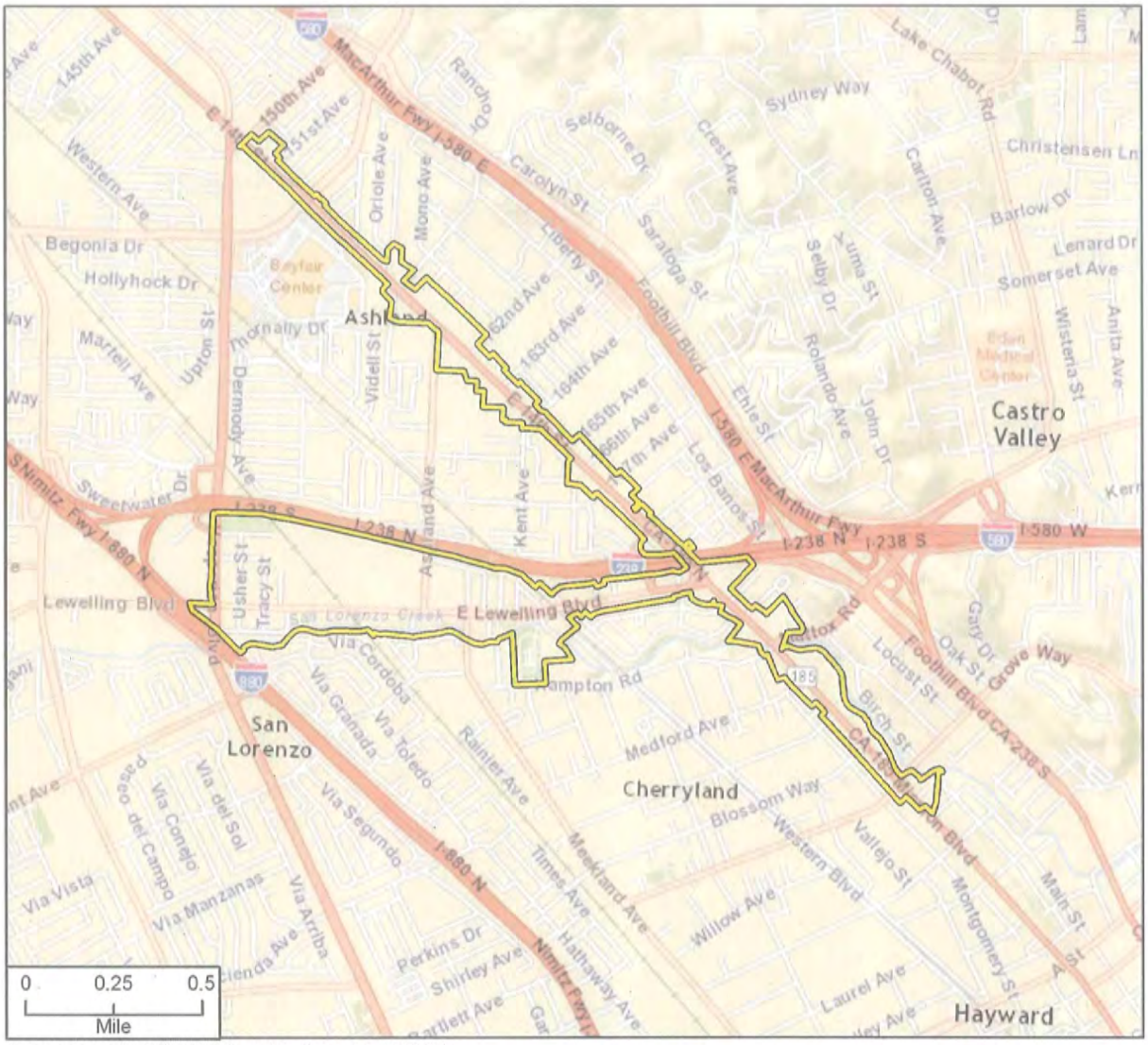
CEQA sets the review and comment period for an NOP to end 30 days after publication. The County therefore requests comments on this NOP be received no later than the close of business on May 15, 2015. Send written comments to:

Rodrigo Orduña, *AICP*
County of Alameda Planning Department
224 West Winton Avenue, Room 111
Hayward, California 94544
E-Mail: rodrigo.orduna@acgov.org

NOP Scoping Meeting: An NOP Scoping meeting will be held for the Project on Wednesday, April 29, 2015 from 6:30 pm to 8:30 pm. The meeting will be held at 224 West Winton Avenue, Room 160 Public Hearing Room, Hayward, CA 94544.

ALL INTERESTED PARTIES ARE INVITED TO SUBMIT WRITTEN COMMENTS ON THE SCOPE OF THE EIR TO ASSIST IN IDENTIFYING ISSUES TO BE ADDRESSED IN THE EIR.

x _____ Date: 4/13/15
Rodrigo Orduña, *AICP*, Project Manager



Imagery provided by ESRI and its licensors © 2015.

Figure 1: Ashland Cherryland Business District Specific Plan Update Boundary and Regional Location

EAST BAY
MUNICIPAL UTILITY DISTRICT

May 12, 2015

Rodrigo Orduna, AICP, Project Manager
County of Alameda Planning Department
224 West Winton Avenue, Room 111
Hayward, CA 94544

Re: Notice of Preparation of a Draft Environmental Impact Report for the Ashland Cherryland Business District Specific Plan

Dear Mr. Orduna:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to review the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Ashland Cherryland Business District Specific Plan located in Alameda County (County). EBMUD has the following comments.

WATER SERVICE

Pursuant to Section 15155 of the California Environmental Quality Act Guidelines, and Sections 10910-10915 of the California Water Code, the proposed project meets the threshold requirement for a Water Supply Assessment (WSA), because the entire scope of the project includes at least 500 dwelling units. Please submit a written request to EBMUD to prepare a WSA. EBMUD requires future water demand data and estimates for the project site to be provided for the analysis of the WSA. Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received.

EBMUD's Central and Bayview Pressure Zones, with service elevation ranges between 0 and 100 feet and between 100 and 200 feet, respectively, provide water service to the region within the specific plan boundary. EBMUD owns and operates distribution pipelines in all of the streets within the proposed specific plan boundary of the project area. These pipelines are necessary to provide continuous service to EBMUD customers in the area. If modifications to the streets occur that require pipeline relocation, the relocation costs would be at the project sponsor's expense. All costs associated with abandonment and relocation of pipelines, relocation of water services, relocation of hydrants, pipeline extensions, and offsite improvements would be at the project sponsor's expense. Water main extensions, at the project sponsor's expense, may be required to serve individual projects within the specific plan area depending on EBMUD's metering requirements and fire flow requirements set by the local fire departments. Project sponsors for individual projects should contact EBMUD's New Business Office and request a water service estimate to determine the costs and conditions of providing additional water service to the proposed development. The engineering, installation and abandonment of water mains

often require substantial lead time, which should be accounted for in the project sponsor's development schedule.

EBMUD's Standard Site Assessment Report indicates the potential for contaminated soils or groundwater to be present within the project site boundaries. The project sponsor should be aware that EBMUD will not install piping or services in contaminated soil or groundwater (if groundwater is present at any time during the year at the depth piping is to be installed) that must be handled as a hazardous waste, or that may be hazardous to the health and safety of construction and maintenance personnel wearing Level D personal protective equipment. Nor will EBMUD install piping or services in areas where groundwater contaminant concentrations exceed specified limits for discharge to the sanitary sewer system and sewage treatment plants. The project sponsor must submit copies to EBMUD of all known information regarding soil and groundwater quality within or adjacent to the project boundary and a legally sufficient, complete and specific written remediation plan establishing the methodology, planning and design of all necessary systems for the removal, treatment, and disposal of contaminated soil and groundwater.

EBMUD will not design piping or services until soil and groundwater quality data and remediation plans have been received and reviewed and will not start underground work until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists, or the information supplied by the project sponsor is insufficient, EBMUD may require the project sponsor to perform sampling and analysis to characterize the soil and groundwater that may be encountered during excavation, or EBMUD may perform such sampling and analysis at the project sponsor's expense. If evidence of contamination is discovered during EBMUD's work on the project site, work may be suspended until such contamination is adequately characterized and remediated to EBMUD standards.

WATER CONSERVATION

The projects within the specific plan area present an opportunity to incorporate water conservation measures. EBMUD requests that the County include in its conditions of approval a requirement that individual project sponsors comply with Assembly Bill 325, "Model Water Efficient Landscape Ordinance," (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). Project sponsors for individual projects within the specific plan area should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense.

If you have any questions concerning this response, please contact Timothy R. McGowan, Senior Civil Engineer, Major Facilities Planning at (510) 287-1981.

Sincerely,

David J. Rehnstrom
Manager of Water Distribution Planning

DJR:JRC:dks
sb15_077.doc

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
www.dot.ca.gov

Serious Drought.
Help save water!

May 13, 2015

ALAGEN225
SCH# 2015042047

Mr. Rodrigo Orduña
Planning Department
County of Alameda
224 West Winton Avenue, Room 111
Hayward, CA 94544

Ashland Cherryland Business District Specific Plan Update – Notice of Preparation

Dear Mr. Orduña:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. The Ashland Cherryland Business District Specific Plan (ACBD Specific Plan) Update is comprised of a long term vision/policy component with an accompanying regulatory component to encourage sustainable, economic growth of the East 14th Street/Mission Boulevard and Lewelling/East Lewelling Boulevard Corridors. At total buildout, the ACBD Specific Plan Update proposes to provide up to 167 single family units, 771 multi-family units, and 570,000 square feet of non-residential development. The Plan Area is bisected by Interstate 238 (I-238) and adjacent to I-880 and I-580. State Route 185 (East 14th Street/Mission Boulevard) is one of the main arterial streets that serve the ACBD Specific Plan Area.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review Program reviews land use projects and plans for impacts to the State Highway System to ensure consistency with our mission and state planning priorities of infill, conservation, and efficient development. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl. Please see our earlier letter dated April 17, 2015 for more information regarding transportation improvement funding. The comments below are based on the Notice of Preparation.

Lead Agency
As the lead agency, the County of Alameda (County) is responsible for all project mitigation. The project's fair share contribution, financing, scheduling, implementation responsibilities, as well as the identified lead agency contact and monitoring, should be fully discussed for all proposed mitigation measures.

This information should also be presented in the Mitigation Monitoring and Reporting Plan of the environmental document. Required roadway improvements should be completed prior to issuance of the Certificate of Occupancy. Since an encroachment permit is required for work in the State Right of Way (ROW), and Caltrans will not issue a permit until our concerns are adequately addressed, we strongly encourage early consultation and coordination with the County and project proponents during the environmental process, and in any case prior to submittal of an encroachment permit application. Further comments will be provided during the encroachment permit process; please see the end of this letter for more information.

Traffic Impact Study

The environmental document should include an analysis of the travel demand expected from the proposed project. Early collaboration, such as submitting the traffic study prior to the environmental document, leads to better outcomes for all stakeholders. We are in the process of updating our *Guide for the Preparation of Traffic Impact Studies* (TIS Guide) for consistency with SB 743, but meanwhile recommend using the Caltrans TIS Guide for determining which scenarios and methodologies to use in the analysis, available at the following webpage: http://dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

Please ensure that a Traffic Impact Study is prepared providing the information detailed below:

1. Vicinity map, regional location map, and a site plan clearly showing project access in relation to nearby State roadways. Ingress and egress for all project components should be clearly identified. Clearly identify the State ROW. Project driveways, local roads and intersections, car/bike parking, and transit facilities should be mapped.

2. Project-related trip generation, distribution, and assignment including per capita use of transit, rideshare or active transportation modes and vehicle miles traveled (VMT) reduction factors. The assumptions and methodologies used to develop this information should be detailed in the study and be supported with appropriate documentation.

3. Average Daily Traffic, AM and PM peak hour volumes and levels of service (LOS) on all roadways where potentially significant impacts may occur, including crossroads and controlled intersections for existing, existing plus project, cumulative and cumulative plus project scenarios. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect study area roadways and intersections. The analysis should clearly identify the project's contribution to area traffic and any degradation to existing and cumulative LOS. Caltrans' LOS threshold, which is the transition between LOS C and D, and is explained in detail in the TIS Guide, should be applied to all State facilities.

4. Schematic illustration of walking, biking and auto conditions at the project site and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane configurations, for AM and PM peak periods. Potential safety issues for all road users should be identified and fully mitigated.

5. The project site building potential as identified in the General Plan. The project's consistency with both the Circulation Element of the General Plan and the Congestion Management Agency's Congestion Management Plan should be evaluated.

6. Mitigation for any roadway sections or intersection with increasing VMT should be identified. Impacts on pedestrians and bicyclists resulting from any projected VMT increases, or secondary impacts from traffic mitigation, should be analyzed. The analysis should describe any pedestrian and bicycle mitigation measures and safety countermeasures that would be needed as a means of maintaining and improving access to transit facilities and reducing vehicle trips.

State Route 185 Improvements and Funding

Please identify any Transportation Impact Fees associated with the ACBD Specific Plan. Mitigation should include contributions to the regional fee program as applicable and should support the use of transit and active transportation modes. The East 14th Street/Mission Boulevard Streetscape Improvement Project is listed in the County's 2014-2019 Capital Plan as a local fund project. The scheduling and costs associated with planned improvements on Caltrans ROW should be listed, in addition to identifying viable funding sources per General Plan Guidelines.

The Plan should make incorporating the pending East Bay Bus Rapid Transit Project and East Bay SMART Corridors Program a priority for possible coordination of Travel Demand Management (TDM) programs or future investments. As example cooperative planning efforts located near the Plan Area, this will further reduce VMT, improve multimodal access and transportation management in the corridor. For more information, see Caltrans' *State Route 185 Transportation Concept Report* available at the following webpage:
http://www.dot.ca.gov/dist4/systemplanning/docs/tcr/final_sr_185_tcr.pdf

Vehicle Trip Reduction

The Metropolitan Transportation Commission (MTC) Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS) identifies transportation system performance targets including the increase of non-auto mode share by 10 percentage points and a decrease auto VMT per capita by 10 percent. As the Plan Area is located within the RTP's Priority Development Area near local transit improvements, the ACBD Specific Plan Update should contribute to these targets. Caltrans encourages the County to locate any needed housing, jobs

facilitate walking and biking, as a means of promoting mass transit use and reducing regional VMT and traffic impacts on the State highways.

Consider TDM policies to encourage usage of nearby public transit lines and reduce vehicle trips on the State Highway System. These policies could include lower parking ratios, car-sharing programs, bicycle parking and showers for employees, and providing transit passes to residents and employees, among others. We recommend the County refer to '*Reforming Parking Policies to Support Smart Growth*', an MTC study funded by Caltrans for sample parking ratios and strategies that support compact growth and Transit Oriented Development. The Study is available at the MTC webpage below:
http://www.mtc.ca.gov/planning/smart_growth/parking/parking_seminar/Toolbox-Handbook.pdf

Encroachment Permit
Please be advised that any work or traffic control that encroaches onto the State ROW requires an encroachment permit that is issued by Caltrans. Where construction-related traffic restrictions and detours affect State highways, a Transportation Management Plan or construction TIS may be required. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans clearly indicating State ROW must be submitted to the following address: David Salladay, District Office Chief, Office of Permits, California Department of Transportation, District 4, P.O. Box 23660, Oakland, CA 94623-0660. See the following website for more information:
http://www.dot.ca.gov/hq/traffops/developserv/permits

Should you have any questions regarding this letter or require additional information, please contact Sherie George at (510) 286-5535 or by email at sherie.george@dot.ca.gov.

Sincerely,

Patricia

PATRICIA MAURICE
Acting District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

Appendix B

Air Quality Technical Data

Ashland Cherryland Business District Specific Plan EIR

San Francisco Bay Area Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	91.20	1000sqft	2.09	91,200.00	0
Medical Office Building	256.50	1000sqft	5.89	256,500.00	0
Manufacturing	22.80	1000sqft	0.52	22,800.00	0
Condo/Townhouse	771.00	Dwelling Unit	48.19	771,000.00	2205
Single Family Housing	167.00	Dwelling Unit	54.22	300,600.00	478
Strip Mall	57.00	1000sqft	1.31	57,000.00	0
Supermarket	142.50	1000sqft	3.27	142,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 570,000 square feet of non-residential space broken out by Retail (10%), Manufacturing (4%), Office (16%), Medical Office (45%), and (25%) Other (assumed to be supermarket retail).

Construction Phase -

Vehicle Trips - Average MXD reduction of 23% was applied to trip rates.

Woodstoves - Assumed compliance with Alameda County Ordinance prohibiting wood burning fireplaces and woodstoves in new development.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	424.05	0.00
tblFireplaces	NumberGas	91.85	0.00
tblFireplaces	NumberNoFireplace	7.71	0.00
tblFireplaces	NumberNoFireplace	11.69	0.00
tblFireplaces	NumberWood	107.94	0.00
tblFireplaces	NumberWood	83.50	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	5.51
tblVehicleTrips	ST_TR	2.37	1.82
tblVehicleTrips	ST_TR	1.49	1.15
tblVehicleTrips	ST_TR	8.96	6.90
tblVehicleTrips	ST_TR	10.08	7.76
tblVehicleTrips	ST_TR	42.04	32.37
tblVehicleTrips	ST_TR	177.59	136.74
tblVehicleTrips	SU_TR	6.07	4.67

tblVehicleTrips	SU_TR	0.98	0.75
tblVehicleTrips	SU_TR	0.62	0.48
tblVehicleTrips	SU_TR	1.55	1.19
tblVehicleTrips	SU_TR	8.77	6.75
tblVehicleTrips	SU_TR	20.43	15.73
tblVehicleTrips	SU_TR	166.44	128.16
tblVehicleTrips	WD_TR	6.59	5.07
tblVehicleTrips	WD_TR	11.01	8.48
tblVehicleTrips	WD_TR	3.82	2.94
tblVehicleTrips	WD_TR	36.13	27.82
tblVehicleTrips	WD_TR	9.57	7.37
tblVehicleTrips	WD_TR	44.32	34.13
tblVehicleTrips	WD_TR	102.24	78.72
tblWoodstoves	NumberCatalytic	15.42	0.00
tblWoodstoves	NumberCatalytic	5.84	0.00
tblWoodstoves	NumberNoncatalytic	15.42	0.00
tblWoodstoves	NumberNoncatalytic	5.84	0.00
tblWoodstoves	WoodstoveDayYear	2.59	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	5.1501	54.7198	42.1269	0.0416	18.2360	2.9400	21.1760	9.9757	2.7048	12.6805	0.0000	4,240.4554	4,240.4554	1.2352	0.0000	4,266.3935
2017	6.1716	69.6790	47.8198	0.0640	18.2360	3.3186	20.9915	9.9757	3.0532	12.5108	0.0000	6,500.9101	6,500.9101	1.9435	0.0000	6,541.7243
2018	7.0560	59.6121	72.9298	0.1657	8.8619	2.7894	11.6514	3.6465	2.5663	6.2128	0.0000	14,315.1527	14,315.1527	1.9425	0.0000	14,355.9458
2019	6.3886	37.7632	68.1896	0.1656	8.8337	1.5546	10.3883	2.3691	1.4566	3.8257	0.0000	13,949.7611	13,949.7611	0.9737	0.0000	13,970.2093
2020	5.8517	33.6078	64.2661	0.1655	8.8336	1.3591	10.1927	2.3690	1.2734	3.6424	0.0000	13,530.7949	13,530.7949	0.9457	0.0000	13,550.6537
2021	5.4418	29.5684	61.3858	0.1654	8.8339	1.1817	10.0156	2.3691	1.1069	3.4761	0.0000	13,408.8553	13,408.8553	0.9239	0.0000	13,428.2571
2022	5.0977	26.4756	58.9301	0.1654	8.8343	1.0298	9.8641	2.3693	0.9647	3.3340	0.0000	13,299.9685	13,299.9685	0.9076	0.0000	13,319.0281
2023	4.7712	23.7652	56.5830	0.1653	8.8346	0.9165	9.7511	2.3694	0.8583	3.2277	0.0000	13,192.4599	13,192.4599	0.8896	0.0000	13,211.1423
2024	4.5444	22.6478	54.7872	0.1653	8.8349	0.8313	9.6661	2.3695	0.7778	3.1474	0.0000	13,107.4000	13,107.4000	0.8764	0.0000	13,125.8042
2025	4.3392	21.5258	53.3318	0.1653	8.8352	0.7467	9.5819	2.3697	0.6983	3.0680	0.0000	13,032.9661	13,032.9661	0.8649	0.0000	13,051.1279
2026	4.2382	21.3075	52.1277	0.1653	8.8355	0.7439	9.5793	2.3698	0.6957	3.0655	0.0000	12,966.8361	12,966.8361	0.8573	0.0000	12,984.8387
2027	4.1618	21.1842	51.1751	0.1653	8.8357	0.7445	9.5803	2.3699	0.6963	3.0662	0.0000	12,909.7168	12,909.7168	0.8509	0.0000	12,927.5859
2028	4.0894	21.0653	50.2983	0.1653	8.8360	0.7445	9.5805	2.3700	0.6963	3.0663	0.0000	12,860.2579	12,860.2579	0.8451	0.0000	12,878.0042
2029	4.0143	20.9617	49.3835	0.1653	8.8363	0.7448	9.5810	2.3701	0.6965	3.0666	0.0000	12,817.4876	12,817.4876	0.8394	0.0000	12,835.1150
2030	3.8851	16.3773	48.7113	0.1693	8.8365	0.3676	9.2041	2.3702	0.3505	2.7206	0.0000	13,119.8097	13,119.8097	0.3524	0.0000	13,127.2105
2031	212.8341	7.0082	15.8648	0.0292	1.5089	0.3244	1.5401	0.4002	0.3243	0.4306	0.0000	2,710.8056	2,710.8056	0.1257	0.0000	2,713.4442
Total	**288.0352**	**487.2689**	**847.9108**	**2.2887**	**152.8629**	**20.3375**	**172.3440**	**52.4331**	**18.9198**	**70.5409**	**0.0000**	**185,963.6375**	**185,963.6375**	**15.3737**	**0.0000**	**186,286.4846**

2.1 Overall Construction (Maximum Daily Emission)

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					
2016	5.1501	54.7198	42.1269	0.0416	18.2360	2.9400	21.1760	9.9757	2.7048	12.6805	0.0000	4,240.4554	4,240.4554	1.2352	0.0000	4,266.3935
2017	6.1716	69.6790	47.8198	0.0640	18.2360	3.3186	20.9915	9.9757	3.0532	12.5108	0.0000	6,500.9101	6,500.9101	1.9435	0.0000	6,541.7243
2018	7.0560	59.6121	72.9298	0.1657	8.8619	2.7894	11.6514	3.6465	2.5663	6.2128	0.0000	14,315.1527	14,315.1527	1.9425	0.0000	14,355.9458
2019	6.3886	37.7632	68.1896	0.1656	8.8337	1.5546	10.3883	2.3691	1.4566	3.8257	0.0000	13,949.7611	13,949.7611	0.9737	0.0000	13,970.2093
2020	5.8517	33.6078	64.2661	0.1655	8.8336	1.3591	10.1927	2.3690	1.2734	3.6424	0.0000	13,530.7949	13,530.7949	0.9457	0.0000	13,550.6537
2021	5.4418	29.5684	61.3858	0.1654	8.8339	1.1817	10.0156	2.3691	1.1069	3.4761	0.0000	13,408.8553	13,408.8553	0.9239	0.0000	13,428.2571
2022	5.0977	26.4756	58.9301	0.1654	8.8343	1.0298	9.8641	2.3693	0.9647	3.3340	0.0000	13,299.9685	13,299.9685	0.9076	0.0000	13,319.0281
2023	4.7712	23.7652	56.5830	0.1653	8.8346	0.9165	9.7511	2.3694	0.8583	3.2277	0.0000	13,192.4599	13,192.4599	0.8896	0.0000	13,211.1423
2024	4.5444	22.6478	54.7872	0.1653	8.8349	0.8313	9.6661	2.3695	0.7778	3.1474	0.0000	13,107.4000	13,107.4000	0.8764	0.0000	13,125.8042
2025	4.3392	21.5258	53.3318	0.1653	8.8352	0.7467	9.5819	2.3697	0.6983	3.0680	0.0000	13,032.9661	13,032.9661	0.8649	0.0000	13,051.1279
2026	4.2382	21.3075	52.1277	0.1653	8.8355	0.7439	9.5793	2.3698	0.6957	3.0655	0.0000	12,966.8361	12,966.8361	0.8573	0.0000	12,984.8387
2027	4.1618	21.1842	51.1751	0.1653	8.8357	0.7445	9.5803	2.3699	0.6963	3.0662	0.0000	12,909.7168	12,909.7168	0.8509	0.0000	12,927.5859
2028	4.0894	21.0653	50.2983	0.1653	8.8360	0.7445	9.5805	2.3700	0.6963	3.0663	0.0000	12,860.2579	12,860.2579	0.8451	0.0000	12,878.0042
2029	4.0143	20.9617	49.3835	0.1653	8.8363	0.7448	9.5810	2.3701	0.6965	3.0666	0.0000	12,817.4876	12,817.4876	0.8394	0.0000	12,835.1150
2030	3.8851	16.3773	48.7113	0.1693	8.8365	0.3676	9.2041	2.3702	0.3505	2.7206	0.0000	13,119.8097	13,119.8097	0.3524	0.0000	13,127.2105
2031	212.8341	7.0082	15.8648	0.0292	1.5089	0.3244	1.5401	0.4002	0.3243	0.4306	0.0000	2,710.8056	2,710.8056	0.1257	0.0000	2,713.4442
Total	**288.0352**	**487.2689**	**847.9108**	**2.2887**	**152.8629**	**20.3375**	**172.3440**	**52.4331**	**18.9198**	**70.5409**	**0.0000**	**185,963.6375**	**185,963.6375**	**15.3737**	**0.0000**	**186,286.4846**

	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	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591
Energy	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369
Mobile	58.3824	88.1111	462.2842	1.7158	113.8009	2.1696	115.9705	30.4450	2.0034	32.4484		120,840.8371	120,840.8371	3.0797		120,905.5102
Total	**109.8290**	**99.4806**	**545.4075**	**1.7854**	**113.8009**	**3.4287**	**117.2297**	**30.4450**	**3.2625**	**33.7075**	**0.0000**	**134,082.3042**	**134,082.3042**	**3.4638**	**0.2402**	**134,229.5063**

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	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591
Energy	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369
Mobile	58.3824	88.1111	462.2842	1.7158	113.8009	2.1696	115.9705	30.4450	2.0034	32.4484		120,840.8371	120,840.8371	3.0797		120,905.5102
Total	**109.8290**	**99.4806**	**545.4075**	**1.7854**	**113.8009**	**3.4287**	**117.2297**	**30.4450**	**3.2625**	**33.7075**	**0.0000**	**134,082.3042**	**134,082.3042**	**3.4638**	**0.2402**	**134,229.5063**

	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

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	1/1/2016	10/6/2016	5	200	
2	Site Preparation	Site Preparation	10/7/2016	3/23/2017	5	120	
3	Grading	Grading	3/24/2017	5/31/2018	5	310	
4	Building Construction	Building Construction	6/1/2018	4/18/2030	5	3100	
5	Paving	Paving	4/19/2030	2/20/2031	5	220	
6	Architectural Coating	Architectural Coating	2/21/2031	12/25/2031	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 0

Residential Indoor: 2,169,990; Residential Outdoor: 723,330; Non-Residential Indoor: 855,000; Non-Residential Outdoor: 285,000 (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	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	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	125	0.42
Paving	Paving Equipment	2	8.00	130	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	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	800.00	194.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

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	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.0609	0.0729	0.8514	1.7400e-003	0.1415	1.1400e-003	0.1426	0.0375	1.0400e-003	0.0386		146.2084	146.2084	7.5000e-003		146.3659
Total	**0.0609**	**0.0729**	**0.8514**	**1.7400e-003**	**0.1415**	**1.1400e-003**	**0.1426**	**0.0375**	**1.0400e-003**	**0.0386**		**146.2084**	**146.2084**	**7.5000e-003**		**146.3659**

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	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.0609	0.0729	0.8514	1.7400e-003	0.1415	1.1400e-003	0.1426	0.0375	1.0400e-003	0.0386		146.2084	146.2084	7.5000e-003		146.3659
Total	**0.0609**	**0.0729**	**0.8514**	**1.7400e-003**	**0.1415**	**1.1400e-003**	**0.1426**	**0.0375**	**1.0400e-003**	**0.0386**		**146.2084**	**146.2084**	**7.5000e-003**		**146.3659**

3.3 Site Preparation - 2016

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	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0730	0.0874	1.0217	2.0900e-003	0.1698	1.3600e-003	0.1711	0.0450	1.2500e-003	0.0463		175.4501	175.4501	9.0000e-003		175.6391
Total	**0.0730**	**0.0874**	**1.0217**	**2.0900e-003**	**0.1698**	**1.3600e-003**	**0.1711**	**0.0450**	**1.2500e-003**	**0.0463**		**175.4501**	**175.4501**	**9.0000e-003**		**175.6391**

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	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0730	0.0874	1.0217	2.0900e-003	0.1698	1.3600e-003	0.1711	0.0450	1.2500e-003	0.0463		175.4501	175.4501	9.0000e-003		175.6391
Total	**0.0730**	**0.0874**	**1.0217**	**2.0900e-003**	**0.1698**	**1.3600e-003**	**0.1711**	**0.0450**	**1.2500e-003**	**0.0463**		**175.4501**	**175.4501**	**9.0000e-003**		**175.6391**

3.3 Site Preparation - 2017

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	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

3.3 Site Preparation - 2017

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	0.0652	0.0783	0.9133	2.0900e-003	0.1698	1.3000e-003	0.1711	0.0450	1.2000e-003	0.0462		168.7869	168.7869	8.2200e-003		168.9595
Total	**0.0652**	**0.0783**	**0.9133**	**2.0900e-003**	**0.1698**	**1.3000e-003**	**0.1711**	**0.0450**	**1.2000e-003**	**0.0462**		**168.7869**	**168.7869**	**8.2200e-003**		**168.9595**

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	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

3.3 Site Preparation - 2017

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	0.0652	0.0783	0.9133	2.0900e-003	0.1698	1.3000e-003	0.1711	0.0450	1.2000e-003	0.0462		168.7869	168.7869	8.2200e-003		168.9595
Total	**0.0652**	**0.0783**	**0.9133**	**2.0900e-003**	**0.1698**	**1.3000e-003**	**0.1711**	**0.0450**	**1.2000e-003**	**0.0462**		**168.7869**	**168.7869**	**8.2200e-003**		**168.9595**

3.4 Grading - 2017

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518		6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**8.6733**	**3.3172**	**11.9905**	**3.5965**	**3.0518**	**6.6483**		**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

3.4 Grading - 2017

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	0.0725	0.0870	1.0148	2.3200e-003	0.1886	1.4400e-003	0.1901	0.0500	1.3300e-003	0.0514		187.5410	187.5410	9.1300e-003		187.7328
Total	**0.0725**	**0.0870**	**1.0148**	**2.3200e-003**	**0.1886**	**1.4400e-003**	**0.1901**	**0.0500**	**1.3300e-003**	**0.0514**		**187.5410**	**187.5410**	**9.1300e-003**		**187.7328**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518	0.0000	6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**8.6733**	**3.3172**	**11.9905**	**3.5965**	**3.0518**	**6.6483**	**0.0000**	**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

3.4 Grading - 2017

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	0.0725	0.0870	1.0148	2.3200e-003	0.1886	1.4400e-003	0.1901	0.0500	1.3300e-003	0.0514		187.5410	187.5410	9.1300e-003		187.7328
Total	**0.0725**	**0.0870**	**1.0148**	**2.3200e-003**	**0.1886**	**1.4400e-003**	**0.1901**	**0.0500**	**1.3300e-003**	**0.0514**		**187.5410**	**187.5410**	**9.1300e-003**		**187.7328**

3.4 Grading - 2018

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650		6,212.8042	6,212.8042	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**8.6733**	**2.7880**	**11.4614**	**3.5965**	**2.5650**	**6.1615**		**6,212.8042**	**6,212.8042**	**1.9341**		**6,253.4209**

3.4 Grading - 2018

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	0.0651	0.0783	0.9121	2.3200e-003	0.1886	1.4000e-003	0.1900	0.0500	1.2900e-003	0.0513		180.6002	180.6002	8.4000e-003		180.7765
Total	**0.0651**	**0.0783**	**0.9121**	**2.3200e-003**	**0.1886**	**1.4000e-003**	**0.1900**	**0.0500**	**1.2900e-003**	**0.0513**		**180.6002**	**180.6002**	**8.4000e-003**		**180.7765**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650	0.0000	6,212.8041	6,212.8041	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**8.6733**	**2.7880**	**11.4614**	**3.5965**	**2.5650**	**6.1615**	**0.0000**	**6,212.8041**	**6,212.8041**	**1.9341**		**6,253.4209**

3.4 Grading - 2018

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	0.0651	0.0783	0.9121	2.3200e-003	0.1886	1.4000e-003	0.1900	0.0500	1.2900e-003	0.0513		180.6002	180.6002	8.4000e-003		180.7765
Total	**0.0651**	**0.0783**	**0.9121**	**2.3200e-003**	**0.1886**	**1.4000e-003**	**0.1900**	**0.0500**	**1.2900e-003**	**0.0513**		**180.6002**	**180.6002**	**8.4000e-003**		**180.7765**

3.5 Building Construction - 2018

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	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

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	1.7850	15.2691	18.9122	0.0461	1.2896	0.2313	1.5209	0.3682	0.2127	0.5809		4,481.2067	4,481.2067	0.0342		4,481.9254
Worker	2.6023	3.1320	36.4850	0.0928	7.5442	0.0558	7.6001	2.0009	0.0516	2.0526		7,224.0071	7,224.0071	0.3359		7,231.0607
Total	**4.3874**	**18.4011**	**55.3971**	**0.1389**	**8.8338**	**0.2872**	**9.1210**	**2.3691**	**0.2643**	**2.6334**		**11,705.2137**	**11,705.2137**	**0.3701**		**11,712.9861**

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	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

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	1.7850	15.2691	18.9122	0.0461	1.2896	0.2313	1.5209	0.3682	0.2127	0.5809		4,481.2067	4,481.2067	0.0342		4,481.9254
Worker	2.6023	3.1320	36.4850	0.0928	7.5442	0.0558	7.6001	2.0009	0.0516	2.0526		7,224.0071	7,224.0071	0.3359		7,231.0607
Total	**4.3874**	**18.4011**	**55.3971**	**0.1389**	**8.8338**	**0.2872**	**9.1210**	**2.3691**	**0.2643**	**2.6334**		**11,705.2137**	**11,705.2137**	**0.3701**		**11,712.9861**

3.5 Building Construction - 2019

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	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.5 Building Construction - 2019

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	1.6565	13.9451	17.8078	0.0460	1.2895	0.2150	1.5044	0.3681	0.1977	0.5658		4,404.1479	4,404.1479	0.0334		4,404.8495
Worker	2.3805	2.8531	33.2614	0.0928	7.5442	0.0546	7.5989	2.0009	0.0506	2.0516		6,964.8515	6,964.8515	0.3124		6,971.4119
Total	**4.0369**	**16.7982**	**51.0693**	**0.1388**	**8.8337**	**0.2696**	**9.1033**	**2.3691**	**0.2483**	**2.6174**		**11,368.9994**	**11,368.9994**	**0.3458**		**11,376.2615**

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	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.5 Building Construction - 2019

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	1.6565	13.9451	17.8078	0.0460	1.2895	0.2150	1.5044	0.3681	0.1977	0.5658		4,404.1479	4,404.1479	0.0334		4,404.8495
Worker	2.3805	2.8531	33.2614	0.0928	7.5442	0.0546	7.5989	2.0009	0.0506	2.0516		6,964.8515	6,964.8515	0.3124		6,971.4119
Total	**4.0369**	**16.7982**	**51.0693**	**0.1388**	**8.8337**	**0.2696**	**9.1033**	**2.3691**	**0.2483**	**2.6174**		**11,368.9994**	**11,368.9994**	**0.3458**		**11,376.2615**

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	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

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	1.5239	11.8952	16.7317	0.0459	1.2894	0.1922	1.4816	0.3681	0.1768	0.5449		4,302.9095	4,302.9095	0.0324		4,303.5895
Worker	2.2165	2.6286	30.7260	0.0928	7.5442	0.0540	7.5982	2.0009	0.0501	2.0510		6,685.4056	6,685.4056	0.2938		6,691.5762
Total	**3.7405**	**14.5239**	**47.4577**	**0.1387**	**8.8336**	**0.2462**	**9.0798**	**2.3690**	**0.2269**	**2.5959**		**10,988.3150**	**10,988.3150**	**0.3262**		**10,995.1657**

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	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465	0.0000	2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**	**0.0000**	**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

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	1.5239	11.8952	16.7317	0.0459	1.2894	0.1922	1.4816	0.3681	0.1768	0.5449		4,302.9095	4,302.9095	0.0324		4,303.5895
Worker	2.2165	2.6286	30.7260	0.0928	7.5442	0.0540	7.5982	2.0009	0.0501	2.0510		6,685.4056	6,685.4056	0.2938		6,691.5762
Total	**3.7405**	**14.5239**	**47.4577**	**0.1387**	**8.8336**	**0.2462**	**9.0798**	**2.3690**	**0.2269**	**2.5959**		**10,988.3150**	**10,988.3150**	**0.3262**		**10,995.1657**

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	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979		2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**		**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

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	1.4555	9.7793	16.0906	0.0459	1.2897	0.1731	1.4627	0.3682	0.1592	0.5274		4,297.7111	4,297.7111	0.0323		4,298.3900
Worker	2.0932	2.4489	28.7576	0.0928	7.5442	0.0538	7.5980	2.0009	0.0499	2.0508		6,568.3624	6,568.3624	0.2790		6,574.2210
Total	**3.5487**	**12.2282**	**44.8482**	**0.1386**	**8.8339**	**0.2268**	**9.0608**	**2.3691**	**0.2091**	**2.5782**		**10,866.0735**	**10,866.0735**	**0.3113**		**10,872.6109**

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	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979	0.0000	2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**	**0.0000**	**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

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	1.4555	9.7793	16.0906	0.0459	1.2897	0.1731	1.4627	0.3682	0.1592	0.5274		4,297.7111	4,297.7111	0.0323		4,298.3900
Worker	2.0932	2.4489	28.7576	0.0928	7.5442	0.0538	7.5980	2.0009	0.0499	2.0508		6,568.3624	6,568.3624	0.2790		6,574.2210
Total	**3.5487**	**12.2282**	**44.8482**	**0.1386**	**8.8339**	**0.2268**	**9.0608**	**2.3691**	**0.2091**	**2.5782**		**10,866.0735**	**10,866.0735**	**0.3113**		**10,872.6109**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581		2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**		**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.4161	8.6471	15.6085	0.0458	1.2900	0.1705	1.4605	0.3683	0.1568	0.5252		4,294.7431	4,294.7431	0.0330		4,295.4364
Worker	1.9824	2.2922	26.9940	0.0928	7.5442	0.0537	7.5979	2.0009	0.0498	2.0507		6,461.4757	6,461.4757	0.2661		6,467.0631
Total	**3.3985**	**10.9392**	**42.6025**	**0.1386**	**8.8343**	**0.2241**	**9.0584**	**2.3693**	**0.2066**	**2.5759**		**10,756.2188**	**10,756.2188**	**0.2991**		**10,762.4995**

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	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581	0.0000	2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**	**0.0000**	**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.4161	8.6471	15.6085	0.0458	1.2900	0.1705	1.4605	0.3683	0.1568	0.5252		4,294.7431	4,294.7431	0.0330		4,295.4364
Worker	1.9824	2.2922	26.9940	0.0928	7.5442	0.0537	7.5979	2.0009	0.0498	2.0507		6,461.4757	6,461.4757	0.2661		6,467.0631
Total	**3.3985**	**10.9392**	**42.6025**	**0.1386**	**8.8343**	**0.2241**	**9.0584**	**2.3693**	**0.2066**	**2.5759**		**10,756.2188**	**10,756.2188**	**0.2991**		**10,762.4995**

3.5 Building Construction - 2023

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	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557		2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**		**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

3.5 Building Construction - 2023

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	1.3257	7.2989	14.9818	0.0457	1.2903	0.1662	1.4566	0.3685	0.1529	0.5214		4,283.4196	4,283.4196	0.0305		4,284.0601
Worker	1.8794	2.1536	25.3919	0.0927	7.5442	0.0536	7.5978	2.0009	0.0497	2.0506		6,364.4141	6,364.4141	0.2547		6,369.7631
Total	**3.2051**	**9.4525**	**40.3737**	**0.1384**	**8.8346**	**0.2198**	**9.0544**	**2.3694**	**0.2026**	**2.5720**		**10,647.8337**	**10,647.8337**	**0.2852**		**10,653.8232**

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	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557	0.0000	2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**	**0.0000**	**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

3.5 Building Construction - 2023

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	1.3257	7.2989	14.9818	0.0457	1.2903	0.1662	1.4566	0.3685	0.1529	0.5214		4,283.4196	4,283.4196	0.0305		4,284.0601
Worker	1.8794	2.1536	25.3919	0.0927	7.5442	0.0536	7.5978	2.0009	0.0497	2.0506		6,364.4141	6,364.4141	0.2547		6,369.7631
Total	**3.2051**	**9.4525**	**40.3737**	**0.1384**	**8.8346**	**0.2198**	**9.0544**	**2.3694**	**0.2026**	**2.5720**		**10,647.8337**	**10,647.8337**	**0.2852**		**10,653.8232**

3.5 Building Construction - 2024

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	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744		2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**		**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

3.5 Building Construction - 2024

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	1.2929	7.2373	14.6088	0.0457	1.2906	0.1672	1.4578	0.3686	0.1538	0.5224		4,285.0719	4,285.0719	0.0306		4,285.7151
Worker	1.7862	2.0331	24.0453	0.0927	7.5442	0.0535	7.5978	2.0009	0.0497	2.0506		6,277.2127	6,277.2127	0.2448		6,282.3542
Total	**3.0791**	**9.2704**	**38.6540**	**0.1384**	**8.8349**	**0.2207**	**9.0556**	**2.3695**	**0.2035**	**2.5730**		**10,562.2846**	**10,562.2846**	**0.2755**		**10,568.0693**

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	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744	0.0000	2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**	**0.0000**	**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

3.5 Building Construction - 2024

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	1.2929	7.2373	14.6088	0.0457	1.2906	0.1672	1.4578	0.3686	0.1538	0.5224		4,285.0719	4,285.0719	0.0306		4,285.7151
Worker	1.7862	2.0331	24.0453	0.0927	7.5442	0.0535	7.5978	2.0009	0.0497	2.0506		6,277.2127	6,277.2127	0.2448		6,282.3542
Total	**3.0791**	**9.2704**	**38.6540**	**0.1384**	**8.8349**	**0.2207**	**9.0556**	**2.3695**	**0.2035**	**2.5730**		**10,562.2846**	**10,562.2846**	**0.2755**		**10,568.0693**

3.5 Building Construction - 2025

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2025

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	1.2691	7.1835	14.3373	0.0457	1.2910	0.1680	1.4590	0.3687	0.1546	0.5233		4,286.7483	4,286.7483	0.0307		4,287.3939
Worker	1.7086	1.9327	22.9428	0.0927	7.5442	0.0537	7.5979	2.0009	0.0498	2.0508		6,200.3272	6,200.3272	0.2366		6,205.2954
Total	**2.9777**	**9.1161**	**37.2801**	**0.1384**	**8.8352**	**0.2217**	**9.0569**	**2.3697**	**0.2044**	**2.5740**		**10,487.0755**	**10,487.0755**	**0.2673**		**10,492.6893**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2025

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	1.2691	7.1835	14.3373	0.0457	1.2910	0.1680	1.4590	0.3687	0.1546	0.5233		4,286.7483	4,286.7483	0.0307		4,287.3939
Worker	1.7086	1.9327	22.9428	0.0927	7.5442	0.0537	7.5979	2.0009	0.0498	2.0508		6,200.3272	6,200.3272	0.2366		6,205.2954
Total	**2.9777**	**9.1161**	**37.2801**	**0.1384**	**8.8352**	**0.2217**	**9.0569**	**2.3697**	**0.2044**	**2.5740**		**10,487.0755**	**10,487.0755**	**0.2673**		**10,492.6893**

3.5 Building Construction - 2026

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2026

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	1.2380	7.0512	14.0766	0.0457	1.2912	0.1648	1.4560	0.3688	0.1517	0.5205		4,287.5150	4,287.5150	0.0303		4,288.1515
Worker	1.6388	1.8466	21.9993	0.0927	7.5442	0.0540	7.5983	2.0009	0.0501	2.0511		6,133.4306	6,133.4306	0.2294		6,138.2486
Total	**2.8768**	**8.8978**	**36.0759**	**0.1384**	**8.8355**	**0.2189**	**9.0543**	**2.3698**	**0.2018**	**2.5716**		**10,420.9456**	**10,420.9456**	**0.2597**		**10,426.4001**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2026

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	1.2380	7.0512	14.0766	0.0457	1.2912	0.1648	1.4560	0.3688	0.1517	0.5205		4,287.5150	4,287.5150	0.0303		4,288.1515
Worker	1.6388	1.8466	21.9993	0.0927	7.5442	0.0540	7.5983	2.0009	0.0501	2.0511		6,133.4306	6,133.4306	0.2294		6,138.2486
Total	**2.8768**	**8.8978**	**36.0759**	**0.1384**	**8.8355**	**0.2189**	**9.0543**	**2.3698**	**0.2018**	**2.5716**		**10,420.9456**	**10,420.9456**	**0.2597**		**10,426.4001**

3.5 Building Construction - 2027

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2027

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	1.2269	7.0050	13.9616	0.0457	1.2915	0.1652	1.4567	0.3690	0.1520	0.5209		4,288.8979	4,288.8979	0.0304		4,289.5356
Worker	1.5734	1.7695	21.1617	0.0927	7.5442	0.0543	7.5986	2.0009	0.0504	2.0513		6,074.9284	6,074.9284	0.2230		6,079.6117
Total	**2.8004**	**8.7745**	**35.1233**	**0.1384**	**8.8357**	**0.2195**	**9.0553**	**2.3699**	**0.2024**	**2.5723**		**10,363.8262**	**10,363.8262**	**0.2534**		**10,369.1473**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2027

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	1.2269	7.0050	13.9616	0.0457	1.2915	0.1652	1.4567	0.3690	0.1520	0.5209		4,288.8979	4,288.8979	0.0304		4,289.5356
Worker	1.5734	1.7695	21.1617	0.0927	7.5442	0.0543	7.5986	2.0009	0.0504	2.0513		6,074.9284	6,074.9284	0.2230		6,079.6117
Total	**2.8004**	**8.7745**	**35.1233**	**0.1384**	**8.8357**	**0.2195**	**9.0553**	**2.3699**	**0.2024**	**2.5723**		**10,363.8262**	**10,363.8262**	**0.2534**		**10,369.1473**

3.5 Building Construction - 2028

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2028

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	1.2158	6.9571	13.8333	0.0457	1.2918	0.1649	1.4567	0.3691	0.1518	0.5208		4,290.1047	4,290.1047	0.0303		4,290.7418
Worker	1.5122	1.6985	20.4133	0.0927	7.5442	0.0545	7.5988	2.0009	0.0506	2.0515		6,024.2627	6,024.2627	0.2172		6,028.8238
Total	**2.7279**	**8.6556**	**34.2465**	**0.1385**	**8.8360**	**0.2195**	**9.0555**	**2.3700**	**0.2024**	**2.5723**		**10,314.3674**	**10,314.3674**	**0.2475**		**10,319.5656**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2028

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	1.2158	6.9571	13.8333	0.0457	1.2918	0.1649	1.4567	0.3691	0.1518	0.5208		4,290.1047	4,290.1047	0.0303		4,290.7418
Worker	1.5122	1.6985	20.4133	0.0927	7.5442	0.0545	7.5988	2.0009	0.0506	2.0515		6,024.2627	6,024.2627	0.2172		6,028.8238
Total	**2.7279**	**8.6556**	**34.2465**	**0.1385**	**8.8360**	**0.2195**	**9.0555**	**2.3700**	**0.2024**	**2.5723**		**10,314.3674**	**10,314.3674**	**0.2475**		**10,319.5656**

3.5 Building Construction - 2029

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2029

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	1.2024	6.9232	13.6530	0.0457	1.2920	0.1651	1.4571	0.3692	0.1519	0.5210		4,291.2776	4,291.2776	0.0304		4,291.9153
Worker	1.4505	1.6288	19.6788	0.0927	7.5442	0.0547	7.5989	2.0009	0.0507	2.0517		5,980.3195	5,980.3195	0.2115		5,984.7611
Total	**2.6528**	**8.5521**	**33.3318**	**0.1385**	**8.8363**	**0.2198**	**9.0560**	**2.3701**	**0.2026**	**2.5727**		**10,271.5971**	**10,271.5971**	**0.2419**		**10,276.6764**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2029

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	1.2024	6.9232	13.6530	0.0457	1.2920	0.1651	1.4571	0.3692	0.1519	0.5210		4,291.2776	4,291.2776	0.0304		4,291.9153
Worker	1.4505	1.6288	19.6788	0.0927	7.5442	0.0547	7.5989	2.0009	0.0507	2.0517		5,980.3195	5,980.3195	0.2115		5,984.7611
Total	**2.6528**	**8.5521**	**33.3318**	**0.1385**	**8.8363**	**0.2198**	**9.0560**	**2.3701**	**0.2026**	**2.5727**		**10,271.5971**	**10,271.5971**	**0.2419**		**10,276.6764**

3.5 Building Construction - 2030

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	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476		2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**		**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

3.5 Building Construction - 2030

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	1.1896	6.8951	13.5404	0.0458	1.2923	0.1653	1.4575	0.3693	0.1521	0.5213		4,292.3991	4,292.3991	0.0304		4,293.0375
Worker	1.3915	1.5644	19.0396	0.0927	7.5442	0.0548	7.5990	2.0009	0.0508	2.0517		5,942.5806	5,942.5806	0.2062		5,946.9113
Total	**2.5810**	**8.4594**	**32.5800**	**0.1385**	**8.8365**	**0.2200**	**9.0565**	**2.3702**	**0.2028**	**2.5730**		**10,234.9797**	**10,234.9797**	**0.2366**		**10,239.9488**

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	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476	0.0000	2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**	**0.0000**	**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

3.5 Building Construction - 2030

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	1.1896	6.8951	13.5404	0.0458	1.2923	0.1653	1.4575	0.3693	0.1521	0.5213		4,292.3991	4,292.3991	0.0304		4,293.0375
Worker	1.3915	1.5644	19.0396	0.0927	7.5442	0.0548	7.5990	2.0009	0.0508	2.0517		5,942.5806	5,942.5806	0.2062		5,946.9113
Total	**2.5810**	**8.4594**	**32.5800**	**0.1385**	**8.8365**	**0.2200**	**9.0565**	**2.3702**	**0.2028**	**2.5730**		**10,234.9797**	**10,234.9797**	**0.2366**		**10,239.9488**

3.6 Paving - 2030

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234		2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**		**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2030

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	0.0261	0.0293	0.3570	1.7400e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		111.4234	111.4234	3.8700e-003		111.5046
Total	**0.0261**	**0.0293**	**0.3570**	**1.7400e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**111.4234**	**111.4234**	**3.8700e-003**		**111.5046**

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234	0.0000	2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**	**0.0000**	**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2030

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	0.0261	0.0293	0.3570	1.7400e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		111.4234	111.4234	3.8700e-003		111.5046
Total	**0.0261**	**0.0293**	**0.3570**	**1.7400e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**111.4234**	**111.4234**	**3.8700e-003**		**111.5046**

3.6 Paving - 2031

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234		2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**		**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2031

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	0.0250	0.0282	0.3456	1.7400e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		110.8190	110.8190	3.7700e-003		110.8982
Total	**0.0250**	**0.0282**	**0.3456**	**1.7400e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**110.8190**	**110.8190**	**3.7700e-003**		**110.8982**

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234	0.0000	2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**	**0.0000**	**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2031

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	0.0250	0.0282	0.3456	1.7400e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		110.8190	110.8190	3.7700e-003		110.8982
Total	**0.0250**	**0.0282**	**0.3456**	**1.7400e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**110.8190**	**110.8190**	**3.7700e-003**		**110.8982**

3.7 Architectural Coating - 2031

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	212.4368					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.6873
Total	**212.5676**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.6873**

3.7 Architectural Coating - 2031

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	0.2666	0.3002	3.6861	0.0185	1.5089	0.0109	1.5198	0.4002	0.0102	0.4103		1,182.0689	1,182.0689	0.0402		1,182.9139
Total	**0.2666**	**0.3002**	**3.6861**	**0.0185**	**1.5089**	**0.0109**	**1.5198**	**0.4002**	**0.0102**	**0.4103**		**1,182.0689**	**1,182.0689**	**0.0402**		**1,182.9139**

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	212.4368					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.6873
Total	**212.5676**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.6873**

3.7 Architectural Coating - 2031

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	0.2666	0.3002	3.6861	0.0185	1.5089	0.0109	1.5198	0.4002	0.0102	0.4103		1,182.0689	1,182.0689	0.0402		1,182.9139
Total	**0.2666**	**0.3002**	**3.6861**	**0.0185**	**1.5089**	**0.0109**	**1.5198**	**0.4002**	**0.0102**	**0.4103**		**1,182.0689**	**1,182.0689**	**0.0402**		**1,182.9139**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	58.3824	88.1111	462.2842	1.7158	113.8009	2.1696	115.9705	30.4450	2.0034	32.4484		120,840.8371	120,840.8371	3.0797		120,905.5102
Unmitigated	58.3824	88.1111	462.2842	1.7158	113.8009	2.1696	115.9705	30.4450	2.0034	32.4484		120,840.8371	120,840.8371	3.0797		120,905.5102

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	3,908.97	4,248.21	3600.57	8,736,087	8,736,087
General Office Building	773.38	165.98	68.40	1,400,144	1,400,144
Manufacturing	67.03	26.22	10.94	155,286	155,286
Medical Office Building	7,135.83	1,769.85	305.24	10,556,353	10,556,353
Single Family Housing	1,230.79	1,295.92	1127.25	2,735,324	2,735,324
Strip Mall	1,945.41	1,845.09	896.61	2,743,184	2,743,184
Supermarket	11,217.60	19,485.45	18262.80	15,247,634	15,247,634
Total	26,279.01	28,836.72	24,271.81	41,574,013	41,574,013

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
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.544287	0.062956	0.171756	0.119283	0.033776	0.004850	0.017325	0.031479	0.002293	0.003006	0.006870	0.000528	0.001591

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369
NaturalGas Unmitigated	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369

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					
Condo/Townhouse	51306.9	0.5533	4.7283	2.0120	0.0302		0.3823	0.3823		0.3823	0.3823		6,036.1012	6,036.1012	0.1157	0.1107	6,072.8359
General Office Building	5069.72	0.0547	0.4970	0.4175	2.9800e-003		0.0378	0.0378		0.0378	0.0378		596.4377	596.4377	0.0114	0.0109	600.0675
Manufacturing	1604.12	0.0173	0.1573	0.1321	9.4000e-004		0.0120	0.0120		0.0120	0.0120		188.7201	188.7201	3.6200e-003	3.4600e-003	189.8686
Medical Office Building	14258.6	0.1538	1.3979	1.1742	8.3900e-003		0.1062	0.1062		0.1062	0.1062		1,677.4811	1,677.4811	0.0322	0.0308	1,687.6899
Single Family Housing	23343.4	0.2517	2.1513	0.9154	0.0137		0.1739	0.1739		0.1739	0.1739		2,746.2820	2,746.2820	0.0526	0.0504	2,762.9955
Strip Mall	749.589	8.0800e-003	0.0735	0.0617	4.4000e-004		5.5900e-003	5.5900e-003		5.5900e-003	5.5900e-003		88.1870	88.1870	1.6900e-003	1.6200e-003	88.7236
Supermarket	15034.7	0.1621	1.4740	1.2382	8.8400e-003		0.1120	0.1120		0.1120	0.1120		1,768.7913	1,768.7913	0.0339	0.0324	1,779.5559
Total		**1.2010**	**10.4792**	**5.9512**	**0.0655**		**0.8298**	**0.8298**		**0.8298**	**0.8298**		**13,102.0003**	**13,102.0003**	**0.2511**	**0.2402**	**13,181.7369**

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					
Condo/Townhouse	51.3069	0.5533	4.7283	2.0120	0.0302		0.3823	0.3823		0.3823	0.3823		6,036.1012	6,036.1012	0.1157	0.1107	6,072.8359
General Office Building	5.06972	0.0547	0.4970	0.4175	2.9800e-003		0.0378	0.0378		0.0378	0.0378		596.4377	596.4377	0.0114	0.0109	600.0675
Manufacturing	1.60412	0.0173	0.1573	0.1321	9.4000e-004		0.0120	0.0120		0.0120	0.0120		188.7201	188.7201	3.6200e-003	3.4600e-003	189.8686
Medical Office Building	14.2586	0.1538	1.3979	1.1742	8.3900e-003		0.1062	0.1062		0.1062	0.1062		1,677.4811	1,677.4811	0.0322	0.0308	1,687.6899
Single Family Housing	23.3434	0.2517	2.1513	0.9154	0.0137		0.1739	0.1739		0.1739	0.1739		2,746.2820	2,746.2820	0.0526	0.0504	2,762.9955
Strip Mall	0.749589	8.0800e-003	0.0735	0.0617	4.4000e-004		5.5900e-003	5.5900e-003		5.5900e-003	5.5900e-003		88.1870	88.1870	1.6900e-003	1.6200e-003	88.7236
Supermarket	15.0347	0.1621	1.4740	1.2382	8.8400e-003		0.1120	0.1120		0.1120	0.1120		1,768.7913	1,768.7913	0.0339	0.0324	1,779.5559
Total		**1.2010**	**10.4792**	**5.9512**	**0.0655**		**0.8298**	**0.8298**		**0.8298**	**0.8298**		**13,102.0003**	**13,102.0003**	**0.2511**	**0.2402**	**13,181.7369**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591
Unmitigated	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591

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	12.8044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	35.1302					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	2.3110	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294		139.4668	139.4668	0.1330		142.2591
Total	**50.2456**	**0.8902**	**77.1721**	**4.0900e-003**		**0.4294**	**0.4294**		**0.4294**	**0.4294**	**0.0000**	**139.4668**	**139.4668**	**0.1330**	**0.0000**	**142.2591**

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	12.8044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	35.1302					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	2.3110	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294		139.4668	139.4668	0.1330		142.2591
Total	**50.2456**	**0.8902**	**77.1721**	**4.0900e-003**		**0.4294**	**0.4294**		**0.4294**	**0.4294**	**0.0000**	**139.4668**	**139.4668**	**0.1330**	**0.0000**	**142.2591**

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 Vegetation

Ashland Cherryland Business District Specific Plan EIR

San Francisco Bay Area Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	91.20	1000sqft	2.09	91,200.00	0
Medical Office Building	256.50	1000sqft	5.89	256,500.00	0
Manufacturing	22.80	1000sqft	0.52	22,800.00	0
Condo/Townhouse	771.00	Dwelling Unit	48.19	771,000.00	2205
Single Family Housing	167.00	Dwelling Unit	54.22	300,600.00	478
Strip Mall	57.00	1000sqft	1.31	57,000.00	0
Supermarket	142.50	1000sqft	3.27	142,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 570,000 square feet of non-residential space broken out by Retail (10%), Manufacturing (4%), Office (16%), Medical Office (45%), and (25%) Other (assumed to be supermarket retail).

Construction Phase -

Vehicle Trips - Average MXD reduction of 23% was applied to trip rates.

Woodstoves - Assumed compliance with Alameda County Ordinance prohibiting wood burning fireplaces and woodstoves in new development.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	424.05	0.00
tblFireplaces	NumberGas	91.85	0.00
tblFireplaces	NumberNoFireplace	7.71	0.00
tblFireplaces	NumberNoFireplace	11.69	0.00
tblFireplaces	NumberWood	107.94	0.00
tblFireplaces	NumberWood	83.50	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	5.51
tblVehicleTrips	ST_TR	2.37	1.82
tblVehicleTrips	ST_TR	1.49	1.15
tblVehicleTrips	ST_TR	8.96	6.90
tblVehicleTrips	ST_TR	10.08	7.76
tblVehicleTrips	ST_TR	42.04	32.37
tblVehicleTrips	ST_TR	177.59	136.74
tblVehicleTrips	SU_TR	6.07	4.67

tblVehicleTrips	SU_TR	0.98	0.75
tblVehicleTrips	SU_TR	0.62	0.48
tblVehicleTrips	SU_TR	1.55	1.19
tblVehicleTrips	SU_TR	8.77	6.75
tblVehicleTrips	SU_TR	20.43	15.73
tblVehicleTrips	SU_TR	166.44	128.16
tblVehicleTrips	WD_TR	6.59	5.07
tblVehicleTrips	WD_TR	11.01	8.48
tblVehicleTrips	WD_TR	3.82	2.94
tblVehicleTrips	WD_TR	36.13	27.82
tblVehicleTrips	WD_TR	9.57	7.37
tblVehicleTrips	WD_TR	44.32	34.13
tblVehicleTrips	WD_TR	102.24	78.72
tblWoodstoves	NumberCatalytic	15.42	0.00
tblWoodstoves	NumberCatalytic	5.84	0.00
tblWoodstoves	NumberNoncatalytic	15.42	0.00
tblWoodstoves	NumberNoncatalytic	5.84	0.00
tblWoodstoves	WoodstoveDayYear	2.59	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	5.1505	54.7405	42.1037	0.0415	18.2360	2.9400	21.1760	9.9757	2.7048	12.6805	0.0000	4,226.8900	4,226.8900	1.2352	0.0000	4,252.8281
2017	6.1713	69.6996	47.7881	0.0638	18.2360	3.3186	20.9915	9.9757	3.0532	12.5108	0.0000	6,486.3886	6,486.3886	1.9435	0.0000	6,527.2028
2018	7.4487	59.6307	83.5818	0.1583	8.8619	2.7894	11.6514	3.6465	2.5663	6.2128	0.0000	13,720.6256	13,720.6256	1.9425	0.0000	13,761.4187
2019	6.7196	39.0800	78.5579	0.1582	8.8337	1.5567	10.3904	2.3691	1.4586	3.8276	0.0000	13,375.2415	13,375.2415	0.9747	0.0000	13,395.7099
2020	6.1278	34.7713	74.4628	0.1581	8.8336	1.3608	10.1945	2.3690	1.2750	3.6440	0.0000	12,978.1017	12,978.1017	0.9467	0.0000	12,997.9812
2021	5.6886	30.5968	71.3555	0.1580	8.8339	1.1832	10.0172	2.3691	1.1083	3.4775	0.0000	12,864.7572	12,864.7572	0.9249	0.0000	12,884.1807
2022	5.3176	27.4152	68.3285	0.1580	8.8343	1.0313	9.8656	2.3693	0.9661	3.3353	0.0000	12,763.6709	12,763.6709	0.9087	0.0000	12,782.7531
2023	4.9743	24.5931	65.5838	0.1578	8.8346	0.9178	9.7524	2.3694	0.8595	3.2289	0.0000	12,663.1262	12,663.1262	0.8907	0.0000	12,681.8311
2024	4.7304	23.4381	63.3860	0.1578	8.8349	0.8326	9.6675	2.3695	0.7791	3.1486	0.0000	12,584.2645	12,584.2645	0.8775	0.0000	12,602.6913
2025	4.5126	22.2849	61.6581	0.1578	8.8352	0.7480	9.5832	2.3697	0.6995	3.0692	0.0000	12,515.3021	12,515.3021	0.8659	0.0000	12,533.4866
2026	4.4022	22.0356	60.2490	0.1578	8.8355	0.7452	9.5807	2.3698	0.6969	3.0667	0.0000	12,453.9411	12,453.9411	0.8583	0.0000	12,471.9663
2027	4.3229	21.8890	59.2283	0.1578	8.8357	0.7459	9.5816	2.3699	0.6975	3.0674	0.0000	12,400.9278	12,400.9278	0.8520	0.0000	12,418.8196
2028	4.2472	21.7484	58.2514	0.1578	8.8360	0.7458	9.5818	2.3700	0.6975	3.0675	0.0000	12,354.9581	12,354.9581	0.8461	0.0000	12,372.7270
2029	4.1676	21.6243	57.1615	0.1578	8.8363	0.7461	9.5824	2.3701	0.6977	3.0678	0.0000	12,315.1149	12,315.1149	0.8405	0.0000	12,332.7649
2030	4.0385	17.0209	56.4364	0.1618	8.8365	0.3690	9.2054	2.3702	0.3517	2.7219	0.0000	12,619.8983	12,619.8983	0.3535	0.0000	12,627.3218
2031	212.8292	7.0147	15.8384	0.0291	1.5089	0.3244	1.5401	0.4002	0.3243	0.4306	0.0000	2,702.0955	2,702.0955	0.1257	0.0000	2,704.7341
Total	**290.8490**	**497.5831**	**963.9711**	**2.1912**	**152.8629**	**20.3550**	**172.3616**	**52.4331**	**18.9359**	**70.5571**	**0.0000**	**179,025.3040**	**179,025.3040**	**15.3864**	**0.0000**	**179,348.4172**

2.1 Overall Construction (Maximum Daily Emission)

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					
2016	5.1505	54.7405	42.1037	0.0415	18.2360	2.9400	21.1760	9.9757	2.7048	12.6805	0.0000	4,226.8900	4,226.8900	1.2352	0.0000	4,252.8281
2017	6.1713	69.6996	47.7881	0.0638	18.2360	3.3186	20.9915	9.9757	3.0532	12.5108	0.0000	6,486.3886	6,486.3886	1.9435	0.0000	6,527.2028
2018	7.4487	59.6307	83.5818	0.1583	8.8619	2.7894	11.6514	3.6465	2.5663	6.2128	0.0000	13,720.6256	13,720.6256	1.9425	0.0000	13,761.4187
2019	6.7196	39.0800	78.5579	0.1582	8.8337	1.5567	10.3904	2.3691	1.4586	3.8276	0.0000	13,375.2415	13,375.2415	0.9747	0.0000	13,395.7099
2020	6.1278	34.7713	74.4628	0.1581	8.8336	1.3608	10.1945	2.3690	1.2750	3.6440	0.0000	12,978.1017	12,978.1017	0.9467	0.0000	12,997.9812
2021	5.6886	30.5968	71.3555	0.1580	8.8339	1.1832	10.0172	2.3691	1.1083	3.4775	0.0000	12,864.7572	12,864.7572	0.9249	0.0000	12,884.1807
2022	5.3176	27.4152	68.3285	0.1580	8.8343	1.0313	9.8656	2.3693	0.9661	3.3353	0.0000	12,763.6709	12,763.6709	0.9087	0.0000	12,782.7531
2023	4.9743	24.5931	65.5838	0.1578	8.8346	0.9178	9.7524	2.3694	0.8595	3.2289	0.0000	12,663.1262	12,663.1262	0.8907	0.0000	12,681.8311
2024	4.7304	23.4381	63.3860	0.1578	8.8349	0.8326	9.6675	2.3695	0.7791	3.1486	0.0000	12,584.2645	12,584.2645	0.8775	0.0000	12,602.6913
2025	4.5126	22.2849	61.6581	0.1578	8.8352	0.7480	9.5832	2.3697	0.6995	3.0692	0.0000	12,515.3021	12,515.3021	0.8659	0.0000	12,533.4865
2026	4.4022	22.0356	60.2490	0.1578	8.8355	0.7452	9.5807	2.3698	0.6969	3.0667	0.0000	12,453.9411	12,453.9411	0.8583	0.0000	12,471.9663
2027	4.3229	21.8890	59.2283	0.1578	8.8357	0.7459	9.5816	2.3699	0.6975	3.0674	0.0000	12,400.9278	12,400.9278	0.8520	0.0000	12,418.8196
2028	4.2472	21.7484	58.2514	0.1578	8.8360	0.7458	9.5818	2.3700	0.6975	3.0675	0.0000	12,354.9581	12,354.9581	0.8461	0.0000	12,372.7270
2029	4.1676	21.6243	57.1615	0.1578	8.8363	0.7461	9.5824	2.3701	0.6977	3.0678	0.0000	12,315.1149	12,315.1149	0.8405	0.0000	12,332.7649
2030	4.0385	17.0209	56.4364	0.1618	8.8365	0.3690	9.2054	2.3702	0.3517	2.7219	0.0000	12,619.8983	12,619.8983	0.3535	0.0000	12,627.3218
2031	212.8292	7.0147	15.8384	0.0291	1.5089	0.3244	1.5401	0.4002	0.3243	0.4306	0.0000	2,702.0955	2,702.0955	0.1257	0.0000	2,704.7341
Total	**290.8490**	**497.5831**	**963.9711**	**2.1912**	**152.8629**	**20.3550**	**172.3616**	**52.4331**	**18.9359**	**70.5571**	**0.0000**	**179,025.3040**	**179,025.3040**	**15.3864**	**0.0000**	**179,348.4171**

	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	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591
Energy	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369
Mobile	61.0960	96.5135	585.6308	1.6137	113.8009	2.1822	115.9831	30.4450	2.0150	32.4600		114,095.4698	114,095.4698	3.0914		114,160.3887
Total	**112.5426**	**107.8829**	**668.7541**	**1.6833**	**113.8009**	**3.4413**	**117.2423**	**30.4450**	**3.2741**	**33.7191**	**0.0000**	**127,336.9369**	**127,336.9369**	**3.4755**	**0.2402**	**127,484.3848**

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	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591
Energy	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369
Mobile	61.0960	96.5135	585.6308	1.6137	113.8009	2.1822	115.9831	30.4450	2.0150	32.4600		114,095.4698	114,095.4698	3.0914		114,160.3887
Total	**112.5426**	**107.8829**	**668.7541**	**1.6833**	**113.8009**	**3.4413**	**117.2423**	**30.4450**	**3.2741**	**33.7191**	**0.0000**	**127,336.9369**	**127,336.9369**	**3.4755**	**0.2402**	**127,484.3848**

	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

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	1/1/2016	10/6/2016	5	200	
2	Site Preparation	Site Preparation	10/7/2016	3/23/2017	5	120	
3	Grading	Grading	3/24/2017	5/31/2018	5	310	
4	Building Construction	Building Construction	6/1/2018	4/18/2030	5	3100	
5	Paving	Paving	4/19/2030	2/20/2031	5	220	
6	Architectural Coating	Architectural Coating	2/21/2031	12/25/2031	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 0

Residential Indoor: 2,169,990; Residential Outdoor: 723,330; Non-Residential Indoor: 855,000; Non-Residential Outdoor: 285,000 (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	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	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	125	0.42
Paving	Paving Equipment	2	8.00	130	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	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	800.00	194.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

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	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**		**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.0612	0.0901	0.8320	1.6100e-003	0.1415	1.1400e-003	0.1426	0.0375	1.0400e-003	0.0386		134.9040	134.9040	7.5000e-003		135.0615
Total	**0.0612**	**0.0901**	**0.8320**	**1.6100e-003**	**0.1415**	**1.1400e-003**	**0.1426**	**0.0375**	**1.0400e-003**	**0.0386**		**134.9040**	**134.9040**	**7.5000e-003**		**135.0615**

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	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	**4.2876**	**45.6559**	**35.0303**	**0.0399**		**2.2921**	**2.2921**		**2.1365**	**2.1365**	**0.0000**	**4,089.2841**	**4,089.2841**	**1.1121**		**4,112.6374**

3.2 Demolition - 2016

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	0.0612	0.0901	0.8320	1.6100e-003	0.1415	1.1400e-003	0.1426	0.0375	1.0400e-003	0.0386		134.9040	134.9040	7.5000e-003		135.0615
Total	**0.0612**	**0.0901**	**0.8320**	**1.6100e-003**	**0.1415**	**1.1400e-003**	**0.1426**	**0.0375**	**1.0400e-003**	**0.0386**		**134.9040**	**134.9040**	**7.5000e-003**		**135.0615**

3.3 Site Preparation - 2016

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	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**		**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0734	0.1082	0.9984	1.9300e-003	0.1698	1.3600e-003	0.1711	0.0450	1.2500e-003	0.0463		161.8848	161.8848	9.0000e-003		162.0737
Total	**0.0734**	**0.1082**	**0.9984**	**1.9300e-003**	**0.1698**	**1.3600e-003**	**0.1711**	**0.0450**	**1.2500e-003**	**0.0463**		**161.8848**	**161.8848**	**9.0000e-003**		**162.0737**

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	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	**5.0771**	**54.6323**	**41.1053**	**0.0391**	**18.0663**	**2.9387**	**21.0049**	**9.9307**	**2.7036**	**12.6343**	**0.0000**	**4,065.0053**	**4,065.0053**	**1.2262**		**4,090.7544**

3.3 Site Preparation - 2016

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	0.0734	0.1082	0.9984	1.9300e-003	0.1698	1.3600e-003	0.1711	0.0450	1.2500e-003	0.0463		161.8848	161.8848	9.0000e-003		162.0737
Total	**0.0734**	**0.1082**	**0.9984**	**1.9300e-003**	**0.1698**	**1.3600e-003**	**0.1711**	**0.0450**	**1.2500e-003**	**0.0463**		**161.8848**	**161.8848**	**9.0000e-003**		**162.0737**

3.3 Site Preparation - 2017

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	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339		4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**		**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

3.3 Site Preparation - 2017

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	0.0650	0.0969	0.8848	1.9300e-003	0.1698	1.3000e-003	0.1711	0.0450	1.2000e-003	0.0462		155.7176	155.7176	8.2200e-003		155.8902
Total	**0.0650**	**0.0969**	**0.8848**	**1.9300e-003**	**0.1698**	**1.3000e-003**	**0.1711**	**0.0450**	**1.2000e-003**	**0.0462**		**155.7176**	**155.7176**	**8.2200e-003**		**155.8902**

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	4.8382	51.7535	39.3970	0.0391		2.7542	2.7542		2.5339	2.5339	0.0000	4,003.0859	4,003.0859	1.2265		4,028.8432
Total	**4.8382**	**51.7535**	**39.3970**	**0.0391**	**18.0663**	**2.7542**	**20.8205**	**9.9307**	**2.5339**	**12.4646**	**0.0000**	**4,003.0859**	**4,003.0859**	**1.2265**		**4,028.8432**

3.3 Site Preparation - 2017

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	0.0650	0.0969	0.8848	1.9300e-003	0.1698	1.3000e-003	0.1711	0.0450	1.2000e-003	0.0462		155.7176	155.7176	8.2200e-003		155.8902
Total	**0.0650**	**0.0969**	**0.8848**	**1.9300e-003**	**0.1698**	**1.3000e-003**	**0.1711**	**0.0450**	**1.2000e-003**	**0.0462**		**155.7176**	**155.7176**	**8.2200e-003**		**155.8902**

3.4 Grading - 2017

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518		6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**8.6733**	**3.3172**	**11.9905**	**3.5965**	**3.0518**	**6.6483**		**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

3.4 Grading - 2017

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	0.0722	0.1076	0.9831	2.1400e-003	0.1886	1.4400e-003	0.1901	0.0500	1.3300e-003	0.0514		173.0196	173.0196	9.1300e-003		173.2113
Total	**0.0722**	**0.1076**	**0.9831**	**2.1400e-003**	**0.1886**	**1.4400e-003**	**0.1901**	**0.0500**	**1.3300e-003**	**0.0514**		**173.0196**	**173.0196**	**9.1300e-003**		**173.2113**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.0991	69.5920	46.8050	0.0617		3.3172	3.3172		3.0518	3.0518	0.0000	6,313.3690	6,313.3690	1.9344		6,353.9915
Total	**6.0991**	**69.5920**	**46.8050**	**0.0617**	**8.6733**	**3.3172**	**11.9905**	**3.5965**	**3.0518**	**6.6483**	**0.0000**	**6,313.3690**	**6,313.3690**	**1.9344**		**6,353.9915**

3.4 Grading - 2017

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	0.0722	0.1076	0.9831	2.1400e-003	0.1886	1.4400e-003	0.1901	0.0500	1.3300e-003	0.0514		173.0196	173.0196	9.1300e-003		173.2113
Total	**0.0722**	**0.1076**	**0.9831**	**2.1400e-003**	**0.1886**	**1.4400e-003**	**0.1901**	**0.0500**	**1.3300e-003**	**0.0514**		**173.0196**	**173.0196**	**9.1300e-003**		**173.2113**

3.4 Grading - 2018

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650		6,212.8042	6,212.8042	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**8.6733**	**2.7880**	**11.4614**	**3.5965**	**2.5650**	**6.1615**		**6,212.8042**	**6,212.8042**	**1.9341**		**6,253.4209**

3.4 Grading - 2018

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	0.0642	0.0969	0.8758	2.1400e-003	0.1886	1.4000e-003	0.1900	0.0500	1.2900e-003	0.0513		166.5989	166.5989	8.4000e-003		166.7752
Total	**0.0642**	**0.0969**	**0.8758**	**2.1400e-003**	**0.1886**	**1.4000e-003**	**0.1900**	**0.0500**	**1.2900e-003**	**0.0513**		**166.5989**	**166.5989**	**8.4000e-003**		**166.7752**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.2895	59.5338	42.3068	0.0617		2.7880	2.7880		2.5650	2.5650	0.0000	6,212.8041	6,212.8041	1.9341		6,253.4209
Total	**5.2895**	**59.5338**	**42.3068**	**0.0617**	**8.6733**	**2.7880**	**11.4614**	**3.5965**	**2.5650**	**6.1615**	**0.0000**	**6,212.8041**	**6,212.8041**	**1.9341**		**6,253.4209**

3.4 Grading - 2018

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	0.0642	0.0969	0.8758	2.1400e-003	0.1886	1.4000e-003	0.1900	0.0500	1.2900e-003	0.0513		166.5989	166.5989	8.4000e-003		166.7752
Total	**0.0642**	**0.0969**	**0.8758**	**2.1400e-003**	**0.1886**	**1.4000e-003**	**0.1900**	**0.0500**	**1.2900e-003**	**0.0513**		**166.5989**	**166.5989**	**8.4000e-003**		**166.7752**

3.5 Building Construction - 2018

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	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

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	2.2103	15.9738	31.0168	0.0459	1.2896	0.2336	1.5232	0.3682	0.2149	0.5830		4,446.7322	4,446.7322	0.0352		4,447.4707
Worker	2.5698	3.8774	35.0323	0.0856	7.5442	0.0558	7.6001	2.0009	0.0516	2.0526		6,663.9545	6,663.9545	0.3359		6,671.0081
Total	**4.7801**	**19.8512**	**66.0491**	**0.1315**	**8.8338**	**0.2895**	**9.1233**	**2.3691**	**0.2665**	**2.6356**		**11,110.6866**	**11,110.6866**	**0.3711**		**11,118.4788**

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	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048	0.0000	2,609.9389	2,609.9389	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**	**0.0000**	**2,609.9389**	**2,609.9389**	**0.6387**		**2,623.3517**

3.5 Building Construction - 2018

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	2.2103	15.9738	31.0168	0.0459	1.2896	0.2336	1.5232	0.3682	0.2149	0.5830		4,446.7322	4,446.7322	0.0352		4,447.4707
Worker	2.5698	3.8774	35.0323	0.0856	7.5442	0.0558	7.6001	2.0009	0.0516	2.0526		6,663.9545	6,663.9545	0.3359		6,671.0081
Total	**4.7801**	**19.8512**	**66.0491**	**0.1315**	**8.8338**	**0.2895**	**9.1233**	**2.3691**	**0.2665**	**2.6356**		**11,110.6866**	**11,110.6866**	**0.3711**		**11,118.4788**

3.5 Building Construction - 2019

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	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.5 Building Construction - 2019

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	2.0313	14.5821	29.7322	0.0458	1.2895	0.2171	1.5065	0.3681	0.1996	0.5678		4,370.1916	4,370.1916	0.0344		4,370.9134
Worker	2.3367	3.5328	31.7053	0.0855	7.5442	0.0546	7.5989	2.0009	0.0506	2.0516		6,424.2882	6,424.2882	0.3124		6,430.8487
Total	**4.3680**	**18.1149**	**61.4376**	**0.1314**	**8.8337**	**0.2717**	**9.1054**	**2.3691**	**0.2503**	**2.6193**		**10,794.4798**	**10,794.4798**	**0.3468**		**10,801.7620**

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	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.5 Building Construction - 2019

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	2.0313	14.5821	29.7322	0.0458	1.2895	0.2171	1.5065	0.3681	0.1996	0.5678		4,370.1916	4,370.1916	0.0344		4,370.9134
Worker	2.3367	3.5328	31.7053	0.0855	7.5442	0.0546	7.5989	2.0009	0.0506	2.0516		6,424.2882	6,424.2882	0.3124		6,430.8487
Total	**4.3680**	**18.1149**	**61.4376**	**0.1314**	**8.8337**	**0.2717**	**9.1054**	**2.3691**	**0.2503**	**2.6193**		**10,794.4798**	**10,794.4798**	**0.3468**		**10,801.7620**

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	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

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	1.8475	12.4349	28.5006	0.0458	1.2894	0.1940	1.4834	0.3681	0.1785	0.5466		4,269.6250	4,269.6250	0.0334		4,270.3259
Worker	2.1690	3.2525	29.1538	0.0855	7.5442	0.0540	7.5982	2.0009	0.0501	2.0510		6,165.9967	6,165.9967	0.2938		6,172.1673
Total	**4.0165**	**15.6874**	**57.6544**	**0.1313**	**8.8336**	**0.2480**	**9.0816**	**2.3690**	**0.2285**	**2.5976**		**10,435.6218**	**10,435.6218**	**0.3272**		**10,442.4932**

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	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465	0.0000	2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**	**0.0000**	**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

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	1.8475	12.4349	28.5006	0.0458	1.2894	0.1940	1.4834	0.3681	0.1785	0.5466		4,269.6250	4,269.6250	0.0334		4,270.3259
Worker	2.1690	3.2525	29.1538	0.0855	7.5442	0.0540	7.5982	2.0009	0.0501	2.0510		6,165.9967	6,165.9967	0.2938		6,172.1673
Total	**4.0165**	**15.6874**	**57.6544**	**0.1313**	**8.8336**	**0.2480**	**9.0816**	**2.3690**	**0.2285**	**2.5976**		**10,435.6218**	**10,435.6218**	**0.3272**		**10,442.4932**

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	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979		2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**		**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

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	1.7499	10.2283	27.6205	0.0457	1.2897	0.1746	1.4643	0.3682	0.1606	0.5288		4,264.4231	4,264.4231	0.0334		4,265.1236
Worker	2.0456	3.0283	27.1973	0.0855	7.5442	0.0538	7.5980	2.0009	0.0499	2.0508		6,057.5524	6,057.5524	0.2790		6,063.4109
Total	**3.7955**	**13.2566**	**54.8178**	**0.1312**	**8.8339**	**0.2283**	**9.0623**	**2.3691**	**0.2105**	**2.5796**		**10,321.9754**	**10,321.9754**	**0.3123**		**10,328.5345**

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	1.8931	17.3403	16.5376	0.0268		0.9549	0.9549		0.8979	0.8979	0.0000	2,542.7817	2,542.7817	0.6126		2,555.6462
Total	**1.8931**	**17.3403**	**16.5376**	**0.0268**		**0.9549**	**0.9549**		**0.8979**	**0.8979**	**0.0000**	**2,542.7817**	**2,542.7817**	**0.6126**		**2,555.6462**

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	1.7499	10.2283	27.6205	0.0457	1.2897	0.1746	1.4643	0.3682	0.1606	0.5288		4,264.4231	4,264.4231	0.0334		4,265.1236
Worker	2.0456	3.0283	27.1973	0.0855	7.5442	0.0538	7.5980	2.0009	0.0499	2.0508		6,057.5524	6,057.5524	0.2790		6,063.4109
Total	**3.7955**	**13.2566**	**54.8178**	**0.1312**	**8.8339**	**0.2283**	**9.0623**	**2.3691**	**0.2105**	**2.5796**		**10,321.9754**	**10,321.9754**	**0.3123**		**10,328.5345**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581		2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**		**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.6830	9.0461	26.5558	0.0456	1.2900	0.1719	1.4619	0.3683	0.1582	0.5265		4,261.4778	4,261.4778	0.0341		4,262.1937
Worker	1.9355	2.8327	25.4452	0.0855	7.5442	0.0537	7.5979	2.0009	0.0498	2.0507		5,958.4434	5,958.4434	0.2661		5,964.0308
Total	**3.6185**	**11.8788**	**52.0010**	**0.1311**	**8.8343**	**0.2256**	**9.0598**	**2.3693**	**0.2079**	**2.5772**		**10,219.9212**	**10,219.9212**	**0.3002**		**10,226.2245**

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	1.6992	15.5364	16.3276	0.0268		0.8057	0.8057		0.7581	0.7581	0.0000	2,543.7497	2,543.7497	0.6085		2,556.5286
Total	**1.6992**	**15.5364**	**16.3276**	**0.0268**		**0.8057**	**0.8057**		**0.7581**	**0.7581**	**0.0000**	**2,543.7497**	**2,543.7497**	**0.6085**		**2,556.5286**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.6830	9.0461	26.5558	0.0456	1.2900	0.1719	1.4619	0.3683	0.1582	0.5265		4,261.4778	4,261.4778	0.0341		4,262.1937
Worker	1.9355	2.8327	25.4452	0.0855	7.5442	0.0537	7.5979	2.0009	0.0498	2.0507		5,958.4434	5,958.4434	0.2661		5,964.0308
Total	**3.6185**	**11.8788**	**52.0010**	**0.1311**	**8.8343**	**0.2256**	**9.0598**	**2.3693**	**0.2079**	**2.5772**		**10,219.9212**	**10,219.9212**	**0.3002**		**10,226.2245**

3.5 Building Construction - 2023

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	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557		2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**		**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

3.5 Building Construction - 2023

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	1.5746	7.6211	25.5216	0.0455	1.2903	0.1676	1.4579	0.3685	0.1542	0.5226		4,250.1376	4,250.1376	0.0316		4,250.8006
Worker	1.8336	2.6594	23.8529	0.0855	7.5442	0.0536	7.5978	2.0009	0.0497	2.0506		5,868.3624	5,868.3624	0.2547		5,873.7114
Total	**3.4082**	**10.2805**	**49.3745**	**0.1310**	**8.8346**	**0.2211**	**9.0557**	**2.3694**	**0.2038**	**2.5732**		**10,118.5000**	**10,118.5000**	**0.2863**		**10,124.5120**

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	1.5661	14.3126	16.2093	0.0268		0.6967	0.6967		0.6557	0.6557	0.0000	2,544.6262	2,544.6262	0.6044		2,557.3191
Total	**1.5661**	**14.3126**	**16.2093**	**0.0268**		**0.6967**	**0.6967**		**0.6557**	**0.6557**	**0.0000**	**2,544.6262**	**2,544.6262**	**0.6044**		**2,557.3191**

3.5 Building Construction - 2023

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	1.5746	7.6211	25.5216	0.0455	1.2903	0.1676	1.4579	0.3685	0.1542	0.5226		4,250.1376	4,250.1376	0.0316		4,250.8006
Worker	1.8336	2.6594	23.8529	0.0855	7.5442	0.0536	7.5978	2.0009	0.0497	2.0506		5,868.3624	5,868.3624	0.2547		5,873.7114
Total	**3.4082**	**10.2805**	**49.3745**	**0.1310**	**8.8346**	**0.2211**	**9.0557**	**2.3694**	**0.2038**	**2.5732**		**10,118.5000**	**10,118.5000**	**0.2863**		**10,124.5120**

3.5 Building Construction - 2024

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	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744		2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**		**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

3.5 Building Construction - 2024

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	1.5232	7.5520	24.7327	0.0455	1.2906	0.1685	1.4592	0.3686	0.1550	0.5236		4,251.7883	4,251.7883	0.0317		4,252.4540
Worker	1.7419	2.5088	22.5201	0.0855	7.5442	0.0535	7.5978	2.0009	0.0497	2.0506		5,787.3609	5,787.3609	0.2448		5,792.5024
Total	**3.2651**	**10.0607**	**47.2528**	**0.1310**	**8.8349**	**0.2221**	**9.0569**	**2.3695**	**0.2047**	**2.5742**		**10,039.1491**	**10,039.1491**	**0.2765**		**10,044.9564**

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	1.4653	13.3774	16.1332	0.0268		0.6106	0.6106		0.5744	0.5744	0.0000	2,545.1154	2,545.1154	0.6009		2,557.7349
Total	**1.4653**	**13.3774**	**16.1332**	**0.0268**		**0.6106**	**0.6106**		**0.5744**	**0.5744**	**0.0000**	**2,545.1154**	**2,545.1154**	**0.6009**		**2,557.7349**

3.5 Building Construction - 2024

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	1.5232	7.5520	24.7327	0.0455	1.2906	0.1685	1.4592	0.3686	0.1550	0.5236		4,251.7883	4,251.7883	0.0317		4,252.4540
Worker	1.7419	2.5088	22.5201	0.0855	7.5442	0.0535	7.5978	2.0009	0.0497	2.0506		5,787.3609	5,787.3609	0.2448		5,792.5024
Total	**3.2651**	**10.0607**	**47.2528**	**0.1310**	**8.8349**	**0.2221**	**9.0569**	**2.3695**	**0.2047**	**2.5742**		**10,039.1491**	**10,039.1491**	**0.2765**		**10,044.9564**

3.5 Building Construction - 2025

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2025

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	1.4855	7.4918	24.1721	0.0455	1.2910	0.1693	1.4603	0.3687	0.1558	0.5245		4,253.4634	4,253.4634	0.0318		4,254.1316
Worker	1.6657	2.3834	21.4342	0.0854	7.5442	0.0537	7.5979	2.0009	0.0498	2.0508		5,715.9482	5,715.9482	0.2366		5,720.9164
Total	**3.1512**	**9.8752**	**45.6063**	**0.1310**	**8.8352**	**0.2230**	**9.0582**	**2.3697**	**0.2056**	**2.5753**		**9,969.4116**	**9,969.4116**	**0.2684**		**9,975.0480**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2025

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	1.4855	7.4918	24.1721	0.0455	1.2910	0.1693	1.4603	0.3687	0.1558	0.5245		4,253.4634	4,253.4634	0.0318		4,254.1316
Worker	1.6657	2.3834	21.4342	0.0854	7.5442	0.0537	7.5979	2.0009	0.0498	2.0508		5,715.9482	5,715.9482	0.2366		5,720.9164
Total	**3.1512**	**9.8752**	**45.6063**	**0.1310**	**8.8352**	**0.2230**	**9.0582**	**2.3697**	**0.2056**	**2.5753**		**9,969.4116**	**9,969.4116**	**0.2684**		**9,975.0480**

3.5 Building Construction - 2026

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2026

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	1.4431	7.3497	23.6899	0.0455	1.2912	0.1662	1.4574	0.3688	0.1529	0.5217		4,254.2294	4,254.2294	0.0314		4,254.8885
Worker	1.5976	2.2762	20.5073	0.0854	7.5442	0.0540	7.5983	2.0009	0.0501	2.0511		5,653.8212	5,653.8212	0.2294		5,658.6392
Total	**3.0408**	**9.6259**	**44.1972**	**0.1309**	**8.8355**	**0.2202**	**9.0557**	**2.3698**	**0.2030**	**2.5728**		**9,908.0505**	**9,908.0505**	**0.2608**		**9,913.5277**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2026

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	1.4431	7.3497	23.6899	0.0455	1.2912	0.1662	1.4574	0.3688	0.1529	0.5217		4,254.2294	4,254.2294	0.0314		4,254.8885
Worker	1.5976	2.2762	20.5073	0.0854	7.5442	0.0540	7.5983	2.0009	0.0501	2.0511		5,653.8212	5,653.8212	0.2294		5,658.6392
Total	**3.0408**	**9.6259**	**44.1972**	**0.1309**	**8.8355**	**0.2202**	**9.0557**	**2.3698**	**0.2030**	**2.5728**		**9,908.0505**	**9,908.0505**	**0.2608**		**9,913.5277**

3.5 Building Construction - 2027

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2027

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	1.4271	7.2992	23.4906	0.0455	1.2915	0.1665	1.4580	0.3690	0.1532	0.5222		4,255.6115	4,255.6115	0.0315		4,256.2719
Worker	1.5343	2.1801	19.6860	0.0854	7.5442	0.0543	7.5986	2.0009	0.0504	2.0513		5,599.4258	5,599.4258	0.2230		5,604.1091
Total	**2.9614**	**9.4793**	**43.1765**	**0.1309**	**8.8357**	**0.2209**	**9.0566**	**2.3699**	**0.2036**	**2.5735**		**9,855.0373**	**9,855.0373**	**0.2545**		**9,860.3810**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2027

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	1.4271	7.2992	23.4906	0.0455	1.2915	0.1665	1.4580	0.3690	0.1532	0.5222		4,255.6115	4,255.6115	0.0315		4,256.2719
Worker	1.5343	2.1801	19.6860	0.0854	7.5442	0.0543	7.5986	2.0009	0.0504	2.0513		5,599.4258	5,599.4258	0.2230		5,604.1091
Total	**2.9614**	**9.4793**	**43.1765**	**0.1309**	**8.8357**	**0.2209**	**9.0566**	**2.3699**	**0.2036**	**2.5735**		**9,855.0373**	**9,855.0373**	**0.2545**		**9,860.3810**

3.5 Building Construction - 2028

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2028

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	1.4101	7.2472	23.2448	0.0455	1.2918	0.1663	1.4580	0.3691	0.1530	0.5220		4,256.8176	4,256.8176	0.0314		4,257.4773
Worker	1.4757	2.0916	18.9548	0.0854	7.5442	0.0545	7.5988	2.0009	0.0506	2.0515		5,552.2500	5,552.2500	0.2172		5,556.8111
Total	**2.8857**	**9.3388**	**42.1997**	**0.1309**	**8.8360**	**0.2208**	**9.0568**	**2.3700**	**0.2036**	**2.5736**		**9,809.0676**	**9,809.0676**	**0.2486**		**9,814.2885**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2028

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	1.4101	7.2472	23.2448	0.0455	1.2918	0.1663	1.4580	0.3691	0.1530	0.5220		4,256.8176	4,256.8176	0.0314		4,257.4773
Worker	1.4757	2.0916	18.9548	0.0854	7.5442	0.0545	7.5988	2.0009	0.0506	2.0515		5,552.2500	5,552.2500	0.2172		5,556.8111
Total	**2.8857**	**9.3388**	**42.1997**	**0.1309**	**8.8360**	**0.2208**	**9.0568**	**2.3700**	**0.2036**	**2.5736**		**9,809.0676**	**9,809.0676**	**0.2486**		**9,814.2885**

3.5 Building Construction - 2029

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939		2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**		**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2029

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	1.3886	7.2099	22.8700	0.0455	1.2920	0.1664	1.4584	0.3692	0.1531	0.5223		4,257.9898	4,257.9898	0.0315		4,258.6502
Worker	1.4175	2.0047	18.2397	0.0854	7.5442	0.0547	7.5989	2.0009	0.0507	2.0517		5,511.2346	5,511.2346	0.2115		5,515.6762
Total	**2.8061**	**9.2146**	**41.1097**	**0.1309**	**8.8363**	**0.2211**	**9.0574**	**2.3701**	**0.2038**	**2.5739**		**9,769.2244**	**9,769.2244**	**0.2430**		**9,774.3264**

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	1.3615	12.4097	16.0518	0.0269		0.5250	0.5250		0.4939	0.4939	0.0000	2,545.8905	2,545.8905	0.5975		2,558.4386
Total	**1.3615**	**12.4097**	**16.0518**	**0.0269**		**0.5250**	**0.5250**		**0.4939**	**0.4939**	**0.0000**	**2,545.8905**	**2,545.8905**	**0.5975**		**2,558.4386**

3.5 Building Construction - 2029

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	1.3886	7.2099	22.8700	0.0455	1.2920	0.1664	1.4584	0.3692	0.1531	0.5223		4,257.9898	4,257.9898	0.0315		4,258.6502
Worker	1.4175	2.0047	18.2397	0.0854	7.5442	0.0547	7.5989	2.0009	0.0507	2.0517		5,511.2346	5,511.2346	0.2115		5,515.6762
Total	**2.8061**	**9.2146**	**41.1097**	**0.1309**	**8.8363**	**0.2211**	**9.0574**	**2.3701**	**0.2038**	**2.5739**		**9,769.2244**	**9,769.2244**	**0.2430**		**9,774.3264**

3.5 Building Construction - 2030

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	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476		2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**		**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

3.5 Building Construction - 2030

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	1.3716	7.1787	22.6875	0.0455	1.2923	0.1666	1.4589	0.3693	0.1533	0.5225		4,259.1107	4,259.1107	0.0315		4,259.7717
Worker	1.3628	1.9243	17.6176	0.0854	7.5442	0.0548	7.5990	2.0009	0.0508	2.0517		5,475.9576	5,475.9576	0.2062		5,480.2884
Total	**2.7344**	**9.1030**	**40.3051**	**0.1310**	**8.8365**	**0.2214**	**9.0578**	**2.3702**	**0.2041**	**2.5743**		**9,735.0683**	**9,735.0683**	**0.2377**		**9,740.0601**

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	1.3041	7.9179	16.1313	0.0308		0.1476	0.1476		0.1476	0.1476	0.0000	2,884.8300	2,884.8300	0.1158		2,887.2617
Total	**1.3041**	**7.9179**	**16.1313**	**0.0308**		**0.1476**	**0.1476**		**0.1476**	**0.1476**	**0.0000**	**2,884.8300**	**2,884.8300**	**0.1158**		**2,887.2617**

3.5 Building Construction - 2030

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	1.3716	7.1787	22.6875	0.0455	1.2923	0.1666	1.4589	0.3693	0.1533	0.5225		4,259.1107	4,259.1107	0.0315		4,259.7717
Worker	1.3628	1.9243	17.6176	0.0854	7.5442	0.0548	7.5990	2.0009	0.0508	2.0517		5,475.9576	5,475.9576	0.2062		5,480.2884
Total	**2.7344**	**9.1030**	**40.3051**	**0.1310**	**8.8365**	**0.2214**	**9.0578**	**2.3702**	**0.2041**	**2.5743**		**9,735.0683**	**9,735.0683**	**0.2377**		**9,740.0601**

3.6 Paving - 2030

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234		2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**		**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2030

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	0.0256	0.0361	0.3303	1.6000e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		102.6742	102.6742	3.8700e-003		102.7554
Total	**0.0256**	**0.0361**	**0.3303**	**1.6000e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**102.6742**	**102.6742**	**3.8700e-003**		**102.7554**

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234	0.0000	2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**	**0.0000**	**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2030

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	0.0256	0.0361	0.3303	1.6000e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		102.6742	102.6742	3.8700e-003		102.7554
Total	**0.0256**	**0.0361**	**0.3303**	**1.6000e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**102.6742**	**102.6742**	**3.8700e-003**		**102.7554**

3.6 Paving - 2031

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234		2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**		**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2031

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	0.0245	0.0346	0.3192	1.6000e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		102.1089	102.1089	3.7700e-003		102.1881
Total	**0.0245**	**0.0346**	**0.3192**	**1.6000e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**102.1089**	**102.1089**	**3.7700e-003**		**102.1881**

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	1.3549	6.9800	15.5192	0.0275		0.3234	0.3234		0.3234	0.3234	0.0000	2,599.9866	2,599.9866	0.1219		2,602.5460
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3549**	**6.9800**	**15.5192**	**0.0275**		**0.3234**	**0.3234**		**0.3234**	**0.3234**	**0.0000**	**2,599.9866**	**2,599.9866**	**0.1219**		**2,602.5460**

3.6 Paving - 2031

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	0.0245	0.0346	0.3192	1.6000e-003	0.1415	1.0300e-003	0.1425	0.0375	9.5000e-004	0.0385		102.1089	102.1089	3.7700e-003		102.1881
Total	**0.0245**	**0.0346**	**0.3192**	**1.6000e-003**	**0.1415**	**1.0300e-003**	**0.1425**	**0.0375**	**9.5000e-004**	**0.0385**		**102.1089**	**102.1089**	**3.7700e-003**		**102.1881**

3.7 Architectural Coating - 2031

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	212.4368					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.6873
Total	**212.5676**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.6873**

3.7 Architectural Coating - 2031

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	0.2617	0.3691	3.4050	0.0171	1.5089	0.0109	1.5198	0.4002	0.0102	0.4103		1,089.1618	1,089.1618	0.0402		1,090.0067
Total	**0.2617**	**0.3691**	**3.4050**	**0.0171**	**1.5089**	**0.0109**	**1.5198**	**0.4002**	**0.0102**	**0.4103**		**1,089.1618**	**1,089.1618**	**0.0402**		**1,090.0067**

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	212.4368					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.6873
Total	**212.5676**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.6873**

3.7 Architectural Coating - 2031

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	0.2617	0.3691	3.4050	0.0171	1.5089	0.0109	1.5198	0.4002	0.0102	0.4103		1,089.1618	1,089.1618	0.0402		1,090.0067
Total	**0.2617**	**0.3691**	**3.4050**	**0.0171**	**1.5089**	**0.0109**	**1.5198**	**0.4002**	**0.0102**	**0.4103**		**1,089.1618**	**1,089.1618**	**0.0402**		**1,090.0067**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	61.0960	96.5135	585.6308	1.6137	113.8009	2.1822	115.9831	30.4450	2.0150	32.4600		114,095.4698	114,095.4698	3.0914		114,160.3887
Unmitigated	61.0960	96.5135	585.6308	1.6137	113.8009	2.1822	115.9831	30.4450	2.0150	32.4600		114,095.4698	114,095.4698	3.0914		114,160.3887

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	3,908.97	4,248.21	3600.57	8,736,087	8,736,087
General Office Building	773.38	165.98	68.40	1,400,144	1,400,144
Manufacturing	67.03	26.22	10.94	155,286	155,286
Medical Office Building	7,135.83	1,769.85	305.24	10,556,353	10,556,353
Single Family Housing	1,230.79	1,295.92	1127.25	2,735,324	2,735,324
Strip Mall	1,945.41	1,845.09	896.61	2,743,184	2,743,184
Supermarket	11,217.60	19,485.45	18262.80	15,247,634	15,247,634
Total	26,279.01	28,836.72	24,271.81	41,574,013	41,574,013

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
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.544287	0.062956	0.171756	0.119283	0.033776	0.004850	0.017325	0.031479	0.002293	0.003006	0.006870	0.000528	0.001591

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369
NaturalGas Unmitigated	1.2010	10.4792	5.9512	0.0655		0.8298	0.8298		0.8298	0.8298		13,102.0003	13,102.0003	0.2511	0.2402	13,181.7369

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					
Condo/Townhouse	51306.9	0.5533	4.7283	2.0120	0.0302		0.3823	0.3823		0.3823	0.3823		6,036.1012	6,036.1012	0.1157	0.1107	6,072.8359
General Office Building	5069.72	0.0547	0.4970	0.4175	2.9800e-003		0.0378	0.0378		0.0378	0.0378		596.4377	596.4377	0.0114	0.0109	600.0675
Manufacturing	1604.12	0.0173	0.1573	0.1321	9.4000e-004		0.0120	0.0120		0.0120	0.0120		188.7201	188.7201	3.6200e-003	3.4600e-003	189.8686
Medical Office Building	14258.6	0.1538	1.3979	1.1742	8.3900e-003		0.1062	0.1062		0.1062	0.1062		1,677.4811	1,677.4811	0.0322	0.0308	1,687.6899
Single Family Housing	23343.4	0.2517	2.1513	0.9154	0.0137		0.1739	0.1739		0.1739	0.1739		2,746.2820	2,746.2820	0.0526	0.0504	2,762.9955
Strip Mall	749.589	8.0800e-003	0.0735	0.0617	4.4000e-004		5.5900e-003	5.5900e-003		5.5900e-003	5.5900e-003		88.1870	88.1870	1.6900e-003	1.6200e-003	88.7236
Supermarket	15034.7	0.1621	1.4740	1.2382	8.8400e-003		0.1120	0.1120		0.1120	0.1120		1,768.7913	1,768.7913	0.0339	0.0324	1,779.5559
Total		**1.2010**	**10.4792**	**5.9512**	**0.0655**		**0.8298**	**0.8298**		**0.8298**	**0.8298**		**13,102.0003**	**13,102.0003**	**0.2511**	**0.2402**	**13,181.7369**

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					
Condo/Townhouse	51.3069	0.5533	4.7283	2.0120	0.0302		0.3823	0.3823		0.3823	0.3823		6,036.1012	6,036.1012	0.1157	0.1107	6,072.8359
General Office Building	5.06972	0.0547	0.4970	0.4175	2.9800e-003		0.0378	0.0378		0.0378	0.0378		596.4377	596.4377	0.0114	0.0109	600.0675
Manufacturing	1.60412	0.0173	0.1573	0.1321	9.4000e-004		0.0120	0.0120		0.0120	0.0120		188.7201	188.7201	3.6200e-003	3.4600e-003	189.8686
Medical Office Building	14.2586	0.1538	1.3979	1.1742	8.3900e-003		0.1062	0.1062		0.1062	0.1062		1,677.4811	1,677.4811	0.0322	0.0308	1,687.6899
Single Family Housing	23.3434	0.2517	2.1513	0.9154	0.0137		0.1739	0.1739		0.1739	0.1739		2,746.2820	2,746.2820	0.0526	0.0504	2,762.9955
Strip Mall	0.749589	8.0800e-003	0.0735	0.0617	4.4000e-004		5.5900e-003	5.5900e-003		5.5900e-003	5.5900e-003		88.1870	88.1870	1.6900e-003	1.6200e-003	88.7236
Supermarket	15.0347	0.1621	1.4740	1.2382	8.8400e-003		0.1120	0.1120		0.1120	0.1120		1,768.7913	1,768.7913	0.0339	0.0324	1,779.5559
Total		**1.2010**	**10.4792**	**5.9512**	**0.0655**		**0.8298**	**0.8298**		**0.8298**	**0.8298**		**13,102.0003**	**13,102.0003**	**0.2511**	**0.2402**	**13,181.7369**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591
Unmitigated	50.2456	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294	0.0000	139.4668	139.4668	0.1330	0.0000	142.2591

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	12.8044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	35.1302					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	2.3110	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294		139.4668	139.4668	0.1330		142.2591
Total	**50.2456**	**0.8902**	**77.1721**	**4.0900e-003**		**0.4294**	**0.4294**		**0.4294**	**0.4294**	**0.0000**	**139.4668**	**139.4668**	**0.1330**	**0.0000**	**142.2591**

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	12.8044					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	35.1302					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	2.3110	0.8902	77.1721	4.0900e-003		0.4294	0.4294		0.4294	0.4294		139.4668	139.4668	0.1330		142.2591
Total	**50.2456**	**0.8902**	**77.1721**	**4.0900e-003**		**0.4294**	**0.4294**		**0.4294**	**0.4294**	**0.0000**	**139.4668**	**139.4668**	**0.1330**	**0.0000**	**142.2591**

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 Vegetation

BAAQMD CO Hotspot Screening Analysis

Source: *BAAQMD, 1999 Thresholds of Significance*

In the Bay Area, the highest CO concentrations usually occur in winter, on cold, clear days and nights with little or no wind. Low wind speeds inhibit horizontal dispersion and radiation inversions inhibit vertical mixing. Worst case conditions are built into the simplified model formula. Default conditions are as follows:

1. wind direction parallel to the primary roadway, 90 degree angle to secondary road;
2. wind speed less than 1 meter per second;
3. extreme atmospheric stability (class F);
4. receptor at edge of the roadway.

The carbon monoxide concentration, C, is the sum of a background value, C_o, and the total contribution from local traffic C_t,

$C = C_o + C_t$

The total contribution from local traffic, C_t, is the sum of the contributions from each contributing local road, C_i,

$C_t = C_{i1} + C_{i2}$

The contribution from one road, C_i, can be computed by the formula:

$C_i = C_{ri} \times (V_i \times EF_i)/(V_r \times EF_r)$

where:

C_{ri} is a reference case concentration for the i-th roadway,

V_r is the traffic volume for the reference case,

V_i is the traffic volume for the i-th roadway,

EF_r is the emission factor for the reference case,

EF_i is the emission factor for the i-th roadway,

The BAAQMD 1999 *Thresholds of Significance* provides reference case concentrations for various road configurations with traffic volumes of 1000 vehicles per hour and emission factors of 100 grams per mile. The concentration relative to this reference case is then computed in parts per million (ppm), by the formula:

$C_i = (C_{ri} \times V_i \times EF_i)/100{,}000$

where C_{ri} is taken from reference case concentrations, V_i is the estimated traffic volume in vehicles per hour, and EF_i is the emission factor taken from the BAAQMD 1999 *Thresholds of Significance* for the appropriate year of analysis.

Analysis Year: 2015
Intersection of 4-lane road and a 2-lane road at grade level.
Receptor point at edge of roadway.
Background one hour CO concentration is 6 ppm. 6
Background eight hour CO concentration is 3 ppm. 3

	Primary Road: Mission Boulevard	Secondary Road: Lewelling Boulevard
Hourly Traffic Volume	2827	1665
Cri	11.9	3.7
2015 Efi	3.07	3.07
Equation	1.03278791	0.18912735
1-Hr Local Concentration:	1.22191526	
1-Hr Total Concentration:	**1.22191526**	
8-Hr Local Concentration:	0.855340682	
8-Hr Total Concentration:	**0.855340682**	

Appendix C

Greenhouse Gas Emissions Technical Data

Ashland Cherryland Business District Specific Plan EIR

San Francisco Bay Area Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	91.20	1000sqft	2.09	91,200.00	0
Medical Office Building	256.50	1000sqft	5.89	256,500.00	0
Manufacturing	22.80	1000sqft	0.52	22,800.00	0
Condo/Townhouse	771.00	Dwelling Unit	48.19	771,000.00	2205
Single Family Housing	167.00	Dwelling Unit	54.22	300,600.00	478
Strip Mall	57.00	1000sqft	1.31	57,000.00	0
Supermarket	142.50	1000sqft	3.27	142,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 570,000 square feet of non-residential space broken out by Retail (10%), Manufacturing (4%), Office (16%), Medical Office (45%), and (25%) Other (assumed to be supermarket retail).

Construction Phase -

Vehicle Trips - Average MXD reduction of 23% was applied to trip rates.

Woodstoves - Assumed compliance with Alameda County Ordinance prohibiting wood burning fireplaces and woodstoves in new development.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	424.05	0.00
tblFireplaces	NumberGas	91.85	0.00
tblFireplaces	NumberNoFireplace	7.71	0.00
tblFireplaces	NumberNoFireplace	11.69	0.00
tblFireplaces	NumberWood	107.94	0.00
tblFireplaces	NumberWood	83.50	0.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblVehicleTrips	ST_TR	7.16	5.51
tblVehicleTrips	ST_TR	2.37	1.82
tblVehicleTrips	ST_TR	1.49	1.15
tblVehicleTrips	ST_TR	8.96	6.90
tblVehicleTrips	ST_TR	10.08	7.76
tblVehicleTrips	ST_TR	42.04	32.37
tblVehicleTrips	ST_TR	177.59	136.74
tblVehicleTrips	SU_TR	6.07	4.67

tblVehicleTrips	SU_TR	0.98	0.75
tblVehicleTrips	SU_TR	0.62	0.48
tblVehicleTrips	SU_TR	1.55	1.19
tblVehicleTrips	SU_TR	8.77	6.75
tblVehicleTrips	SU_TR	20.43	15.73
tblVehicleTrips	SU_TR	166.44	128.16
tblVehicleTrips	WD_TR	6.59	5.07
tblVehicleTrips	WD_TR	11.01	8.48
tblVehicleTrips	WD_TR	3.82	2.94
tblVehicleTrips	WD_TR	36.13	27.82
tblVehicleTrips	WD_TR	9.57	7.37
tblVehicleTrips	WD_TR	44.32	34.13
tblVehicleTrips	WD_TR	102.24	78.72
tblWoodstoves	NumberCatalytic	15.42	0.00
tblWoodstoves	NumberCatalytic	5.84	0.00
tblWoodstoves	NumberNoncatalytic	15.42	0.00
tblWoodstoves	NumberNoncatalytic	5.84	0.00
tblWoodstoves	WoodstoveDayYear	2.59	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.5914	6.2431	4.8658	5.4000e-003	1.1026	0.3190	1.4216	0.6008	0.2963	0.8970	0.0000	500.3160	500.3160	0.1357	0.0000	503.1666
2017	0.7642	8.5332	5.9864	7.6300e-003	2.4514	0.4148	2.8662	1.1594	0.3816	1.5411	0.0000	702.8541	702.8541	0.2102	0.0000	707.2691
2018	0.8278	6.4860	8.1662	0.0156	2.0007	0.2875	2.2881	0.7340	0.2668	1.0008	0.0000	1,266.9719	1,266.9719	0.1656	0.0000	1,270.4499
2019	0.8317	5.0375	9.3687	0.0208	1.1099	0.2030	1.3129	0.2986	0.1902	0.4888	0.0000	1,592.6389	1,592.6389	0.1153	0.0000	1,595.0607
2020	0.7626	4.4990	8.8970	0.0208	1.1142	0.1781	1.2923	0.2998	0.1669	0.4667	0.0000	1,551.2306	1,551.2306	0.1124	0.0000	1,553.5917
2021	0.7056	3.9426	8.4845	0.0207	1.1100	0.1543	1.2643	0.2987	0.1445	0.4432	0.0000	1,531.7842	1,531.7842	0.1094	0.0000	1,534.0822
2022	0.6574	3.5177	8.1059	0.0207	1.1058	0.1340	1.2397	0.2975	0.1255	0.4230	0.0000	1,513.8956	1,513.8956	0.1071	0.0000	1,516.1445
2023	0.6149	3.1559	7.7845	0.0206	1.1058	0.1192	1.2250	0.2975	0.1116	0.4092	0.0000	1,501.9525	1,501.9525	0.1050	0.0000	1,504.1569
2024	0.5896	3.0310	7.5899	0.0208	1.1143	0.1090	1.2233	0.2999	0.1020	0.4018	0.0000	1,504.0574	1,504.0574	0.1042	0.0000	1,506.2457
2025	0.5605	2.8707	7.3594	0.0207	1.1101	0.0975	1.2076	0.2987	0.0912	0.3899	0.0000	1,490.0852	1,490.0852	0.1024	0.0000	1,492.2365
2026	0.5474	2.8398	7.1938	0.0207	1.1102	0.0972	1.2073	0.2987	0.0909	0.3896	0.0000	1,482.7622	1,482.7622	0.1015	0.0000	1,484.8946
2027	0.5379	2.8220	7.0696	0.0207	1.1102	0.0972	1.2074	0.2988	0.0909	0.3897	0.0000	1,476.4359	1,476.4359	0.1008	0.0000	1,478.5525
2028	0.5268	2.7941	6.9262	0.0206	1.1060	0.0969	1.2028	0.2976	0.0906	0.3882	0.0000	1,465.3154	1,465.3154	0.0997	0.0000	1,467.4094
2029	0.5194	2.7898	6.8257	0.0207	1.1103	0.0973	1.2075	0.2988	0.0910	0.3897	0.0000	1,466.1990	1,466.1990	0.0994	0.0000	1,468.2870
2030	0.2765	1.2962	3.4632	9.0000e-003	0.3443	0.0440	0.3883	0.0926	0.0434	0.1360	0.0000	673.3677	673.3677	0.0229	0.0000	673.8491
2031	23.4349	0.2610	0.8575	2.7600e-003	0.1622	9.4400e-003	0.1716	0.0431	9.3500e-003	0.0525	0.0000	183.1332	183.1332	7.2600e-003	0.0000	183.2856
Total	**32.7486**	**60.1195**	**108.9443**	**0.2682**	**18.2677**	**2.4584**	**20.7260**	**5.9145**	**2.2926**	**8.2072**	**0.0000**	**19,902.9995**	**19,902.9995**	**1.6991**	**0.0000**	**19,938.6818**

2.1 Overall Construction

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					
2016	0.5914	6.2431	4.8658	5.4000e-003	1.1026	0.3190	1.4216	0.6008	0.2963	0.8970	0.0000	500.3154	500.3154	0.1357	0.0000	503.1660
2017	0.7642	8.5332	5.9864	7.6300e-003	2.4514	0.4148	2.8662	1.1594	0.3816	1.5411	0.0000	702.8532	702.8532	0.2102	0.0000	707.2683
2018	0.8278	6.4860	8.1662	0.0156	2.0007	0.2875	2.2881	0.7340	0.2668	1.0008	0.0000	1,266.9713	1,266.9713	0.1656	0.0000	1,270.4494
2019	0.8317	5.0375	9.3687	0.0208	1.1099	0.2030	1.3129	0.2986	0.1902	0.4888	0.0000	1,592.6385	1,592.6385	0.1153	0.0000	1,595.0603
2020	0.7626	4.4990	8.8970	0.0208	1.1142	0.1781	1.2923	0.2998	0.1669	0.4667	0.0000	1,551.2302	1,551.2302	0.1124	0.0000	1,553.5913
2021	0.7056	3.9426	8.4845	0.0207	1.1100	0.1543	1.2643	0.2987	0.1445	0.4432	0.0000	1,531.7838	1,531.7838	0.1094	0.0000	1,534.0818
2022	0.6574	3.5177	8.1059	0.0207	1.1058	0.1340	1.2397	0.2975	0.1255	0.4230	0.0000	1,513.8952	1,513.8952	0.1071	0.0000	1,516.1441
2023	0.6149	3.1559	7.7845	0.0206	1.1058	0.1192	1.2250	0.2975	0.1116	0.4092	0.0000	1,501.9521	1,501.9521	0.1050	0.0000	1,504.1565
2024	0.5896	3.0310	7.5899	0.0208	1.1143	0.1090	1.2233	0.2999	0.1020	0.4018	0.0000	1,504.0570	1,504.0570	0.1042	0.0000	1,506.2453
2025	0.5605	2.8707	7.3594	0.0207	1.1101	0.0975	1.2076	0.2987	0.0912	0.3899	0.0000	1,490.0849	1,490.0849	0.1024	0.0000	1,492.2361
2026	0.5474	2.8398	7.1938	0.0207	1.1102	0.0972	1.2073	0.2987	0.0909	0.3896	0.0000	1,482.7619	1,482.7619	0.1015	0.0000	1,484.8943
2027	0.5379	2.8220	7.0696	0.0207	1.1102	0.0972	1.2074	0.2988	0.0909	0.3897	0.0000	1,476.4355	1,476.4355	0.1008	0.0000	1,478.5521
2028	0.5268	2.7941	6.9261	0.0206	1.1060	0.0969	1.2028	0.2976	0.0906	0.3882	0.0000	1,465.3151	1,465.3151	0.0997	0.0000	1,467.4091
2029	0.5194	2.7898	6.8257	0.0207	1.1103	0.0973	1.2075	0.2988	0.0910	0.3897	0.0000	1,466.1986	1,466.1986	0.0994	0.0000	1,468.2866
2030	0.2765	1.2962	3.4632	9.0000e-003	0.3443	0.0440	0.3883	0.0926	0.0434	0.1360	0.0000	673.3673	673.3673	0.0229	0.0000	673.8487
2031	23.4349	0.2610	0.8575	2.7600e-003	0.1622	9.4400e-003	0.1716	0.0431	9.3500e-003	0.0525	0.0000	183.1331	183.1331	7.2600e-003	0.0000	183.2855
Total	**32.7486**	**60.1195**	**108.9442**	**0.2682**	**18.2677**	**2.4584**	**20.7260**	**5.9145**	**2.2926**	**8.2072**	**0.0000**	**19,902.9931**	**19,902.9931**	**1.6991**	**0.0000**	**19,938.6754**

	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	tons/yr										MT/yr					
Area	8.9561	0.0801	6.9455	3.7000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	11.3870	11.3870	0.0109	0.0000	11.6150
Energy	0.2192	1.9125	1.0861	0.0120		0.1514	0.1514		0.1514	0.1514	0.0000	6,725.7946	6,725.7946	0.2476	0.0824	6,756.5374
Mobile	7.8390	13.0340	71.4810	0.2290	15.4784	0.3054	15.7838	4.1542	0.2820	4.4362	0.0000	14,696.7321	14,696.7321	0.3934	0.0000	14,704.9942
Waste						0.0000	0.0000		0.0000	0.0000	873.3199	0.0000	873.3199	51.6117	0.0000	1,957.1662
Water						0.0000	0.0000		0.0000	0.0000	43.3273	273.7528	317.0801	4.4625	0.1076	444.1607
Total	**17.0142**	**15.0266**	**79.5126**	**0.2414**	**15.4784**	**0.4954**	**15.9739**	**4.1542**	**0.4720**	**4.6263**	**916.6472**	**21,707.6664**	**22,624.3136**	**56.7262**	**0.1900**	**23,874.4735**

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	8.9561	0.0801	6.9455	3.7000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	11.3870	11.3870	0.0109	0.0000	11.6150
Energy	0.2192	1.9125	1.0861	0.0120		0.1514	0.1514		0.1514	0.1514	0.0000	6,725.7946	6,725.7946	0.2476	0.0824	6,756.5374
Mobile	7.8390	13.0340	71.4810	0.2290	15.4784	0.3054	15.7838	4.1542	0.2820	4.4362	0.0000	14,696.7321	14,696.7321	0.3934	0.0000	14,704.9942
Waste						0.0000	0.0000		0.0000	0.0000	873.3199	0.0000	873.3199	51.6117	0.0000	1,957.1662
Water						0.0000	0.0000		0.0000	0.0000	43.3273	273.7528	317.0801	4.4617	0.1075	444.0916
Total	**17.0142**	**15.0266**	**79.5126**	**0.2414**	**15.4784**	**0.4954**	**15.9739**	**4.1542**	**0.4720**	**4.6263**	**916.6472**	**21,707.6664**	**22,624.3136**	**56.7253**	**0.1899**	**23,874.4044**

	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**	**0.09**	**0.00**

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	1/1/2016	10/6/2016	5	200	
2	Site Preparation	Site Preparation	10/7/2016	3/23/2017	5	120	
3	Grading	Grading	3/24/2017	5/31/2018	5	310	
4	Building Construction	Building Construction	6/1/2018	4/18/2030	5	3100	
5	Paving	Paving	4/19/2030	2/20/2031	5	220	
6	Architectural Coating	Architectural Coating	2/21/2031	12/25/2031	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 0

Residential Indoor: 2,169,990; Residential Outdoor: 723,330; Non-Residential Indoor: 855,000; Non-Residential Outdoor: 285,000 (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	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	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	125	0.42
Paving	Paving Equipment	2	8.00	130	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	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	800.00	194.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

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	0.4288	4.5656	3.5030	3.9900e-003		0.2292	0.2292		0.2137	0.2137	0.0000	370.9736	370.9736	0.1009	0.0000	373.0922
Total	**0.4288**	**4.5656**	**3.5030**	**3.9900e-003**		**0.2292**	**0.2292**		**0.2137**	**0.2137**	**0.0000**	**370.9736**	**370.9736**	**0.1009**	**0.0000**	**373.0922**

3.2 Demolition - 2016

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	5.6900e-003	8.2400e-003	0.0798	1.6000e-004	0.0136	1.1000e-004	0.0137	3.6200e-003	1.0000e-004	3.7200e-003	0.0000	12.3479	12.3479	6.8000e-004	0.0000	12.3622
Total	**5.6900e-003**	**8.2400e-003**	**0.0798**	**1.6000e-004**	**0.0136**	**1.1000e-004**	**0.0137**	**3.6200e-003**	**1.0000e-004**	**3.7200e-003**	**0.0000**	**12.3479**	**12.3479**	**6.8000e-004**	**0.0000**	**12.3622**

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	0.4288	4.5656	3.5030	3.9900e-003		0.2292	0.2292		0.2137	0.2137	0.0000	370.9732	370.9732	0.1009	0.0000	373.0917
Total	**0.4288**	**4.5656**	**3.5030**	**3.9900e-003**		**0.2292**	**0.2292**		**0.2137**	**0.2137**	**0.0000**	**370.9732**	**370.9732**	**0.1009**	**0.0000**	**373.0917**

3.2 Demolition - 2016

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	5.6900e-003	8.2400e-003	0.0798	1.6000e-004	0.0136	1.1000e-004	0.0137	3.6200e-003	1.0000e-004	3.7200e-003	0.0000	12.3479	12.3479	6.8000e-004	0.0000	12.3622
Total	**5.6900e-003**	**8.2400e-003**	**0.0798**	**1.6000e-004**	**0.0136**	**1.1000e-004**	**0.0137**	**3.6200e-003**	**1.0000e-004**	**3.7200e-003**	**0.0000**	**12.3479**	**12.3479**	**6.8000e-004**	**0.0000**	**12.3622**

3.3 Site Preparation - 2016

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					1.0840	0.0000	1.0840	0.5958	0.0000	0.5958	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1549	1.6663	1.2537	1.1900e-003		0.0896	0.0896		0.0825	0.0825	0.0000	112.4752	112.4752	0.0339	0.0000	113.1876
Total	**0.1549**	**1.6663**	**1.2537**	**1.1900e-003**	**1.0840**	**0.0896**	**1.1736**	**0.5958**	**0.0825**	**0.6783**	**0.0000**	**112.4752**	**112.4752**	**0.0339**	**0.0000**	**113.1876**

3.3 Site Preparation - 2016

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	2.0800e-003	3.0200e-003	0.0292	6.0000e-005	4.9800e-003	4.0000e-005	5.0200e-003	1.3200e-003	4.0000e-005	1.3600e-003	0.0000	4.5193	4.5193	2.5000e-004	0.0000	4.5246
Total	**2.0800e-003**	**3.0200e-003**	**0.0292**	**6.0000e-005**	**4.9800e-003**	**4.0000e-005**	**5.0200e-003**	**1.3200e-003**	**4.0000e-005**	**1.3600e-003**	**0.0000**	**4.5193**	**4.5193**	**2.5000e-004**	**0.0000**	**4.5246**

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					1.0840	0.0000	1.0840	0.5958	0.0000	0.5958	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1549	1.6663	1.2537	1.1900e-003		0.0896	0.0896		0.0825	0.0825	0.0000	112.4750	112.4750	0.0339	0.0000	113.1875
Total	**0.1549**	**1.6663**	**1.2537**	**1.1900e-003**	**1.0840**	**0.0896**	**1.1736**	**0.5958**	**0.0825**	**0.6783**	**0.0000**	**112.4750**	**112.4750**	**0.0339**	**0.0000**	**113.1875**

3.3 Site Preparation - 2016

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	2.0800e-003	3.0200e-003	0.0292	6.0000e-005	4.9800e-003	4.0000e-005	5.0200e-003	1.3200e-003	4.0000e-005	1.3600e-003	0.0000	4.5193	4.5193	2.5000e-004	0.0000	4.5246
Total	**2.0800e-003**	**3.0200e-003**	**0.0292**	**6.0000e-005**	**4.9800e-003**	**4.0000e-005**	**5.0200e-003**	**1.3200e-003**	**4.0000e-005**	**1.3600e-003**	**0.0000**	**4.5193**	**4.5193**	**2.5000e-004**	**0.0000**	**4.5246**

3.3 Site Preparation - 2017

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					1.0840	0.0000	1.0840	0.5958	0.0000	0.5958	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1427	1.5267	1.1622	1.1500e-003		0.0813	0.0813		0.0748	0.0748	0.0000	107.1304	107.1304	0.0328	0.0000	107.8197
Total	**0.1427**	**1.5267**	**1.1622**	**1.1500e-003**	**1.0840**	**0.0813**	**1.1652**	**0.5958**	**0.0748**	**0.6706**	**0.0000**	**107.1304**	**107.1304**	**0.0328**	**0.0000**	**107.8197**

3.3 Site Preparation - 2017

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	1.7900e-003	2.6100e-003	0.0251	6.0000e-005	4.8200e-003	4.0000e-005	4.8600e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.2047	4.2047	2.2000e-004	0.0000	4.2093
Total	**1.7900e-003**	**2.6100e-003**	**0.0251**	**6.0000e-005**	**4.8200e-003**	**4.0000e-005**	**4.8600e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**4.2047**	**4.2047**	**2.2000e-004**	**0.0000**	**4.2093**

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					1.0840	0.0000	1.0840	0.5958	0.0000	0.5958	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1427	1.5267	1.1622	1.1500e-003		0.0813	0.0813		0.0748	0.0748	0.0000	107.1303	107.1303	0.0328	0.0000	107.8196
Total	**0.1427**	**1.5267**	**1.1622**	**1.1500e-003**	**1.0840**	**0.0813**	**1.1652**	**0.5958**	**0.0748**	**0.6706**	**0.0000**	**107.1303**	**107.1303**	**0.0328**	**0.0000**	**107.8196**

3.3 Site Preparation - 2017

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	1.7900e-003	2.6100e-003	0.0251	6.0000e-005	4.8200e-003	4.0000e-005	4.8600e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.2047	4.2047	2.2000e-004	0.0000	4.2093
Total	**1.7900e-003**	**2.6100e-003**	**0.0251**	**6.0000e-005**	**4.8200e-003**	**4.0000e-005**	**4.8600e-003**	**1.2800e-003**	**4.0000e-005**	**1.3200e-003**	**0.0000**	**4.2047**	**4.2047**	**2.2000e-004**	**0.0000**	**4.2093**

3.4 Grading - 2017

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					1.3444	0.0000	1.3444	0.5575	0.0000	0.5575	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6130	6.9940	4.7039	6.2000e-003		0.3334	0.3334		0.3067	0.3067	0.0000	575.6029	575.6029	0.1764	0.0000	579.3065
Total	**0.6130**	**6.9940**	**4.7039**	**6.2000e-003**	**1.3444**	**0.3334**	**1.6778**	**0.5575**	**0.3067**	**0.8642**	**0.0000**	**575.6029**	**575.6029**	**0.1764**	**0.0000**	**579.3065**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7600e-003	9.8900e-003	0.0952	2.2000e-004	0.0182	1.5000e-004	0.0184	4.8500e-003	1.3000e-004	4.9800e-003	0.0000	15.9161	15.9161	8.3000e-004	0.0000	15.9336
Total	**6.7600e-003**	**9.8900e-003**	**0.0952**	**2.2000e-004**	**0.0182**	**1.5000e-004**	**0.0184**	**4.8500e-003**	**1.3000e-004**	**4.9800e-003**	**0.0000**	**15.9161**	**15.9161**	**8.3000e-004**	**0.0000**	**15.9336**

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					1.3444	0.0000	1.3444	0.5575	0.0000	0.5575	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6130	6.9940	4.7039	6.2000e-003		0.3334	0.3334		0.3067	0.3067	0.0000	575.6022	575.6022	0.1764	0.0000	579.3059
Total	**0.6130**	**6.9940**	**4.7039**	**6.2000e-003**	**1.3444**	**0.3334**	**1.6778**	**0.5575**	**0.3067**	**0.8642**	**0.0000**	**575.6022**	**575.6022**	**0.1764**	**0.0000**	**579.3059**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7600e-003	9.8900e-003	0.0952	2.2000e-004	0.0182	1.5000e-004	0.0184	4.8500e-003	1.3000e-004	4.9800e-003	0.0000	15.9161	15.9161	8.3000e-004	0.0000	15.9336
Total	**6.7600e-003**	**9.8900e-003**	**0.0952**	**2.2000e-004**	**0.0182**	**1.5000e-004**	**0.0184**	**4.8500e-003**	**1.3000e-004**	**4.9800e-003**	**0.0000**	**15.9161**	**15.9161**	**8.3000e-004**	**0.0000**	**15.9336**

3.4 Grading - 2018

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					1.3444	0.0000	1.3444	0.5575	0.0000	0.5575	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2883	3.2446	2.3057	3.3600e-003		0.1520	0.1520		0.1398	0.1398	0.0000	307.1708	307.1708	0.0956	0.0000	309.1789
Total	**0.2883**	**3.2446**	**2.3057**	**3.3600e-003**	**1.3444**	**0.1520**	**1.4963**	**0.5575**	**0.1398**	**0.6973**	**0.0000**	**307.1708**	**307.1708**	**0.0956**	**0.0000**	**309.1789**

3.4 Grading - 2018

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	3.2700e-003	4.8300e-003	0.0461	1.2000e-004	9.8900e-003	8.0000e-005	9.9600e-003	2.6300e-003	7.0000e-005	2.7000e-003	0.0000	8.3109	8.3109	4.2000e-004	0.0000	8.3197
Total	**3.2700e-003**	**4.8300e-003**	**0.0461**	**1.2000e-004**	**9.8900e-003**	**8.0000e-005**	**9.9600e-003**	**2.6300e-003**	**7.0000e-005**	**2.7000e-003**	**0.0000**	**8.3109**	**8.3109**	**4.2000e-004**	**0.0000**	**8.3197**

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					1.3444	0.0000	1.3444	0.5575	0.0000	0.5575	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2883	3.2446	2.3057	3.3600e-003		0.1520	0.1520		0.1398	0.1398	0.0000	307.1704	307.1704	0.0956	0.0000	309.1786
Total	**0.2883**	**3.2446**	**2.3057**	**3.3600e-003**	**1.3444**	**0.1520**	**1.4963**	**0.5575**	**0.1398**	**0.6973**	**0.0000**	**307.1704**	**307.1704**	**0.0956**	**0.0000**	**309.1786**

3.4 Grading - 2018

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	3.2700e-003	4.8300e-003	0.0461	1.2000e-004	9.8900e-003	8.0000e-005	9.9600e-003	2.6300e-003	7.0000e-005	2.7000e-003	0.0000	8.3109	8.3109	4.2000e-004	0.0000	8.3197
Total	**3.2700e-003**	**4.8300e-003**	**0.0461**	**1.2000e-004**	**9.8900e-003**	**8.0000e-005**	**9.9600e-003**	**2.6300e-003**	**7.0000e-005**	**2.7000e-003**	**0.0000**	**8.3109**	**8.3109**	**4.2000e-004**	**0.0000**	**8.3197**

3.5 Building Construction - 2018

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	0.2028	1.7678	1.3325	2.0400e-003		0.1136	0.1136		0.1068	0.1068	0.0000	179.9450	179.9450	0.0440	0.0000	180.8697
Total	**0.2028**	**1.7678**	**1.3325**	**2.0400e-003**		**0.1136**	**0.1136**		**0.1068**	**0.1068**	**0.0000**	**179.9450**	**179.9450**	**0.0440**	**0.0000**	**180.8697**

3.5 Building Construction - 2018

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	0.1510	1.1995	1.9080	3.5000e-003	0.0949	0.0177	0.1125	0.0272	0.0162	0.0435	0.0000	307.9632	307.9632	2.3900e-003	0.0000	308.0133
Worker	0.1825	0.2693	2.5740	6.5600e-003	0.5515	4.2400e-003	0.5558	0.1467	3.9200e-003	0.1506	0.0000	463.5820	463.5820	0.0232	0.0000	464.0684
Total	**0.3334**	**1.4687**	**4.4819**	**0.0101**	**0.6464**	**0.0219**	**0.6683**	**0.1739**	**0.0202**	**0.1941**	**0.0000**	**771.5452**	**771.5452**	**0.0256**	**0.0000**	**772.0816**

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	0.2028	1.7678	1.3325	2.0400e-003		0.1136	0.1136		0.1068	0.1068	0.0000	179.9447	179.9447	0.0440	0.0000	180.8695
Total	**0.2028**	**1.7678**	**1.3325**	**2.0400e-003**		**0.1136**	**0.1136**		**0.1068**	**0.1068**	**0.0000**	**179.9447**	**179.9447**	**0.0440**	**0.0000**	**180.8695**

3.5 Building Construction - 2018

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	0.1510	1.1995	1.9080	3.5000e-003	0.0949	0.0177	0.1125	0.0272	0.0162	0.0435	0.0000	307.9632	307.9632	2.3900e-003	0.0000	308.0133
Worker	0.1825	0.2693	2.5740	6.5600e-003	0.5515	4.2400e-003	0.5558	0.1467	3.9200e-003	0.1506	0.0000	463.5820	463.5820	0.0232	0.0000	464.0684
Total	**0.3334**	**1.4687**	**4.4819**	**0.0101**	**0.6464**	**0.0219**	**0.6683**	**0.1739**	**0.0202**	**0.1941**	**0.0000**	**771.5452**	**771.5452**	**0.0256**	**0.0000**	**772.0816**

3.5 Building Construction - 2019

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5302	305.5302	0.0743	0.0000	307.0913
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5302**	**305.5302**	**0.0743**	**0.0000**	**307.0913**

3.5 Building Construction - 2019

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	0.2395	1.8805	3.1224	6.0000e-003	0.1629	0.0282	0.1911	0.0467	0.0259	0.0726	0.0000	519.7081	519.7081	4.0000e-003	0.0000	519.7922
Worker	0.2853	0.4211	4.0120	0.0113	0.9470	7.1300e-003	0.9541	0.2519	6.6100e-003	0.2585	0.0000	767.4005	767.4005	0.0370	0.0000	768.1772
Total	**0.5248**	**2.3016**	**7.1345**	**0.0173**	**1.1099**	**0.0353**	**1.1452**	**0.2986**	**0.0325**	**0.3312**	**0.0000**	**1,287.1086**	**1,287.1086**	**0.0410**	**0.0000**	**1,287.9694**

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5299	305.5299	0.0743	0.0000	307.0909
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5299**	**305.5299**	**0.0743**	**0.0000**	**307.0909**

3.5 Building Construction - 2019

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	0.2395	1.8805	3.1224	6.0000e-003	0.1629	0.0282	0.1911	0.0467	0.0259	0.0726	0.0000	519.7081	519.7081	4.0000e-003	0.0000	519.7922
Worker	0.2853	0.4211	4.0120	0.0113	0.9470	7.1300e-003	0.9541	0.2519	6.6100e-003	0.2585	0.0000	767.4005	767.4005	0.0370	0.0000	768.1772
Total	**0.5248**	**2.3016**	**7.1345**	**0.0173**	**1.1099**	**0.0353**	**1.1452**	**0.2986**	**0.0325**	**0.3312**	**0.0000**	**1,287.1086**	**1,287.1086**	**0.0410**	**0.0000**	**1,287.9694**

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	0.2766	2.5000	2.2019	3.5100e-003		0.1458	0.1458		0.1371	0.1371	0.0000	302.1514	302.1514	0.0736	0.0000	303.6973
Total	**0.2766**	**2.5000**	**2.2019**	**3.5100e-003**		**0.1458**	**0.1458**		**0.1371**	**0.1371**	**0.0000**	**302.1514**	**302.1514**	**0.0736**	**0.0000**	**303.6973**

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	0.2199	1.6098	2.9853	6.0100e-003	0.1635	0.0253	0.1888	0.0469	0.0233	0.0702	0.0000	509.7016	509.7016	3.9000e-003	0.0000	509.7835
Worker	0.2661	0.3892	3.7098	0.0113	0.9506	7.0700e-003	0.9577	0.2529	6.5600e-003	0.2594	0.0000	739.3776	739.3776	0.0349	0.0000	740.1110
Total	**0.4861**	**1.9990**	**6.6951**	**0.0173**	**1.1142**	**0.0324**	**1.1465**	**0.2998**	**0.0298**	**0.3296**	**0.0000**	**1,249.0792**	**1,249.0792**	**0.0388**	**0.0000**	**1,249.8944**

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	0.2766	2.5000	2.2019	3.5100e-003		0.1458	0.1458		0.1371	0.1371	0.0000	302.1510	302.1510	0.0736	0.0000	303.6969
Total	**0.2766**	**2.5000**	**2.2019**	**3.5100e-003**		**0.1458**	**0.1458**		**0.1371**	**0.1371**	**0.0000**	**302.1510**	**302.1510**	**0.0736**	**0.0000**	**303.6969**

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	0.2199	1.6098	2.9853	6.0100e-003	0.1635	0.0253	0.1888	0.0469	0.0233	0.0702	0.0000	509.7016	509.7016	3.9000e-003	0.0000	509.7835
Worker	0.2661	0.3892	3.7098	0.0113	0.9506	7.0700e-003	0.9577	0.2529	6.5600e-003	0.2594	0.0000	739.3776	739.3776	0.0349	0.0000	740.1110
Total	**0.4861**	**1.9990**	**6.6951**	**0.0173**	**1.1142**	**0.0324**	**1.1465**	**0.2998**	**0.0298**	**0.3296**	**0.0000**	**1,249.0792**	**1,249.0792**	**0.0388**	**0.0000**	**1,249.8944**

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	0.2471	2.2629	2.1582	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.0339	301.0339	0.0725	0.0000	302.5568
Total	**0.2471**	**2.2629**	**2.1582**	**3.5000e-003**		**0.1246**	**0.1246**		**0.1172**	**0.1172**	**0.0000**	**301.0339**	**301.0339**	**0.0725**	**0.0000**	**302.5568**

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	0.2083	1.3186	2.8749	5.9800e-003	0.1630	0.0227	0.1856	0.0467	0.0209	0.0676	0.0000	507.1406	507.1406	3.8800e-003	0.0000	507.2220
Worker	0.2502	0.3610	3.4515	0.0113	0.9470	7.0200e-003	0.9540	0.2519	6.5100e-003	0.2584	0.0000	723.6097	723.6097	0.0330	0.0000	724.3033
Total	**0.4585**	**1.6797**	**6.3263**	**0.0172**	**1.1100**	**0.0297**	**1.1397**	**0.2987**	**0.0274**	**0.3260**	**0.0000**	**1,230.7503**	**1,230.7503**	**0.0369**	**0.0000**	**1,231.5253**

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	0.2471	2.2629	2.1582	3.5000e-003		0.1246	0.1246		0.1172	0.1172	0.0000	301.0335	301.0335	0.0725	0.0000	302.5565
Total	**0.2471**	**2.2629**	**2.1582**	**3.5000e-003**		**0.1246**	**0.1246**		**0.1172**	**0.1172**	**0.0000**	**301.0335**	**301.0335**	**0.0725**	**0.0000**	**302.5565**

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	0.2083	1.3186	2.8749	5.9800e-003	0.1630	0.0227	0.1856	0.0467	0.0209	0.0676	0.0000	507.1406	507.1406	3.8800e-003	0.0000	507.2220
Worker	0.2502	0.3610	3.4515	0.0113	0.9470	7.0200e-003	0.9540	0.2519	6.5100e-003	0.2584	0.0000	723.6097	723.6097	0.0330	0.0000	724.3033
Total	**0.4585**	**1.6797**	**6.3263**	**0.0172**	**1.1100**	**0.0297**	**1.1397**	**0.2987**	**0.0274**	**0.3260**	**0.0000**	**1,230.7503**	**1,230.7503**	**0.0369**	**0.0000**	**1,231.5253**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2209	2.0197	2.1226	3.4900e-003		0.1047	0.1047		0.0986	0.0986	0.0000	299.9946	299.9946	0.0718	0.0000	301.5017
Total	**0.2209**	**2.0197**	**2.1226**	**3.4900e-003**		**0.1047**	**0.1047**		**0.0986**	**0.0986**	**0.0000**	**299.9946**	**299.9946**	**0.0718**	**0.0000**	**301.5017**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2007	1.1616	2.7628	5.9500e-003	0.1624	0.0222	0.1846	0.0466	0.0205	0.0670	0.0000	504.8486	504.8486	3.9500e-003	0.0000	504.9315
Worker	0.2359	0.3365	3.2205	0.0112	0.9434	6.9700e-003	0.9504	0.2510	6.4700e-003	0.2574	0.0000	709.0524	709.0524	0.0314	0.0000	709.7113
Total	**0.4365**	**1.4980**	**5.9833**	**0.0172**	**1.1058**	**0.0292**	**1.1350**	**0.2975**	**0.0269**	**0.3245**	**0.0000**	**1,213.9010**	**1,213.9010**	**0.0353**	**0.0000**	**1,214.6428**

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	0.2209	2.0197	2.1226	3.4900e-003		0.1047	0.1047		0.0986	0.0986	0.0000	299.9943	299.9943	0.0718	0.0000	301.5013
Total	**0.2209**	**2.0197**	**2.1226**	**3.4900e-003**		**0.1047**	**0.1047**		**0.0986**	**0.0986**	**0.0000**	**299.9943**	**299.9943**	**0.0718**	**0.0000**	**301.5013**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2007	1.1616	2.7628	5.9500e-003	0.1624	0.0222	0.1846	0.0466	0.0205	0.0670	0.0000	504.8486	504.8486	3.9500e-003	0.0000	504.9315
Worker	0.2359	0.3365	3.2205	0.0112	0.9434	6.9700e-003	0.9504	0.2510	6.4700e-003	0.2574	0.0000	709.0524	709.0524	0.0314	0.0000	709.7113
Total	**0.4365**	**1.4980**	**5.9833**	**0.0172**	**1.1058**	**0.0292**	**1.1350**	**0.2975**	**0.0269**	**0.3245**	**0.0000**	**1,213.9010**	**1,213.9010**	**0.0353**	**0.0000**	**1,214.6428**

3.5 Building Construction - 2023

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	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0980	300.0980	0.0713	0.0000	301.5949
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0980**	**300.0980**	**0.0713**	**0.0000**	**301.5949**

3.5 Building Construction - 2023

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	0.1878	0.9793	2.6546	5.9300e-003	0.1624	0.0217	0.1841	0.0466	0.0200	0.0665	0.0000	503.5124	503.5124	3.6500e-003	0.0000	503.5890
Worker	0.2235	0.3159	3.0227	0.0112	0.9434	6.9600e-003	0.9503	0.2510	6.4600e-003	0.2574	0.0000	698.3421	698.3421	0.0300	0.0000	698.9730
Total	**0.4113**	**1.2953**	**5.6773**	**0.0171**	**1.1058**	**0.0286**	**1.1344**	**0.2975**	**0.0264**	**0.3240**	**0.0000**	**1,201.8545**	**1,201.8545**	**0.0337**	**0.0000**	**1,202.5620**

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	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0976	300.0976	0.0713	0.0000	301.5946
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0976**	**300.0976**	**0.0713**	**0.0000**	**301.5946**

3.5 Building Construction - 2023

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	0.1878	0.9793	2.6546	5.9300e-003	0.1624	0.0217	0.1841	0.0466	0.0200	0.0665	0.0000	503.5124	503.5124	3.6500e-003	0.0000	503.5890
Worker	0.2235	0.3159	3.0227	0.0112	0.9434	6.9600e-003	0.9503	0.2510	6.4600e-003	0.2574	0.0000	698.3421	698.3421	0.0300	0.0000	698.9730
Total	**0.4113**	**1.2953**	**5.6773**	**0.0171**	**1.1058**	**0.0286**	**1.1344**	**0.2975**	**0.0264**	**0.3240**	**0.0000**	**1,201.8545**	**1,201.8545**	**0.0337**	**0.0000**	**1,202.5620**

3.5 Building Construction - 2024

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	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4646	302.4646	0.0714	0.0000	303.9643
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4646**	**302.4646**	**0.0714**	**0.0000**	**303.9643**

3.5 Building Construction - 2024

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	0.1837	0.9782	2.5977	5.9800e-003	0.1637	0.0220	0.1857	0.0470	0.0202	0.0672	0.0000	507.5818	507.5818	3.6900e-003	0.0000	507.6594
Worker	0.2140	0.3004	2.8787	0.0113	0.9506	7.0100e-003	0.9577	0.2529	6.5100e-003	0.2594	0.0000	694.0110	694.0110	0.0291	0.0000	694.6220
Total	**0.3977**	**1.2785**	**5.4765**	**0.0173**	**1.1143**	**0.0290**	**1.1433**	**0.2999**	**0.0267**	**0.3266**	**0.0000**	**1,201.5928**	**1,201.5928**	**0.0328**	**0.0000**	**1,202.2814**

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	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4642	302.4642	0.0714	0.0000	303.9639
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4642**	**302.4642**	**0.0714**	**0.0000**	**303.9639**

3.5 Building Construction - 2024

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	0.1837	0.9782	2.5977	5.9800e-003	0.1637	0.0220	0.1857	0.0470	0.0202	0.0672	0.0000	507.5818	507.5818	3.6900e-003	0.0000	507.6594
Worker	0.2140	0.3004	2.8787	0.0113	0.9506	7.0100e-003	0.9577	0.2529	6.5100e-003	0.2594	0.0000	694.0110	694.0110	0.0291	0.0000	694.6220
Total	**0.3977**	**1.2785**	**5.4765**	**0.0173**	**1.1143**	**0.0290**	**1.1433**	**0.2999**	**0.0267**	**0.3266**	**0.0000**	**1,201.5928**	**1,201.5928**	**0.0328**	**0.0000**	**1,202.2814**

3.5 Building Construction - 2025

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2025

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	0.1790	0.9669	2.5331	5.9600e-003	0.1631	0.0220	0.1851	0.0468	0.0202	0.0670	0.0000	505.8429	505.8429	3.6900e-003	0.0000	505.9204
Worker	0.2039	0.2843	2.7316	0.0113	0.9470	7.0100e-003	0.9540	0.2519	6.5000e-003	0.2584	0.0000	682.8405	682.8405	0.0280	0.0000	683.4287
Total	**0.3828**	**1.2512**	**5.2647**	**0.0172**	**1.1101**	**0.0290**	**1.1391**	**0.2987**	**0.0267**	**0.3255**	**0.0000**	**1,188.6834**	**1,188.6834**	**0.0317**	**0.0000**	**1,189.3491**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2025

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	0.1790	0.9669	2.5331	5.9600e-003	0.1631	0.0220	0.1851	0.0468	0.0202	0.0670	0.0000	505.8429	505.8429	3.6900e-003	0.0000	505.9204
Worker	0.2039	0.2843	2.7316	0.0113	0.9470	7.0100e-003	0.9540	0.2519	6.5000e-003	0.2584	0.0000	682.8405	682.8405	0.0280	0.0000	683.4287
Total	**0.3828**	**1.2512**	**5.2647**	**0.0172**	**1.1101**	**0.0290**	**1.1391**	**0.2987**	**0.0267**	**0.3255**	**0.0000**	**1,188.6834**	**1,188.6834**	**0.0317**	**0.0000**	**1,189.3491**

3.5 Building Construction - 2026

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2026

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	0.1742	0.9488	2.4839	5.9600e-003	0.1632	0.0216	0.1847	0.0468	0.0199	0.0667	0.0000	505.9336	505.9336	3.6400e-003	0.0000	506.0101
Worker	0.1956	0.2715	2.6151	0.0113	0.9470	7.0500e-003	0.9541	0.2519	6.5400e-003	0.2585	0.0000	675.4267	675.4267	0.0272	0.0000	675.9971
Total	**0.3697**	**1.2203**	**5.0990**	**0.0172**	**1.1102**	**0.0286**	**1.1388**	**0.2987**	**0.0264**	**0.3251**	**0.0000**	**1,181.3603**	**1,181.3603**	**0.0308**	**0.0000**	**1,182.0072**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2026

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	0.1742	0.9488	2.4839	5.9600e-003	0.1632	0.0216	0.1847	0.0468	0.0199	0.0667	0.0000	505.9336	505.9336	3.6400e-003	0.0000	506.0101
Worker	0.1956	0.2715	2.6151	0.0113	0.9470	7.0500e-003	0.9541	0.2519	6.5400e-003	0.2585	0.0000	675.4267	675.4267	0.0272	0.0000	675.9971
Total	**0.3697**	**1.2203**	**5.0990**	**0.0172**	**1.1102**	**0.0286**	**1.1388**	**0.2987**	**0.0264**	**0.3251**	**0.0000**	**1,181.3603**	**1,181.3603**	**0.0308**	**0.0000**	**1,182.0072**

3.5 Building Construction - 2027

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2027

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	0.1724	0.9424	2.4631	5.9600e-003	0.1632	0.0216	0.1848	0.0468	0.0199	0.0667	0.0000	506.0973	506.0973	3.6500e-003	0.0000	506.1739
Worker	0.1878	0.2601	2.5118	0.0113	0.9470	7.0900e-003	0.9541	0.2519	6.5800e-003	0.2585	0.0000	668.9367	668.9367	0.0264	0.0000	669.4912
Total	**0.3602**	**1.2025**	**4.9749**	**0.0172**	**1.1102**	**0.0287**	**1.1389**	**0.2987**	**0.0265**	**0.3252**	**0.0000**	**1,175.0340**	**1,175.0340**	**0.0301**	**0.0000**	**1,175.6651**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2027

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	0.1724	0.9424	2.4631	5.9600e-003	0.1632	0.0216	0.1848	0.0468	0.0199	0.0667	0.0000	506.0973	506.0973	3.6500e-003	0.0000	506.1739
Worker	0.1878	0.2601	2.5118	0.0113	0.9470	7.0900e-003	0.9541	0.2519	6.5800e-003	0.2585	0.0000	668.9367	668.9367	0.0264	0.0000	669.4912
Total	**0.3602**	**1.2025**	**4.9749**	**0.0172**	**1.1102**	**0.0287**	**1.1389**	**0.2987**	**0.0265**	**0.3252**	**0.0000**	**1,175.0340**	**1,175.0340**	**0.0301**	**0.0000**	**1,175.6651**

3.5 Building Construction - 2028

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	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2471	300.2471	0.0705	0.0000	301.7269
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2471**	**300.2471**	**0.0705**	**0.0000**	**301.7269**

3.5 Building Construction - 2028

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	0.1699	0.9323	2.4291	5.9400e-003	0.1626	0.0215	0.1841	0.0467	0.0198	0.0665	0.0000	504.3005	504.3005	3.6300e-003	0.0000	504.3768
Worker	0.1799	0.2486	2.4104	0.0112	0.9434	7.0900e-003	0.9505	0.2510	6.5800e-003	0.2575	0.0000	660.7678	660.7678	0.0256	0.0000	661.3057
Total	**0.3498**	**1.1808**	**4.8394**	**0.0172**	**1.1060**	**0.0286**	**1.1346**	**0.2976**	**0.0264**	**0.3240**	**0.0000**	**1,165.0683**	**1,165.0683**	**0.0292**	**0.0000**	**1,165.6825**

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	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2467	300.2467	0.0705	0.0000	301.7266
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2467**	**300.2467**	**0.0705**	**0.0000**	**301.7266**

3.5 Building Construction - 2028

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	0.1699	0.9323	2.4291	5.9400e-003	0.1626	0.0215	0.1841	0.0467	0.0198	0.0665	0.0000	504.3005	504.3005	3.6300e-003	0.0000	504.3768
Worker	0.1799	0.2486	2.4104	0.0112	0.9434	7.0900e-003	0.9505	0.2510	6.5800e-003	0.2575	0.0000	660.7678	660.7678	0.0256	0.0000	661.3057
Total	**0.3498**	**1.1808**	**4.8394**	**0.0172**	**1.1060**	**0.0286**	**1.1346**	**0.2976**	**0.0264**	**0.3240**	**0.0000**	**1,165.0683**	**1,165.0683**	**0.0292**	**0.0000**	**1,165.6825**

3.5 Building Construction - 2029

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2029

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	0.1682	0.9311	2.4016	5.9600e-003	0.1633	0.0216	0.1849	0.0469	0.0199	0.0668	0.0000	506.3789	506.3789	3.6500e-003	0.0000	506.4556
Worker	0.1735	0.2392	2.3294	0.0113	0.9470	7.1400e-003	0.9542	0.2519	6.6200e-003	0.2585	0.0000	658.4182	658.4182	0.0250	0.0000	658.9440
Total	**0.3417**	**1.1703**	**4.7310**	**0.0172**	**1.1103**	**0.0288**	**1.1390**	**0.2988**	**0.0265**	**0.3253**	**0.0000**	**1,164.7971**	**1,164.7971**	**0.0287**	**0.0000**	**1,165.3995**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2029

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	0.1682	0.9311	2.4016	5.9600e-003	0.1633	0.0216	0.1849	0.0469	0.0199	0.0668	0.0000	506.3789	506.3789	3.6500e-003	0.0000	506.4556
Worker	0.1735	0.2392	2.3294	0.0113	0.9470	7.1400e-003	0.9542	0.2519	6.6200e-003	0.2585	0.0000	658.4182	658.4182	0.0250	0.0000	658.9440
Total	**0.3417**	**1.1703**	**4.7310**	**0.0172**	**1.1103**	**0.0288**	**1.1390**	**0.2988**	**0.0265**	**0.3253**	**0.0000**	**1,164.7971**	**1,164.7971**	**0.0287**	**0.0000**	**1,165.3995**

3.5 Building Construction - 2030

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	0.0509	0.3088	0.6291	1.2000e-003		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	102.0659	102.0659	4.1000e-003	0.0000	102.1519
Total	**0.0509**	**0.3088**	**0.6291**	**1.2000e-003**		**5.7600e-003**	**5.7600e-003**		**5.7600e-003**	**5.7600e-003**	**0.0000**	**102.0659**	**102.0659**	**4.1000e-003**	**0.0000**	**102.1519**

3.5 Building Construction - 2030

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	0.0497	0.2771	0.7118	1.7800e-003	0.0488	6.4700e-003	0.0553	0.0140	5.9500e-003	0.0200	0.0000	151.3713	151.3713	1.0900e-003	0.0000	151.3942
Worker	0.0498	0.0686	0.6727	3.3600e-003	0.2830	2.1400e-003	0.2852	0.0753	1.9800e-003	0.0773	0.0000	195.5117	195.5117	7.3000e-003	0.0000	195.6650
Total	**0.0995**	**0.3457**	**1.3845**	**5.1400e-003**	**0.3318**	**8.6100e-003**	**0.3404**	**0.0893**	**7.9300e-003**	**0.0972**	**0.0000**	**346.8830**	**346.8830**	**8.3900e-003**	**0.0000**	**347.0592**

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	0.0509	0.3088	0.6291	1.2000e-003		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	102.0658	102.0658	4.1000e-003	0.0000	102.1518
Total	**0.0509**	**0.3088**	**0.6291**	**1.2000e-003**		**5.7600e-003**	**5.7600e-003**		**5.7600e-003**	**5.7600e-003**	**0.0000**	**102.0658**	**102.0658**	**4.1000e-003**	**0.0000**	**102.1518**

3.5 Building Construction - 2030

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	0.0497	0.2771	0.7118	1.7800e-003	0.0488	6.4700e-003	0.0553	0.0140	5.9500e-003	0.0200	0.0000	151.3713	151.3713	1.0900e-003	0.0000	151.3942
Worker	0.0498	0.0686	0.6727	3.3600e-003	0.2830	2.1400e-003	0.2852	0.0753	1.9800e-003	0.0773	0.0000	195.5117	195.5117	7.3000e-003	0.0000	195.6650
Total	**0.0995**	**0.3457**	**1.3845**	**5.1400e-003**	**0.3318**	**8.6100e-003**	**0.3404**	**0.0893**	**7.9300e-003**	**0.0972**	**0.0000**	**346.8830**	**346.8830**	**8.3900e-003**	**0.0000**	**347.0592**

3.6 Paving - 2030

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	0.1240	0.6387	1.4200	2.5100e-003		0.0296	0.0296		0.0296	0.0296	0.0000	215.8181	215.8181	0.0101	0.0000	216.0306
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1240**	**0.6387**	**1.4200**	**2.5100e-003**		**0.0296**	**0.0296**		**0.0296**	**0.0296**	**0.0000**	**215.8181**	**215.8181**	**0.0101**	**0.0000**	**216.0306**

3.6 Paving - 2030

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	2.1900e-003	3.0200e-003	0.0296	1.5000e-004	0.0125	9.0000e-005	0.0125	3.3100e-003	9.0000e-005	3.4000e-003	0.0000	8.6006	8.6006	3.2000e-004	0.0000	8.6074
Total	**2.1900e-003**	**3.0200e-003**	**0.0296**	**1.5000e-004**	**0.0125**	**9.0000e-005**	**0.0125**	**3.3100e-003**	**9.0000e-005**	**3.4000e-003**	**0.0000**	**8.6006**	**8.6006**	**3.2000e-004**	**0.0000**	**8.6074**

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	0.1240	0.6387	1.4200	2.5100e-003		0.0296	0.0296		0.0296	0.0296	0.0000	215.8179	215.8179	0.0101	0.0000	216.0303
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1240**	**0.6387**	**1.4200**	**2.5100e-003**		**0.0296**	**0.0296**		**0.0296**	**0.0296**	**0.0000**	**215.8179**	**215.8179**	**0.0101**	**0.0000**	**216.0303**

3.6 Paving - 2030

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	2.1900e-003	3.0200e-003	0.0296	1.5000e-004	0.0125	9.0000e-005	0.0125	3.3100e-003	9.0000e-005	3.4000e-003	0.0000	8.6006	8.6006	3.2000e-004	0.0000	8.6074
Total	**2.1900e-003**	**3.0200e-003**	**0.0296**	**1.5000e-004**	**0.0125**	**9.0000e-005**	**0.0125**	**3.3100e-003**	**9.0000e-005**	**3.4000e-003**	**0.0000**	**8.6006**	**8.6006**	**3.2000e-004**	**0.0000**	**8.6074**

3.6 Paving - 2031

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	0.0251	0.1291	0.2871	5.1000e-004		5.9800e-003	5.9800e-003		5.9800e-003	5.9800e-003	0.0000	43.6354	43.6354	2.0500e-003	0.0000	43.6783
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0251**	**0.1291**	**0.2871**	**5.1000e-004**		**5.9800e-003**	**5.9800e-003**		**5.9800e-003**	**5.9800e-003**	**0.0000**	**43.6354**	**43.6354**	**2.0500e-003**	**0.0000**	**43.6783**

3.6 Paving - 2031

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	4.3000e-004	5.9000e-004	5.7800e-003	3.0000e-005	2.5200e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	1.7294	1.7294	6.0000e-005	0.0000	1.7307
Total	**4.3000e-004**	**5.9000e-004**	**5.7800e-003**	**3.0000e-005**	**2.5200e-003**	**2.0000e-005**	**2.5400e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**1.7294**	**1.7294**	**6.0000e-005**	**0.0000**	**1.7307**

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	0.0251	0.1291	0.2871	5.1000e-004		5.9800e-003	5.9800e-003		5.9800e-003	5.9800e-003	0.0000	43.6353	43.6353	2.0500e-003	0.0000	43.6783
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0251**	**0.1291**	**0.2871**	**5.1000e-004**		**5.9800e-003**	**5.9800e-003**		**5.9800e-003**	**5.9800e-003**	**0.0000**	**43.6353**	**43.6353**	**2.0500e-003**	**0.0000**	**43.6783**

3.6 Paving - 2031

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	4.3000e-004	5.9000e-004	5.7800e-003	3.0000e-005	2.5200e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	1.7294	1.7294	6.0000e-005	0.0000	1.7307
Total	**4.3000e-004**	**5.9000e-004**	**5.7800e-003**	**3.0000e-005**	**2.5200e-003**	**2.0000e-005**	**2.5400e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**1.7294**	**1.7294**	**6.0000e-005**	**0.0000**	**1.7307**

3.7 Architectural Coating - 2031

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	23.3681					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0144	0.0942	0.1978	3.3000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	28.0858	28.0858	1.1400e-003	0.0000	28.1097
Total	**23.3824**	**0.0942**	**0.1978**	**3.3000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**28.0858**	**28.0858**	**1.1400e-003**	**0.0000**	**28.1097**

3.7 Architectural Coating - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0270	0.0371	0.3668	1.9000e-003	0.1597	1.2000e-003	0.1609	0.0425	1.1200e-003	0.0436	0.0000	109.6826	109.6826	4.0200e-003	0.0000	109.7670
Total	**0.0270**	**0.0371**	**0.3668**	**1.9000e-003**	**0.1597**	**1.2000e-003**	**0.1609**	**0.0425**	**1.1200e-003**	**0.0436**	**0.0000**	**109.6826**	**109.6826**	**4.0200e-003**	**0.0000**	**109.7670**

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	23.3681					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0144	0.0942	0.1978	3.3000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	28.0858	28.0858	1.1400e-003	0.0000	28.1096
Total	**23.3824**	**0.0942**	**0.1978**	**3.3000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**28.0858**	**28.0858**	**1.1400e-003**	**0.0000**	**28.1096**

3.7 Architectural Coating - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0270	0.0371	0.3668	1.9000e-003	0.1597	1.2000e-003	0.1609	0.0425	1.1200e-003	0.0436	0.0000	109.6826	109.6826	4.0200e-003	0.0000	109.7670
Total	**0.0270**	**0.0371**	**0.3668**	**1.9000e-003**	**0.1597**	**1.2000e-003**	**0.1609**	**0.0425**	**1.1200e-003**	**0.0436**	**0.0000**	**109.6826**	**109.6826**	**4.0200e-003**	**0.0000**	**109.7670**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	7.8390	13.0340	71.4810	0.2290	15.4784	0.3054	15.7838	4.1542	0.2820	4.4362	0.0000	14,696.7321	14,696.7321	0.3934	0.0000	14,704.9942
Unmitigated	7.8390	13.0340	71.4810	0.2290	15.4784	0.3054	15.7838	4.1542	0.2820	4.4362	0.0000	14,696.7321	14,696.7321	0.3934	0.0000	14,704.9942

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	3,908.97	4,248.21	3600.57	8,736,087	8,736,087
General Office Building	773.38	165.98	68.40	1,400,144	1,400,144
Manufacturing	67.03	26.22	10.94	155,286	155,286
Medical Office Building	7,135.83	1,769.85	305.24	10,556,353	10,556,353
Single Family Housing	1,230.79	1,295.92	1127.25	2,735,324	2,735,324
Strip Mall	1,945.41	1,845.09	896.61	2,743,184	2,743,184
Supermarket	11,217.60	19,485.45	18262.80	15,247,634	15,247,634
Total	26,279.01	28,836.72	24,271.81	41,574,013	41,574,013

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
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Manufacturing	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.544287	0.062956	0.171756	0.119283	0.033776	0.004850	0.017325	0.031479	0.002293	0.003006	0.006870	0.000528	0.001591

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	4,556.6115	4,556.6115	0.2060	0.0426	4,574.1530
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,556.6115	4,556.6115	0.2060	0.0426	4,574.1530
NaturalGas Mitigated	0.2192	1.9125	1.0861	0.0120		0.1514	0.1514		0.1514	0.1514	0.0000	2,169.1831	2,169.1831	0.0416	0.0398	2,182.3844
NaturalGas Unmitigated	0.2192	1.9125	1.0861	0.0120		0.1514	0.1514		0.1514	0.1514	0.0000	2,169.1831	2,169.1831	0.0416	0.0398	2,182.3844

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					
Condo/Townhouse	1.8727e+007	0.1010	0.8629	0.3672	5.5100e-003		0.0698	0.0698		0.0698	0.0698	0.0000	999.3443	999.3443	0.0192	0.0183	1,005.4261
General Office Building	1.85045e+006	9.9800e-003	0.0907	0.0762	5.4000e-004		6.8900e-003	6.8900e-003		6.8900e-003	6.8900e-003	0.0000	98.7470	98.7470	1.8900e-003	1.8100e-003	99.3479
Manufacturing	585504	3.1600e-003	0.0287	0.0241	1.7000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	31.2447	31.2447	6.0000e-004	5.7000e-004	31.4349
Medical Office Building	5.20439e+006	0.0281	0.2551	0.2143	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	277.7258	277.7258	5.3200e-003	5.0900e-003	279.4160
Single Family Housing	8.52034e+006	0.0459	0.3926	0.1671	2.5100e-003		0.0317	0.0317		0.0317	0.0317	0.0000	454.6778	454.6778	8.7100e-003	8.3400e-003	457.4449
Strip Mall	273600	1.4800e-003	0.0134	0.0113	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	14.6003	14.6003	2.8000e-004	2.7000e-004	14.6892
Supermarket	5.48768e+006	0.0296	0.2690	0.2260	1.6100e-003		0.0204	0.0204		0.0204	0.0204	0.0000	292.8432	292.8432	5.6100e-003	5.3700e-003	294.6254
Total		**0.2192**	**1.9125**	**1.0861**	**0.0120**		**0.1514**	**0.1514**		**0.1514**	**0.1514**	**0.0000**	**2,169.1831**	**2,169.1831**	**0.0416**	**0.0398**	**2,182.3844**

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					
General Office Building	1.85045e+006	9.9800e-003	0.0907	0.0762	5.4000e-004		6.8900e-003	6.8900e-003		6.8900e-003	6.8900e-003	0.0000	98.7470	98.7470	1.8900e-003	1.8100e-003	99.3479
Manufacturing	585504	3.1600e-003	0.0287	0.0241	1.7000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	31.2447	31.2447	6.0000e-004	5.7000e-004	31.4349
Medical Office Building	5.20439e+006	0.0281	0.2551	0.2143	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	277.7258	277.7258	5.3200e-003	5.0900e-003	279.4160
Single Family Housing	8.52034e+006	0.0459	0.3926	0.1671	2.5100e-003		0.0317	0.0317		0.0317	0.0317	0.0000	454.6778	454.6778	8.7100e-003	8.3400e-003	457.4449
Strip Mall	273600	1.4800e-003	0.0134	0.0113	8.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	14.6003	14.6003	2.8000e-004	2.7000e-004	14.6892
Supermarket	5.48768e+006	0.0296	0.2690	0.2260	1.6100e-003		0.0204	0.0204		0.0204	0.0204	0.0000	292.8432	292.8432	5.6100e-003	5.3700e-003	294.6254
Condo/Townhouse	1.8727e+007	0.1010	0.8629	0.3672	5.5100e-003		0.0698	0.0698		0.0698	0.0698	0.0000	999.3443	999.3443	0.0192	0.0183	1,005.4261
Total		**0.2192**	**1.9125**	**1.0861**	**0.0120**		**0.1514**	**0.1514**		**0.1514**	**0.1514**	**0.0000**	**2,169.1831**	**2,169.1831**	**0.0416**	**0.0398**	**2,182.3844**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	3.28653e+006	956.0904	0.0432	8.9400e-003	959.7711
General Office Building	1.26586e+006	368.2520	0.0167	3.4500e-003	369.6697
Manufacturing	188556	54.8531	2.4800e-003	5.1000e-004	55.0643
Medical Office Building	3.56022e+006	1,035.7088	0.0468	9.6900e-003	1,039.6960
Single Family Housing	1.16131e+006	337.8393	0.0153	3.1600e-003	339.1398
Strip Mall	661770	192.5165	8.7100e-003	1.8000e-003	193.2576
Supermarket	5.53898e+006	1,611.3513	0.0729	0.0151	1,617.5546
Total		**4,556.6115**	**0.2060**	**0.0426**	**4,574.1530**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	3.28653e+006	956.0904	0.0432	8.9400e-003	959.7711
General Office Building	1.26586e+006	368.2520	0.0167	3.4500e-003	369.6697
Manufacturing	188556	54.8531	2.4800e-003	5.1000e-004	55.0643
Medical Office Building	3.56022e+006	1,035.7088	0.0468	9.6900e-003	1,039.6960
Single Family Housing	1.16131e+006	337.8393	0.0153	3.1600e-003	339.1398
Strip Mall	661770	192.5165	8.7100e-003	1.8000e-003	193.2576
Supermarket	5.53898e+006	1,611.3513	0.0729	0.0151	1,617.5546
Total		**4,556.6115**	**0.2060**	**0.0426**	**4,574.1530**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	8.9561	0.0801	6.9455	3.7000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	11.3870	11.3870	0.0109	0.0000	11.6150
Unmitigated	8.9561	0.0801	6.9455	3.7000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	11.3870	11.3870	0.0109	0.0000	11.6150

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	2.3368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.4113					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	0.2080	0.0801	6.9455	3.7000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	11.3870	11.3870	0.0109	0.0000	11.6150
Total	**8.9561**	**0.0801**	**6.9455**	**3.7000e-004**		**0.0386**	**0.0386**		**0.0386**	**0.0386**	**0.0000**	**11.3870**	**11.3870**	**0.0109**	**0.0000**	**11.6150**

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	2.3368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.4113					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	0.2080	0.0801	6.9455	3.7000e-004		0.0386	0.0386		0.0386	0.0386	0.0000	11.3870	11.3870	0.0109	0.0000	11.6150
Total	**8.9561**	**0.0801**	**6.9455**	**3.7000e-004**		**0.0386**	**0.0386**		**0.0386**	**0.0386**	**0.0000**	**11.3870**	**11.3870**	**0.0109**	**0.0000**	**11.6150**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	317.0801	4.4617	0.1075	444.0916
Unmitigated	317.0801	4.4625	0.1076	444.1607

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	50.2338 / 31.6691	127.2561	1.6419	0.0397	174.0403
General Office Building	16.2093 / 9.93474	40.7734	0.5298	0.0128	55.8685
Manufacturing	5.2725 / 0	9.9723	0.1722	4.1300e-003	14.8697
Medical Office Building	32.1858 / 6.13062	67.1175	1.0514	0.0253	97.0376
Single Family Housing	10.8807 / 6.85959	27.5639	0.3556	8.6000e-003	37.6975
Strip Mall	4.22213 / 2.58776	10.6205	0.1380	3.3400e-003	14.5524
Supermarket	17.5657 / 0.54327	33.7765	0.5737	0.0138	50.0948
Total		**317.0801**	**4.4625**	**0.1076**	**444.1607**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	50.2338 / 31.6691	127.2561	1.6416	0.0396	174.0149
General Office Building	16.2093 / 9.93474	40.7734	0.5297	0.0128	55.8603
Manufacturing	5.2725 / 0	9.9723	0.1722	4.1300e-003	14.8670
Medical Office Building	32.1858 / 6.13062	67.1175	1.0512	0.0253	97.0213
Single Family Housing	10.8807 / 6.85959	27.5639	0.3556	8.5800e-003	37.6920
Strip Mall	4.22213 / 2.58776	10.6205	0.1380	3.3300e-003	14.5503
Supermarket	17.5657 / 0.54327	33.7765	0.5736	0.0138	50.0859
Total		**317.0801**	**4.4617**	**0.1075**	**444.0916**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	873.3199	51.6117	0.0000	1,957.1662
Unmitigated	873.3199	51.6117	0.0000	1,957.1662

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	354.66	71.9928	4.2547	0.0000	161.3405
General Office Building	84.82	17.2177	1.0175	0.0000	38.5860
Manufacturing	28.27	5.7386	0.3391	0.0000	12.8605
Medical Office Building	2770.2	562.3256	33.2325	0.0000	1,260.2078
Single Family Housing	200.76	40.7525	2.4084	0.0000	91.3289
Strip Mall	59.85	12.1490	0.7180	0.0000	27.2267
Supermarket	803.7	163.1438	9.6415	0.0000	365.6159
Total		**873.3199**	**51.6117**	**0.0000**	**1,957.1662**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	354.66	71.9928	4.2547	0.0000	161.3405
General Office Building	84.82	17.2177	1.0175	0.0000	38.5860
Manufacturing	28.27	5.7386	0.3391	0.0000	12.8605
Medical Office Building	2770.2	562.3256	33.2325	0.0000	1,260.2078
Single Family Housing	200.76	40.7525	2.4084	0.0000	91.3289
Strip Mall	59.85	12.1490	0.7180	0.0000	27.2267
Supermarket	803.7	163.1438	9.6415	0.0000	365.6159
Total		**873.3199**	**51.6117**	**0.0000**	**1,957.1662**

9.0 Operational Offroad

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

10.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions

Ashland Cherryland Business District Specific Plan EIR

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 41,574,013

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	2.9283	metric tons N2O	**907.76**	metric tons CO2e
		Project Total:	***907.76***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

*** From URBEMIS 2007 results for mobile sources

Appendix D

Noise Measurements and Modeling Results

File name	AU2_0101
File number	1
Data number	2
Frequency-weight	A
Time-weight	Slow
Filter	-
Center/High pass filter cutoff	-
Low pass filter cutoff	-
Time setting	15min
Start Time	4/13/2015 1:52
Stop Time	4/13/2015 2:07
Lx1	L10
Lx2	L33
Lx3	L50
Lx4	L90
Lx5	L95
Ly	Lppeak

Address	Time	Measurme	LAeq	LAE	LAmax	LAmin	LA10	LA33
1	4/13/2015 1:52	0:15:00	65.3	94.9	81.2	49	69	65.2

LA50	LA90	LA95	Lppeak	Over	Under	Pause
62.1	52.4	50.9	107.3	-	-	-

File name	AU2_0102
File number	1
Data number	2
Frequency-weight	A
Time-weight	Fast
Filter	-
Center/High pass filter cutoff	-
Low pass filter cutoff	-
Time setting	15min
Start Time	4/13/2015 2:29
Stop Time	4/13/2015 2:44
Lx1	L10
Lx2	L33
Lx3	L50
Lx4	L90
Lx5	L95
Ly	Lppeak

Address	Time	Measurme	LAeq	LAE	LAmax	LAmin	LA10	LA33
1	4/13/2015 2:29	0:15:00	69.5	99.1	83.1	53.2	73.6	69.1

LA50	LA90	LA95	Lppeak	Over	Under	Pause
65.8	58.3	57	112.7	-	-	-

File name	AU2_0103
File number	1
Data number	2
Frequency-weight	A
Time-weight	Fast
Filter	-
Center/High pass filter cutoff	-
Low pass filter cutoff	-
Time setting	15min
Start Time	4/13/2015 3:01
Stop Time	4/13/2015 3:16
Lx1	L10
Lx2	L33
Lx3	L50
Lx4	L90
Lx5	L95
Ly	Lppeak

Address	Time	Measurme	LAeq	LAE	LAmax	LAmin	LA10	LA33
1	4/13/2015 3:01	0:15:00	69.7	99.2	92.6	52.3	72.2	68.8

LA50	LA90	LA95	Lppeak	Over	Under	Pause
66.5	56.7	55.2	114.4	-	-	-

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. E. 14th Street between 150th Avenue and Ashland Avenue - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1493.6
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 80.3
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 32.1
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 68.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. E. 14th Street between 150th Avenue and Ashland Avenue - Existing+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1775.4
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 95.4
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 38.2
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 69.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. E. 14th Street between 150th Avenue and Ashland Avenue - Future

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	2232.0
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	120.0
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	48.0
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 70.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. E. 14th Street between 150th Avenue and Ashland Avenue - Future+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	2513.8
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	135.1
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	54.1
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	70.9

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. E. 14th Street between Ashland Avenue and 170th Avenue - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1263.9
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 67.9
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 27.2
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 68.0

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. E. 14th Street between Ashland Avenue and 170th Avenue - Existing+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1805.1
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 97.1
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 38.8
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 69.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. E. 14th Street between Ashland Avenue and 170th Avenue - Future

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	1526.1
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	82.1
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	32.8
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	68.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. E. 14th Street between Ashland Avenue and 170th Avenue - Future+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	2067.4
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	111.2
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	44.5
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 70.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. E. 14th Street/Mission Boulevard between 170th Avenue and Mattox Road - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1540.1
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 82.8
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 33.1
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 68.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. E. 14th Street/Mission Boulevard between 170th Avenue and Mattox Road - Existing + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 2038.6
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 109.6
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 43.8
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 70.0

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. E. 14th Street/Mission Boulevard between 170th Avenue and Mattox Road - Future

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1859.1
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 99.9
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 40.0
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 69.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. E. 14th Street/Mission Boulevard between 170th Avenue and Mattox Road - Future + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 2357.6
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 126.8
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 50.7
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 70.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

4. Mission Boulevard between Mattox Road and Hayward City Limit - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1508.5
Average automobile speed (mph): 35.0
Medium truck volume (v/h): 81.1
Average medium truck speed (mph): 35.0
Heavy truck volume (v/h): 32.4
Average heavy truck speed (mph): 35.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 68.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

4. Mission Boulevard between Mattox Road and Hayward City Limit - Existing+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	1937.2
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	104.2
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	41.7
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	69.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

4. Mission Boulevard between Mattox Road and Hayward City Limit - Future

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	1820.9
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	97.9
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	39.2
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft):	45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	69.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

4. Mission Boulevard between Mattox Road and Hayward City Limit - Future + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	2249.7
Average automobile speed (mph):	35.0
Medium truck volume (v/h):	120.9
Average medium truck speed (mph):	35.0
Heavy truck volume (v/h):	48.4
Average heavy truck speed (mph):	35.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 70.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

5. Lewelling Boulevard between Mission Boulevard and Meekland Avenue - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 964.4
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 51.3
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 10.3
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 35.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 65.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

6. Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard - Existing+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1619.6
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 86.2
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 17.2
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 67.0

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

5. Lewelling Boulevard between Mission Boulevard and Meekland Avenue - Future

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1164.7
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 62.0
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 12.4
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 35.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 66.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

5. Lewelling Boulevard between Mission Boulevard and Meekland Avenue - Future+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1441.0
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 76.7
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 15.3
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 35.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 67.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

6. Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard - Existing

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1316.9
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 70.1
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 14.0
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 66.1

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

5. Lewelling Boulevard between Mission Boulevard and Meekland Avenue - Existing+Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1240.8
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 66.0
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 13.2
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 35.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 66.8

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

6. Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard - Future

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1589.5
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 84.6
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 16.9
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Sensitive Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 66.9

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

6. Lewelling Boulevard between Meekland Avenue and Hesperian Boulevard - Future + Project

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 1892.2
Average automobile speed (mph): 30.0
Medium truck volume (v/h): 100.7
Average medium truck speed (mph): 30.0
Heavy truck volume (v/h): 20.1
Average heavy truck speed (mph): 30.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor

Distance from center of 12-ft wide, single lane roadway (ft): 45.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 67.7

Appendix E

Transportation/Traffic Technical Data

Existing Roadway Segment Count Data

FEHR PEERS

Volumes for: Tuesday, September 24, 2013 City: Alameda County Project #: 13-7537-001
Location: East 14th Street between Fairmont Drive and Ashland Avenue.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	13	129			16	129				
12:15	9	159			9	137				
12:30	13	152			12	125				
12:45	11	133	46	573	14	127	51	518	97	1091
1:00	7	149			11	144				
1:15	6	155			8	152				
1:30	7	155			5	148				
1:45	7	161	27	620	4	154	28	598	55	1218
2:00	10	139			8	164				
2:15	4	155			7	147				
2:30	4	129			4	172				
2:45	3	146	21	569	3	170	22	653	43	1222
3:00	7	147			5	154				
3:15	3	148			3	173				
3:30	4	176			2	180				
3:45	5	191	19	662	3	222	13	729	32	1391
4:00	13	191			7	209				
4:15	6	202			5	196				
4:30	8	169			5	228				
4:45	18	181	45	743	9	211	26	844	71	1587
5:00	18	159			14	209				
5:15	22	106			17	230				
5:30	32	105			15	226				
5:45	28	123	100	493	15	218	61	883	161	1376
6:00	39	100			23	200				
6:15	43	111			28	215				
6:30	46	107			41	198				
6:45	66	84	194	402	62	216	154	829	348	1231
7:00	80	90			68	197				
7:15	88	132			64	146				
7:30	116	134			117	154				
7:45	171	139	455	495	132	147	381	644	836	1139
8:00	220	128			139	116				
8:15	172	119			126	122				
8:30	179	105			132	109				
8:45	114	88	685	440	103	97	500	444	1185	884
9:00	120	78			87	89				
9:15	107	61			85	79				
9:30	115	59			96	81				
9:45	118	59	460	257	94	75	362	324	822	581
10:00	116	61			107	65				
10:15	124	43			93	58				
10:30	110	34			82	39				
10:45	116	37	466	175	91	35	373	197	839	372
11:00	118	33			106	28				
11:15	146	34			116	26				
11:30	128	25			124	18				
11:45	133	20	525	112	128	26	474	98	999	210
Total	3043	5541	3043	5541	2445	6761	2445	6761	5488	12302
Combined Total	8584		8584		9206		9206		17790	
AM Peak	7:45 AM				7:45 AM					
Vol.	742				529					
P.H.F.	0.843				0.951					
PM Peak		3:30 PM				5:00 PM				
Vol.		760				883				
P.H.F.		0.941				0.960				
Percentage	35.4%	64.6%			26.6%	73.4%				

Volumes for: Wednesday, September 25, 2013 City: Alameda County Project #: 13-7537-001
Location: East 14th Street between Fairmont Drive and Ashland Avenue.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	16	114			19	173				
12:15	17	135			15	170				
12:30	15	157			21	138				
12:45	18	159	66	565	15	161	70	642	136	1207
1:00	11	166			9	156				
1:15	6	168			8	164				
1:30	3	173			8	164				
1:45	10	147	30	654	7	145	32	629	62	1283
2:00	2	142			8	125				
2:15	10	137			2	193				
2:30	1	156			10	159				
2:45	4	152	17	587	5	169	25	646	42	1233
3:00	4	178			5	179				
3:15	2	170			1	172				
3:30	3	162			1	173				
3:45	5	198	14	708	5	204	12	728	26	1436
4:00	12	172			4	199				
4:15	9	168			9	183				
4:30	8	204			8	214				
4:45	15	197	44	741	10	208	31	804	75	1545
5:00	15	204			14	194				
5:15	23	213			7	249				
5:30	26	202			15	218				
5:45	41	187	105	806	20	239	56	900	161	1706
6:00	48	189			32	247				
6:15	44	173			33	210				
6:30	47	193			43	207				
6:45	64	179	203	734	62	219	170	883	373	1617
7:00	92	163			63	162				
7:15	92	156			77	176				
7:30	116	146			71	169				
7:45	144	127	444	592	110	169	321	676	765	1268
8:00	187	115			146	127				
8:15	163	100			125	116				
8:30	184	116			129	127				
8:45	156	77	690	408	112	96	512	466	1202	874
9:00	126	69			121	80				
9:15	142	68			144	84				
9:30	133	52			113	93				
9:45	98	54	499	243	81	75	459	332	958	575
10:00	123	51			111	64				
10:15	107	64			105	53				
10:30	111	30			131	42				
10:45	117	35	458	180	112	42	459	201	917	381
11:00	142	27			133	27				
11:15	122	26			116	31				
11:30	131	27			129	27				
11:45	153	18	548	98	126	20	504	105	1052	203
Total	3118	6316	3118	6316	2651	7012	2651	7012	5769	13328
Combined Total	9434		9434		9663		9663		19097	
AM Peak	8:00 AM				11:45 AM					
Vol.	690				607					
P.H.F.	0.922				0.877					
PM Peak		4:30 PM				5:15 PM				
Vol.		818				953				
P.H.F.		0.960				0.957				
Percentage	33.1%	66.9%			27.4%	72.6%				

Volumes for: Thursday, September 26, 2013 City: Alameda County Project #: 13-7537-001
Location: East 14th Street between Fairmont Drive and Ashland Avenue.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	19	143			19	135				
12:15	9	180			12	144				
12:30	12	146			15	146				
12:45	10	146	50	615	18	144	64	569	114	1184
1:00	5	149			6	139				
1:15	6	165			5	146				
1:30	2	168			10	162				
1:45	6	151	19	633	3	165	24	612	43	1245
2:00	3	165			6	140				
2:15	5	142			7	163				
2:30	3	156			8	164				
2:45	7	150	18	613	8	159	29	626	47	1239
3:00	5	159			2	181				
3:15	1	163			1	197				
3:30	8	162			6	187				
3:45	7	200	21	684	2	188	11	753	32	1437
4:00	7	211			2	193				
4:15	3	178			7	210				
4:30	11	204			4	219				
4:45	13	200	34	793	9	212	22	834	56	1627
5:00	23	192			7	222				
5:15	15	207			10	224				
5:30	36	212			13	266				
5:45	26	191	100	802	16	224	46	936	146	1738
6:00	39	189			30	232				
6:15	46	172			38	187				
6:30	49	221			53	194				
6:45	74	177	208	759	64	216	185	829	393	1588
7:00	94	181			68	191				
7:15	92	154			90	179				
7:30	134	143			122	151				
7:45	150	138	470	616	141	155	421	676	891	1292
8:00	202	94			141	150				
8:15	158	96			142	142				
8:30	175	84			142	107				
8:45	113	78	648	352	106	96	531	495	1179	847
9:00	131	70			110	89				
9:15	110	85			79	70				
9:30	101	71			67	91				
9:45	109	84	451	310	108	90	364	340	815	650
10:00	136	52			110	69				
10:15	132	49			102	58				
10:30	143	43			109	53				
10:45	114	34	525	178	100	46	421	226	946	404
11:00	119	39			116	40				
11:15	142	30			117	33				
11:30	161	25			133	24				
11:45	151	30	573	124	137	27	503	124	1076	248
Total	3117	6479	3117	6479	2621	7020	2621	7020	5738	13499
Combined Total	9596		9596		9641		9641		19237	
AM Peak	7:45 AM				7:45 AM					
Vol.	685				566					
P.H.F.	0.848				0.996					
PM Peak		4:45 PM				5:15 PM				
Vol.		811				946				
P.H.F.		0.956				0.889				
Percentage	32.5%	67.5%			27.2%	72.8%				

Volumes for: Tuesday, September 24, 2013 City: Alameda County Project #: 13-7537-002
Location: East 14th Street between Ashland Avenue and I-238 Ramps.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	29	95			24	127				
12:15	30	104			16	137				
12:30	21	139			11	118				
12:45	23	120	103	458	18	141	69	523	172	981
1:00	20	139			16	138				
1:15	20	128			8	146				
1:30	7	123			10	155				
1:45	9	108	56	498	5	139	39	578	95	1076
2:00	12	115			11	146				
2:15	10	146			10	135				
2:30	6	130			9	156				
2:45	8	124	36	515	7	150	37	587	73	1102
3:00	7	131			6	152				
3:15	5	127			5	154				
3:30	9	118			8	158				
3:45	3	142	24	518	6	169	25	633	49	1151
4:00	4	149			13	191				
4:15	5	133			11	163				
4:30	4	182			10	202				
4:45	6	165	19	629	17	178	51	734	70	1363
5:00	4	160			28	182				
5:15	14	139			21	198				
5:30	10	156			37	184				
5:45	19	149	47	604	48	167	134	731	181	1335
6:00	21	173			52	185				
6:15	26	155			59	180				
6:30	22	171			62	161				
6:45	26	177	95	676	76	144	249	670	344	1346
7:00	30	173			91	165				
7:15	34	149			82	129				
7:30	38	145			115	144				
7:45	56	149	158	616	100	131	388	569	546	1185
8:00	78	128			142	120				
8:15	88	116			140	129				
8:30	128	122			128	107				
8:45	129	115	423	481	116	76	526	432	949	913
9:00	118	94			94	73				
9:15	113	89			82	84				
9:30	117	67			113	80	0			
9:45	99	60	447	310	95	65	384	302	831	612
10:00	84	50			105	74				
10:15	106	58			97	49				
10:30	116	61			94	42				
10:45	98	47	404	216	101	43	397	208	801	424
11:00	102	43			109	39				
11:15	97	33			105	31				
11:30	87	36			106	22				
11:45	112	34	398	146	153	41	473	133	871	279
Total	2210	5667	2210	5667	2772	6100	2772	6100	4982	11767
Combined Total	7877		7877		8872		8872		16749	
AM Peak	8:30 AM				11:45 AM					
Vol.	488				535					
P.H.F.	0.946				0.874					
PM Peak		6:00 PM				4:30 PM				
Vol.		676				760				
P.H.F.		0.968				0.941				
Percentage	28.1%	71.9%			31.2%	68.8%				

Volumes for: Wednesday, September 25, 2013 City: Alameda County Project #: 13-7537-002

Location: East 14th Street between Ashland Avenue and I-238 Ramps.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	30	87			20	132				
12:15	28	132			23	136				
12:30	27	116			18	136				
12:45	20	118	105	453	16	136	77	540	182	993
1:00	21	105			9	170				
1:15	14	129			15	156				
1:30	15	142			21	137				
1:45	14	147	64	523	13	145	58	608	122	1131
2:00	11	135			10	134				
2:15	8	133			2	142				
2:30	14	140			9	145				
2:45	3	131	36	539	4	137	25	558	61	1097
3:00	10	125			6	166				
3:15	3	128			5	142				
3:30	6	148			6	154				
3:45	7	137	26	538	9	144	26	606	52	1144
4:00	4	135			10	172				
4:15	11	123			16	169				
4:30	9	162			19	201				
4:45	10	152	34	572	22	189	67	731	101	1303
5:00	6	147			18	174				
5:15	6	161			26	192				
5:30	16	146			35	171				
5:45	10	159	38	613	62	188	141	725	179	1338
6:00	25	188			54	199				
6:15	24	145			72	185				
6:30	24	163			63	143				
6:45	33	154	106	650	89	200	278	727	384	1377
7:00	40	155			83	135				
7:15	41	158			90	151				
7:30	47	137			109	122				
7:45	57	131	185	581	108	148	390	556	575	1137
8:00	52	118			145	117				
8:15	89	110			136	109				
8:30	135	99			120	111				
8:45	123	97	399	424	113	82	514	419	913	843
9:00	144	87			118	66				
9:15	126	77			107	78				
9:30	131	63			89	74	0			
9:45	100	59	501	286	90	70	404	288	905	574
10:00	121	59			107	55				
10:15	93	61			107	56				
10:30	95	54			104	42				
10:45	97	51	406	225	104	39	422	192	828	417
11:00	82	51			111	29				
11:15	99	39			105	39				
11:30	113	31			116	21				
11:45	115	31	409	152	131	31	463	120	872	272
Total	2309	5556	2309	5556	2865	6070	2865	6070	5174	11626
Combined Total	7865		7865		8935		8935		16800	
AM Peak	8:30 AM				11:45 AM					
Vol.	528				535					
P.H.F.	0.917				0.983					
PM Peak		5:45 PM				4:30 PM				
Vol.		655				756				
P.H.F.		0.847				0.940				
Percentage	29.4%	70.6%			32.1%	67.9%				

Volumes for: Thursday, September 26, 2013 City: Alameda County Project #: 13-7537-002
Location: East 14th Street between Ashland Avenue and I-238 Ramps.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	38	103			30	105				
12:15	24	129			21	120				
12:30	17	108			11	125				
12:45	28	121	107	461	15	128	77	478	184	939
1:00	24	135			15	119				
1:15	14	140			12	143				
1:30	7	123			9	137				
1:45	11	130	56	528	11	146	47	545	103	1073
2:00	12	128			6	146				
2:15	7	130			10	135				
2:30	10	136			9	137				
2:45	9	138	38	532	8	145	33	563	71	1095
3:00	8	138			5	182				
3:15	10	136			6	142				
3:30	9	137			7	159				
3:45	4	141	31	552	13	164	31	647	62	1199
4:00	1	147			8	200				
4:15	8	128			15	193				
4:30	6	179			10	183				
4:45	5	154	20	608	20	182	53	758	73	1366
5:00	6	163			18	169				
5:15	10	155			15	173				
5:30	11	177			31	206				
5:45	18	168	45	663	56	193	120	741	165	1404
6:00	18	178			57	200				
6:15	26	179			59	165				
6:30	14	174			62	164				
6:45	27	142	85	673	95	171	273	700	358	1373
7:00	35	147			95	139				
7:15	42	180			94	116				
7:30	52	139			113	130				
7:45	62	142	191	608	125	138	427	523	618	1131
8:00	65	101			136	126				
8:15	93	108			160	130				
8:30	135	120			152	95				
8:45	117	110	410	439	111	73	559	424	969	863
9:00	112	88			102	71				
9:15	121	61			89	91				
9:30	119	66			84	79	0			
9:45	90	73	442	288	105	66	380	307	822	595
10:00	102	81			105	71				
10:15	76	76			107	71				
10:30	80	57			118	45				
10:45	107	52	365	266	114	54	444	241	809	507
11:00	111	50			115	49				
11:15	102	42			97	43				
11:30	109	34			103	28				
11:45	124	44	446	170	135	35	450	155	896	325
Total	2236	5788	2236	5788	2894	6082	2894	6082	5130	11870
Combined Total	8024		8024		8976		8976		17000	
AM Peak	8:30 AM				7:45 AM					
Vol.	485				573					
P.H.F.	0.898				0.895					
PM Peak		5:30 PM				5:15 PM				
Vol.		702				772				
P.H.F.		0.985				0.937				
Percentage	27.9%	72.1%			32.2%	67.8%				

Volumes for: Tuesday, September 24, 2013 City: Alameda County Project #: 13-7537-003

Location: East 14th Street/Mission Boulevard between I-238 Ramps and Mattox Road/Hampton Road.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	18	132			35	141				
12:15	13	140			15	149				
12:30	14	147			13	149				
12:45	16	140	61	559	20	160	83	599	144	1158
1:00	10	126			12	158				
1:15	8	123			14	137				
1:30	12	158			15	168				
1:45	11	133	41	540	13	167	54	630	95	1170
2:00	10	151			10	148				
2:15	8	123			10	136				
2:30	1	129			8	168				
2:45	8	155	27	558	9	170	37	622	64	1180
3:00	7	152			11	167				
3:15	6	201			11	164				
3:30	7	161			5	179				
3:45	7	187	27	701	12	193	39	703	66	1404
4:00	11	192			4	230				
4:15	5	187			12	203				
4:30	19	172			15	196				
4:45	20	178	55	729	14	209	45	838	100	1567
5:00	20	201			21	204				
5:15	31	197			18	208				
5:30	25	168			19	212				
5:45	38	187	114	753	41	204	99	828	213	1581
6:00	43	197			47	193				
6:15	57	182			47	193				
6:30	62	163			93	199				
6:45	66	159	228	701	79	196	266	781	494	1482
7:00	92	149			102	162				
7:15	112	144			141	138				
7:30	97	141			137	148				
7:45	136	114	437	548	165	150	545	598	982	1146
8:00	175	103			183	116				
8:15	146	109			184	101				
8:30	144	99			162	110				
8:45	135	77	600	388	143	83	672	410	1272	798
9:00	122	57			131	80				
9:15	93	65			126	78				
9:30	128	66			129	79	0			
9:45	120	73	463	261	135	79	521	316	984	577
10:00	113	58			130	59				
10:15	104	52			117	57				
10:30	130	36			123	62				
10:45	126	35	473	181	121	55	491	233	964	414
11:00	133	38			133	43				
11:15	115	32			149	42				
11:30	124	20			122	26				
11:45	124	24	496	114	127	35	531	146	1027	260
Total	3022	6033	3022	6033	3383	6704	3383	6704	6405	12737
Combined Total	9055		9055		10087		10087		19142	
AM Peak	7:45 AM				7:45 AM					
Vol.	601				694					
P.H.F.	0.859				0.943					
PM Peak		5:00 PM				4:00 PM				
Vol.		753				838				
P.H.F.		0.913				0.911				
Percentage	33.4%	66.6%			33.5%	66.5%				

Volumes for: Wednesday, September 25, 2013 City: Alameda County Project #: 13-7537-003

Location: East 14th Street/Mission Boulevard between I-238 Ramps and Mattox Road/Hampton Road.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	22	137			27	173				
12:15	28	136			25	134				
12:30	13	131			27	149				
12:45	17	156	80	560	26	154	105	610	185	1170
1:00	9	159			10	168				
1:15	7	157			11	156				
1:30	9	173			17	147				
1:45	12	151	37	640	21	170	59	641	96	1281
2:00	4	164			17	142				
2:15	7	152			9	165				
2:30	2	140			12	181				
2:45	7	166	20	622	7	153	45	641	65	1263
3:00	10	147			9	192				
3:15	8	160			7	167				
3:30	8	168			8	168				
3:45	8	206	34	681	8	201	32	728	66	1409
4:00	12	182			6	225				
4:15	8	184			13	204				
4:30	11	181			13	217				
4:45	13	209	44	756	13	218	45	864	89	1620
5:00	20	200			19	192				
5:15	22	214			18	226				
5:30	27	180			18	218				
5:45	40	220	109	814	38	239	93	875	202	1689
6:00	43	191			53	219				
6:15	48	191			70	210				
6:30	44	177			79	195				
6:45	64	147	199	706	80	199	282	823	481	1529
7:00	91	184			116	161				
7:15	85	163			121	142				
7:30	109	117			175	134				
7:45	130	112	415	576	176	147	588	584	1003	1160
8:00	136	98			222	146				
8:15	137	92			194	105				
8:30	171	116			167	106				
8:45	139	69	583	375	156	119	739	476	1322	851
9:00	153	98			144	72				
9:15	119	67			147	90				
9:30	117	68			130	75	0			
9:45	124	62	513	295	138	89	559	326	1072	621
10:00	113	61			131	59				
10:15	114	54			131	53				
10:30	117	44			123	47				
10:45	125	45	469	204	125	46	510	205	979	409
11:00	141	21			130	41				
11:15	123	33			135	29				
11:30	142	25			149	37				
11:45	116	23	522	102	142	28	556	135	1078	237
Total	3025	6331	3025	6331	3613	6908	3613	6908	6638	13239
Combined Total	9356		9356		10521		10521		19877	
AM Peak	8:15 AM				7:30 AM					
Vol.	600				767					
P.H.F.	0.877				0.864					
PM Peak		5:00 PM				5:15 PM				
Vol.		814				902				
P.H.F.		0.904				0.944				
Percentage	32.3%	67.7%			34.3%	65.7%				

Volumes for: Thursday, September 26, 2013 City: Alameda County Project #: 13-7537-003

Location: East 14th Street/Mission Boulevard between I-238 Ramps and Mattox Road/Hampton Road.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	22	131			31	130				
12:15	20	157			23	144				
12:30	12	153			17	143				
12:45	8	140	62	581	17	136	88	553	150	1134
1:00	9	160			18	148				
1:15	16	150			14	142				
1:30	5	148			12	140				
1:45	8	151	38	609	16	153	60	583	98	1192
2:00	10	157			11	166				
2:15	5	150			9	141				
2:30	4	170			13	155				
2:45	10	156	29	633	11	171	44	633	73	1266
3:00	9	187			23	220				
3:15	8	173			7	178				
3:30	6	156			5	195				
3:45	11	187	34	703	13	216	48	809	82	1512
4:00	9	195			8	220				
4:15	7	210			8	210				
4:30	16	193			12	218				
4:45	13	197	45	795	15	200	43	848	88	1643
5:00	21	219			16	203				
5:15	25	217			19	209				
5:30	34	207			19	216				
5:45	31	196	111	839	42	230	96	858	207	1697
6:00	48	211			46	227				
6:15	54	180			62	198				
6:30	51	176			74	186				
6:45	70	170	223	737	95	204	277	815	500	1552
7:00	97	157			115	177				
7:15	93	142			135	152				
7:30	92	135			145	144				
7:45	141	131	423	565	149	126	544	599	967	1164
8:00	134	115			184	113				
8:15	155	104			198	115				
8:30	151	98			166	120				
8:45	137	81	577	398	169	96	717	444	1294	842
9:00	103	67			151	90				
9:15	115	85			148	96				
9:30	116	75			139	96	0			
9:45	116	61	450	288	117	88	555	370	1005	658
10:00	158	51			142	78				
10:15	145	56			140	70				
10:30	136	39			161	66				
10:45	114	47	553	193	128	55	571	269	1124	462
11:00	128	32			141	56				
11:15	131	36			114	34				
11:30	146	17			131	26				
11:45	135	23	540	108	161	32	547	148	1087	256
Total	3085	6449	3085	6449	3590	6929	3590	6929	6675	13378
Combined Total	9534		9534		10519		10519		20053	
AM Peak	7:45 AM				8:00 AM					
Vol.	581				717					
P.H.F.	0.937				0.905					
PM Peak		4:45 PM				5:15 PM				
Vol.		840				882				
P.H.F.		0.970				0.959				
Percentage	32.4%	67.6%			34.1%	65.9%				

Volumes for: Tuesday, September 24, 2013 City: Alameda County Project #: 13-7537-004
Location: Mission Boulevard between Mattox Road/Hampton Road and Grove Way.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	19	106			27	142				
12:15	12	112			18	146				
12:30	14	118			8	128				
12:45	11	121	56	457	19	165	72	581	128	1038
1:00	11	99			14	152				
1:15	8	100			14	158				
1:30	10	138			17	156				
1:45	10	112	39	449	8	184	53	650	92	1099
2:00	9	122			9	143				
2:15	5	103			7	139				
2:30	5	124			4	173				
2:45	8	133	27	482	12	167	32	622	59	1104
3:00	0	153			7	177				
3:15	5	153			7	181				
3:30	7	142			5	193				
3:45	6	164	18	612	14	205	33	756	51	1368
4:00	3	151			3	206				
4:15	6	155			13	217				
4:30	9	169			12	207				
4:45	12	149	30	624	13	225	41	855	71	1479
5:00	8	188			19	207				
5:15	19	196			25	216				
5:30	19	168			25	196				
5:45	20	178	66	730	44	206	113	825	179	1555
6:00	21	172			67	179				
6:15	28	160			74	189				
6:30	37	124			144	172				
6:45	43	136	129	592	143	189	428	729	557	1321
7:00	48	137			181	167				
7:15	69	118			213	134				
7:30	61	111			240	152				
7:45	94	105	272	471	260	144	894	597	1166	1068
8:00	125	71			311	106				
8:15	97	99			281	97				
8:30	104	78			262	107				
8:45	86	70	412	318	245	84	1099	394	1511	712
9:00	103	55			204	90				
9:15	66	51			166	74				
9:30	85	45			147	88	0			
9:45	76	77	330	228	136	80	653	332	983	560
10:00	91	38			130	57				
10:15	85	34			146	66				
10:30	93	29			129	47				
10:45	93	29	362	130	111	56	516	226	878	356
11:00	85	30			126	35				
11:15	105	26			130	48				
11:30	92	20			122	32				
11:45	115	28	397	104	139	30	517	145	914	249
Total	2138	5197	2138	5197	4451	6712	4451	6712	6589	11909
Combined Total	7335		7335		11163		11163		18498	
AM Peak	11:45 AM				7:45 AM					
Vol.	451				1114					
P.H.F.	0.956				0.895					
PM Peak		5:00 PM				4:15 PM				
Vol.		730				856				
P.H.F.		0.918				0.951				
Percentage	29.1%	70.9%			39.9%	60.1%				

Volumes for: Wednesday, September 25, 2013 City: Alameda County Project #: 13-7537-004
Location: Mission Boulevard between Mattox Road/Hampton Road and Grove Way.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	20	119			33	159				
12:15	18	97			19	153				
12:30	8	136			20	145				
12:45	11	116	57	468	17	150	89	607	146	1075
1:00	7	130			13	181				
1:15	2	142			8	155				
1:30	7	119			17	137				
1:45	6	145	22	536	18	165	56	638	78	1174
2:00	6	135			11	148				
2:15	8	116			6	149				
2:30	2	140			10	157				
2:45	7	131	23	522	5	159	32	613	55	1135
3:00	6	119			7	194				
3:15	5	155			7	207				
3:30	4	152			7	158				
3:45	3	166	18	592	8	207	29	766	47	1358
4:00	8	163			8	216				
4:15	7	136			12	209				
4:30	6	155			12	217				
4:45	8	185	29	639	14	215	46	857	75	1496
5:00	11	195			22	198				
5:15	13	208			27	204				
5:30	14	176			26	227				
5:45	21	201	59	780	47	246	122	875	181	1655
6:00	31	171			66	230				
6:15	35	171			92	216				
6:30	30	148			126	201				
6:45	49	154	145	644	137	199	421	846	566	1490
7:00	46	130			186	185				
7:15	58	115			195	166				
7:30	81	122			253	152				
7:45	102	101	287	468	265	134	899	637	1186	1105
8:00	96	83			326	132				
8:15	87	101			271	112				
8:30	113	83			257	97				
8:45	101	66	397	333	240	116	1094	457	1491	790
9:00	84	72			217	82				
9:15	90	53			170	80				
9:30	76	57			165	87	0			
9:45	114	62	364	244	171	62	723	311	1087	555
10:00	83	45			146	54				
10:15	88	39			157	59				
10:30	83	33			169	46				
10:45	98	28	352	145	127	46	599	205	951	350
11:00	116	25			135	40				
11:15	104	33			152	31				
11:30	107	33			130	39				
11:45	79	21	406	112	137	29	554	139	960	251
Total	2159	5483	2159	5483	4664	6951	4664	6951	6823	12434
Combined Total	7642		7642		11615		11615		19257	
AM Peak	11:45 AM				7:45 AM					
Vol.	431				1119					
P.H.F.	0.792				0.858					
PM Peak		5:00 PM				5:30 PM				
Vol.		780				919				
P.H.F.		0.907				0.934				
Percentage	28.3%	71.7%			40.2%	59.8%				

Volumes for: Thursday, September 26, 2013 City: Alameda County Project #: 13-7537-004
Location: Mission Boulevard between Mattox Road/Hampton Road and Grove Way.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	22	119			26	146				
12:15	17	122			20	142				
12:30	12	122			21	126				
12:45	11	104	62	467	17	169	84	583	146	1050
1:00	3	125			16	149				
1:15	9	125			15	136				
1:30	5	135			13	155				
1:45	9	111	26	496	14	139	58	579	84	1075
2:00	8	138			9	161				
2:15	6	143			16	150				
2:30	7	142			8	168				
2:45	7	124	28	547	10	166	43	645	71	1192
3:00	6	156			19	187				
3:15	3	142			7	198				
3:30	5	138			4	200				
3:45	8	175	22	611	9	206	39	791	61	1402
4:00	8	173			8	209				
4:15	4	184			7	232				
4:30	14	151			11	213				
4:45	7	174	33	682	14	208	40	862	73	1544
5:00	11	209			24	216				
5:15	15	211			25	214				
5:30	24	196			28	202				
5:45	23	186	73	802	47	221	124	853	197	1655
6:00	25	177			49	243				
6:15	34	190			91	197				
6:30	30	163			124	189				
6:45	43	133	132	663	164	190	428	819	560	1482
7:00	58	123			188	191				
7:15	59	96			211	147				
7:30	79	109			252	140				
7:45	103	101	299	429	258	131	909	609	1208	1038
8:00	107	99			286	116				
8:15	90	92			261	113				
8:30	97	69			253	97				
8:45	98	69	392	329	278	83	1078	409	1470	738
9:00	88	68			230	90				
9:15	81	64			198	75				
9:30	74	58			199	104	0			
9:45	80	47	323	237	166	84	793	353	1116	590
10:00	96	46			189	72				
10:15	108	35			184	71				
10:30	106	39			182	60				
10:45	79	45	389	165	141	52	696	255	1085	420
11:00	110	36			160	53				
11:15	104	24			133	45				
11:30	107	13			117	36				
11:45	101	15	422	88	159	33	569	167	991	255
Total	2201	5516	2201	5516	4861	6925	4861	6925	7062	12441
Combined Total	7717		7717		11786		11786		19503	
AM Peak	11:45 AM				8:00 AM					
Vol.	464				1078					
P.H.F.	0.951				0.942					
PM Peak		5:00 PM				5:15 PM				
Vol.		802				880				
P.H.F.		0.962				0.905				
Percentage	28.5%	71.5%			41.2%	58.8%				

Volumes for: Tuesday, September 24, 2013 City: Alameda County Project #: 13-7537-005
Location: Lewelling Boulevard between Mission Boulevard and Meekland Avenue.

Start	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	15	68			11	63				
12:15	12	81			5	67				
12:30	8	64			10	78				
12:45	4	75	39	288	5	45	31	253	70	541
1:00	5	85			7	73				
1:15	12	88			4	72				
1:30	5	96			0	53				
1:45	2	83	24	352	3	61	14	259	38	611
2:00	1	78			7	53				
2:15	5	83			4	66				
2:30	5	86			4	69				
2:45	0	97	11	344	2	91	17	279	28	623
3:00	3	99			4	104				
3:15	5	133			1	93				
3:30	6	145			2	74				
3:45	3	150	17	527	3	106	10	377	27	904
4:00	3	144			5	119				
4:15	2	123			5	84				
4:30	7	159			4	96				
4:45	12	151	24	577	8	104	22	403	46	980
5:00	11	150			2	116				
5:15	17	128			9	122				
5:30	23	139			11	118				
5:45	35	174	86	591	17	126	39	482	125	1073
6:00	25	143			21	107				
6:15	31	110			22	101				
6:30	48	110			38	100				
6:45	44	108	148	471	51	89	132	397	280	868
7:00	54	88			50	70				
7:15	82	82			77	85				
7:30	93	93			83	72				
7:45	127	56	356	319	119	60	329	287	685	606
8:00	108	41			159	63				
8:15	136	46			102	58				
8:30	105	47			82	53				
8:45	94	46	443	180	66	47	409	221	852	401
9:00	95	39			53	35				
9:15	69	35			53	51				
9:30	70	23			53	41				
9:45	67	25	301	122	55	39	214	166	515	288
10:00	64	26			63	33				
10:15	68	26			56	27				
10:30	72	14			53	28				
10:45	57	21	261	87	65	15	237	103	498	190
11:00	65	18			72	15				
11:15	75	16			58	18				
11:30	59	11			61	9				
11:45	74	14	273	59	56	12	247	54	520	113
Total	1983	3917	1983	3917	1701	3281	1701	3281	3684	7198
Combined Total	5900		5900		4982		4982		10882	
AM Peak	7:45 AM				7:30 AM					
Vol.	476				463					
P.H.F.	0.875				0.728					
PM Peak		5:00 PM				5:00 PM				
Vol.		591				482				
P.H.F.		0.849				0.956				
Percentage	33.6%	66.4%			34.1%	65.9%				

Volumes for: Wednesday, September 25, 2013 City: Alameda County Project #: 13-7537-005
Location: Lewelling Boulevard between Mission Boulevard and Meekland Avenue.

Start	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	6	75			16	64				
12:15	7	60			12	69				
12:30	4	78			8	71				
12:45	9	87	26	300	3	80	39	284	65	584
1:00	4	83			4	80				
1:15	3	86			5	88				
1:30	5	85			7	76				
1:45	1	65	13	319	3	57	19	301	32	620
2:00	8	91			4	75				
2:15	4	74			6	86				
2:30	6	102			3	85				
2:45	1	100	19	367	1	79	14	325	33	692
3:00	4	98			2	87				
3:15	2	103			3	87				
3:30	4	137			3	90				
3:45	3	121	13	459	0	106	8	370	21	829
4:00	2	144			5	95				
4:15	5	134			3	91				
4:30	7	142			1	104				
4:45	16	151	30	571	4	116	13	406	43	977
5:00	5	127			5	99				
5:15	8	146			12	115				
5:30	29	155			6	112				
5:45	30	137	72	565	16	106	39	432	111	997
6:00	26	139			27	92				
6:15	28	129			32	116				
6:30	54	106			37	95				
6:45	57	101	165	475	53	101	149	404	314	879
7:00	40	94			61	100				
7:15	92	73			69	66				
7:30	92	67			75	94				
7:45	134	81	358	315	110	65	315	325	673	640
8:00	108	78			122	51				
8:15	117	59			100	55				
8:30	112	55			95	62				
8:45	105	46	442	238	62	41	379	209	821	447
9:00	107	50			87	47				
9:15	117	48			87	42				
9:30	98	33			56	41				
9:45	72	44	394	175	59	32	289	162	683	337
10:00	78	27			57	32				
10:15	62	26			67	31				
10:30	74	19			51	37				
10:45	67	23	281	95	68	24	243	124	524	219
11:00	70	8			74	18				
11:15	67	13			69	14				
11:30	58	11			59	13				
11:45	80	8	275	40	56	12	258	57	533	97
Total	2088	3919	2088	3919	1765	3399	1765	3399	3853	7318
Combined Total	6007		6007		5164		5164		11171	
AM Peak	7:45 AM				7:45 AM					
Vol.	471				427					
P.H.F.	0.879				0.875					
PM Peak		4:45 PM				4:45 PM				
Vol.		579				442				
P.H.F.		0.934				0.953				
Percentage	34.8%	65.2%			34.2%	65.8%				

Volumes for: Thursday, September 26, 2013 City: Alameda County Project #: 13-7537-005
Location: Lewelling Boulevard between Mission Boulevard and Meekland Avenue.

Start	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	11	63			13	57				
12:15	9	97			11	82				
12:30	11	75			10	53				
12:45	5	68	36	303	7	61	41	253	77	556
1:00	6	81			4	88				
1:15	8	86			6	59				
1:30	5	72			4	62				
1:45	5	74	24	313	8	58	22	267	46	580
2:00	5	64			4	69				
2:15	3	67			7	78				
2:30	2	94			4	89				
2:45	5	106	15	331	2	93	17	329	32	660
3:00	5	93			6	97				
3:15	4	127			2	106				
3:30	4	126			3	86				
3:45	5	147	18	493	0	97	11	386	29	879
4:00	5	138			7	103				
4:15	6	136			4	93				
4:30	5	136			1	114				
4:45	14	146	30	556	5	97	17	407	47	963
5:00	11	126			6	93				
5:15	13	148			7	124				
5:30	25	149			6	115				
5:45	28	130	77	553	17	122	36	454	113	1007
6:00	22	143			27	124				
6:15	38	124			25	93				
6:30	42	112			33	116				
6:45	53	93	155	472	41	99	126	432	281	904
7:00	57	98			65	76				
7:15	84	80			66	85				
7:30	105	78			74	73				
7:45	120	71	366	327	115	66	320	300	686	627
8:00	126	75			156	59				
8:15	129	53			95	61				
8:30	134	69			87	56				
8:45	100	39	489	236	89	58	427	234	916	470
9:00	87	45			60	38				
9:15	65	45			65	46				
9:30	77	33			63	39				
9:45	76	28	305	151	59	36	247	159	552	310
10:00	67	35			69	34				
10:15	64	32			74	44				
10:30	65	20			70	19				
10:45	68	18	264	105	53	28	266	125	530	230
11:00	69	16			76	17				
11:15	67	14			71	22				
11:30	70	15			72	16				
11:45	82	6	288	51	61	14	280	69	568	120
Total	2067	3891	2067	3891	1810	3415	1810	3415	3877	7306
Combined Total	5958		5958		5225		5225		11183	
AM Peak	7:45 AM				7:45 AM					
Vol.	509				453					
P.H.F.	0.950				0.726					
PM Peak		5:15 PM				5:15 PM				
Vol.		570				485				
P.H.F.		0.956				0.978				
Percentage	34.7%	65.3%			34.6%	65.4%				

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB
CITY/STATE: San Lorenzo, CA
DATE: Sep 25 2012 - Sep 30 2012

Start Time	Mon	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic	Sat 29-Sep-12	Sun 30-Sep-12	Average Week Hourly Traffic	Average Week Profile
12:00 AM		78	73	85	88	81	146	163	106	
1:00 AM		51	50	57	46	51	101	110	69	
2:00 AM		35	34	40	54	41	103	94	60	
3:00 AM		20	20	30	35	26	47	60	35	
4:00 AM		38	30	28	29	31	36	34	33	
5:00 AM		64	73	58	53	62	35	32	53	
6:00 AM		142	154	161	162	155	89	52	127	
7:00 AM		493	373	**516**	461	461	133	120	349	
8:00 AM		428	451	487	430	449	297	197	382	
9:00 AM		337	**478**	348	394	389	419	391	395	
10:00 AM		**601**	362	364	430	439	568	438	461	
11:00 AM		448	433	418	**587**	**472**	**603**	**523**	**502**	
12:00 PM		450	564	434	580	507	703	566	550	
1:00 PM		474	494	515	535	505	703	**640**	560	
2:00 PM		569	599	577	632	594	682	619	613	
3:00 PM		866	**798**	**843**	**887**	**849**	**724**	572	**782**	
4:00 PM		749	733	768	821	768	635	524	705	
5:00 PM		**874**	797	739	806	804	670	554	740	
6:00 PM		748	718	706	805	744	572	541	682	
7:00 PM		606	607	611	647	618	584	515	595	
8:00 PM		432	447	447	534	465	467	463	465	
9:00 PM		335	320	386	392	358	355	342	355	
10:00 PM		234	216	226	325	250	287	248	256	
11:00 PM		122	154	145	225	162	240	129	169	
Day Total		9194	8978	8989	9958	9281	9199	7927	9044	
% Weekday Average		99.1%	96.7%	96.9%	107.3%					
% Week Average		101.7%	99.3%	99.4%	110.1%	102.6%	101.7%	87.6%		
AM Peak		10:00 AM	9:00 AM	7:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume		601	478	516	587	472	603	523	502	
PM Peak		5:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	1:00 PM	3:00 PM	
Volume		874	798	843	887	849	724	640	782	

Comments:

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB
CITY/STATE: San Lorenzo, CA
DATE: Oct 01 2012 - Oct 01 2012

Start Time	Mon 01-Oct-12	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM	71					71			71	
1:00 AM	35					35			35	
2:00 AM	27					27			27	
3:00 AM	16					16			16	
4:00 AM	29					29			29	
5:00 AM	49					49			49	
6:00 AM	129					129			129	
7:00 AM	518					518			518	
8:00 AM	**524**					**524**			**524**	
9:00 AM	397					397			397	
10:00 AM	441					441			441	
11:00 AM	523					523			523	
12:00 PM	644					644			644	
1:00 PM	483					483			483	
2:00 PM	536					536			536	
3:00 PM	952					952			952	
4:00 PM	998					998			998	
5:00 PM	**1111**					**1111**			**1111**	
6:00 PM	1072					1072			1072	
7:00 PM	900					900			900	
8:00 PM	643					643			643	
9:00 PM	490					490			490	
10:00 PM	325					325			325	
11:00 PM	204					204			204	
Day Total	11117					11117			11117	
% Weekday Average	119.8%									
% Week Average	122.9%					100.0%				
AM Peak	8:00 AM					8:00 AM			8:00 AM	
Volume	524					524			524	
PM Peak	5:00 PM					5:00 PM			5:00 PM	
Volume	1111					1111			1111	

Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB
CITY/STATE: San Lorenzo, CA
DATE: Sep 24 2012 - Sep 28 2012

Start Time	Mon 24-Sep-12	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	71	78	73	85	88	79			
1:00 AM	35	51	50	57	46	48			
2:00 AM	27	35	34	40	54	38			
3:00 AM	16	20	20	30	35	24			
4:00 AM	29	38	30	28	29	31			
5:00 AM	49	64	73	58	53	59			
6:00 AM	129	142	154	161	162	150			
7:00 AM	518	493	373	**516**	461	472			
8:00 AM	**524**	428	451	487	430	464			
9:00 AM	397	337	**478**	348	394	391			
10:00 AM	441	**601**	362	364	430	440			
11:00 AM	523	448	433	418	**587**	**482**			
12:00 PM	644	450	564	434	580	534			
1:00 PM	483	474	494	515	535	500			
2:00 PM	536	569	599	577	632	583			
3:00 PM	952	866	**798**	**843**	**887**	**869**			
4:00 PM	998	749	733	768	821	814			
5:00 PM	**1111**	**874**	797	739	806	865			
6:00 PM	1072	748	718	706	805	810			
7:00 PM	900	606	607	611	647	674			
8:00 PM	643	432	447	447	534	501			
9:00 PM	490	335	320	386	392	385			
10:00 PM	325	234	216	226	325	265			
11:00 PM	204	122	154	145	225	170			
Day Total	11117	9194	8978	8989	9958	9648			
% Weekday Average	115.2%	95.3%	93.1%	93.2%	103.2%				
% Week Average									
AM Peak	8:00 AM	10:00 AM	9:00 AM	7:00 AM	11:00 AM	11:00 AM			
Volume	524	601	478	516	587	482			
PM Peak	5:00 PM	5:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM			
Volume	1111	874	798	843	887	869			

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB
CITY/STATE: San Lorenzo, CA
DATE: Sep 29 2012 - Sep 30 2012

Start Time			Sat 29-Sep-12	Sun 30-Sep-12	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			146	163	155	
1:00 AM			101	110	106	
2:00 AM			103	94	99	
3:00 AM			47	60	54	
4:00 AM			36	34	35	
5:00 AM			35	32	34	
6:00 AM			89	52	71	
7:00 AM			133	120	127	
8:00 AM			297	197	247	
9:00 AM			419	391	405	
10:00 AM			568	438	503	
11:00 AM			**603**	**523**	**563**	
12:00 PM			703	566	635	
1:00 PM			703	**640**	**672**	
2:00 PM			682	619	651	
3:00 PM			**724**	572	648	
4:00 PM			635	524	580	
5:00 PM			670	554	612	
6:00 PM			572	541	557	
7:00 PM			584	515	550	
8:00 PM			467	463	465	
9:00 PM			355	342	349	
10:00 PM			287	248	268	
11:00 PM			240	129	185	
Day Total			9199	7927	8571	
% Weekday Average						
% Week Average			107.3%	92.5%		
AM Peak			11:00 AM	11:00 AM	11:00 AM	
Volume			603	523	563	
PM Peak			3:00 PM	1:00 PM	1:00 PM	
Volume			724	640	672	

Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB
CITY/STATE: San Lorenzo, CA
DATE: Sep 24 2012 - Sep 30 2012

Start Time	Mon 24-Sep-12	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic	Sat 29-Sep-12	Sun 30-Sep-12	Average Week Hourly Traffic	Average Week Profile
12:00 AM	71	78	73	85	88	79	146	163	101	
1:00 AM	35	51	50	57	46	48	101	110	64	
2:00 AM	27	35	34	40	54	38	103	94	55	
3:00 AM	16	20	20	30	35	24	47	60	33	
4:00 AM	29	38	30	28	29	31	36	34	32	
5:00 AM	49	64	73	58	53	59	35	32	52	
6:00 AM	129	142	154	161	162	150	89	52	127	
7:00 AM	518	493	373	**516**	461	472	133	120	373	
8:00 AM	**524**	428	451	487	430	464	297	197	402	
9:00 AM	397	337	**478**	348	394	391	419	391	395	
10:00 AM	441	**601**	362	364	430	440	568	438	458	
11:00 AM	523	448	433	418	**587**	**482**	**603**	**523**	**505**	
12:00 PM	644	450	564	434	580	534	703	566	563	
1:00 PM	483	474	494	515	535	500	703	**640**	549	
2:00 PM	536	569	599	577	632	583	682	619	602	
3:00 PM	952	866	**798**	**843**	**887**	**869**	**724**	572	**806**	
4:00 PM	998	749	733	768	821	814	635	524	747	
5:00 PM	**1111**	**874**	797	739	806	865	670	554	793	
6:00 PM	1072	748	718	706	805	810	572	541	737	
7:00 PM	900	606	607	611	647	674	584	515	639	
8:00 PM	643	432	447	447	534	501	467	463	490	
9:00 PM	490	335	320	386	392	385	355	342	374	
10:00 PM	325	234	216	226	325	265	287	248	266	
11:00 PM	204	122	154	145	225	170	240	129	174	
Day Total	11117	9194	8978	8989	9958	9648	9199	7927	9337	
% Weekday Average	115.2%	95.3%	93.1%	93.2%	103.2%					
% Week Average	119.1%	98.5%	96.2%	96.3%	106.7%	103.3%	98.5%	84.9%		
AM Peak	8:00 AM	10:00 AM	9:00 AM	7:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	524	601	478	516	587	482	603	523	505	
PM Peak	5:00 PM	5:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	1:00 PM	3:00 PM	
Volume	1111	874	798	843	887	869	724	640	806	

Comments:

Report generated on 10/9/2012 10:30 PM

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB/WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 25 2012 - Sep 30 2012

Start Time	Mon	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic	Sat 29-Sep-12	Sun 30-Sep-12	Average Week Hourly Traffic	Average Week Profile
12:00 AM		129	115	136	135	129	251	274	173	
1:00 AM		82	82	85	82	83	159	175	111	
2:00 AM		46	52	58	84	60	146	153	90	
3:00 AM		51	45	75	69	60	79	107	71	
4:00 AM		118	110	104	113	111	82	61	98	
5:00 AM		263	279	252	246	260	110	83	206	
6:00 AM		504	487	505	497	498	206	133	389	
7:00 AM		**1152**	928	**1211**	**1099**	**1098**	322	273	831	
8:00 AM		1037	1047	1088	1008	1045	637	494	885	
9:00 AM		760	**1062**	763	825	853	894	776	847	
10:00 AM		807	747	784	864	801	1139	917	876	
11:00 AM		895	869	882	1091	934	**1228**	**1057**	**1004**	
12:00 PM		882	1069	856	1095	976	**1421**	1135	1076	
1:00 PM		923	993	947	1003	967	1415	**1202**	1081	
2:00 PM		1052	1128	1048	1170	1100	1313	1157	1145	
3:00 PM		**1559**	**1418**	**1571**	**1639**	**1547**	1363	1176	**1454**	
4:00 PM		1348	1280	1339	1462	1357	1201	1009	1273	
5:00 PM		1466	1394	1344	1463	1417	1278	994	1323	
6:00 PM		1340	1384	1232	1464	1355	1122	980	1254	
7:00 PM		1076	1056	1050	1161	1086	1064	949	1059	
8:00 PM		752	736	777	919	796	828	792	801	
9:00 PM		559	546	627	732	616	631	594	615	
10:00 PM		381	372	375	582	428	488	398	433	
11:00 PM		199	258	225	377	265	436	218	286	
Day Total		17381	17457	17334	19180	17842	17813	15107	17381	
% Weekday Average		97.4%	97.8%	97.2%	107.5%					
% Week Average		100.0%	100.4%	99.7%	110.4%	102.7%	102.5%	86.9%		
AM Peak		7:00 AM	9:00 AM	7:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume		1152	1062	1211	1099	1098	1228	1057	1004	
PM Peak		3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	1:00 PM	3:00 PM	
Volume		1559	1418	1571	1639	1547	1421	1202	1454	

Comments:

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB/WB
CITY/STATE: San Lorenzo, CA
DATE: Oct 01 2012 - Oct 01 2012

Start Time	Mon 01-Oct-12	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM	112					112			112	
1:00 AM	52					52			52	
2:00 AM	47					47			47	
3:00 AM	49					49			49	
4:00 AM	104					104			104	
5:00 AM	211					211			211	
6:00 AM	479					479			479	
7:00 AM	1188					1188			1188	
8:00 AM	**1197**					**1197**			**1197**	
9:00 AM	875					875			875	
10:00 AM	898					898			898	
11:00 AM	1075					1075			1075	
12:00 PM	1134					1134			1134	
1:00 PM	977					977			977	
2:00 PM	991					991			991	
3:00 PM	**1386**					**1386**			**1386**	
4:00 PM	1240					1240			1240	
5:00 PM	1298					1298			1298	
6:00 PM	1236					1236			1236	
7:00 PM	1077					1077			1077	
8:00 PM	752					752			752	
9:00 PM	579					579			579	
10:00 PM	394					394			394	
11:00 PM	232					232			232	
Day Total	17583					17583			17583	
% Weekday Average	98.5%									
% Week Average	101.2%					100.0%				
AM Peak	8:00 AM					8:00 AM			8:00 AM	
Volume	1197					1197			1197	
PM Peak	3:00 PM					3:00 PM			3:00 PM	
Volume	1386					1386			1386	

Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB/WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 24 2012 - Sep 28 2012

Start Time	Mon 24-Sep-12	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	112	129	115	136	135	125			
1:00 AM	52	82	82	85	82	77			
2:00 AM	47	46	52	58	84	57			
3:00 AM	49	51	45	75	69	58			
4:00 AM	104	118	110	104	113	110			
5:00 AM	211	263	279	252	246	250			
6:00 AM	479	504	487	505	497	494			
7:00 AM	1188	**1152**	928	**1211**	**1099**	**1116**			
8:00 AM	**1197**	1037	1047	1088	1008	1075			
9:00 AM	875	760	**1062**	763	825	857			
10:00 AM	898	807	747	784	864	820			
11:00 AM	1075	895	869	882	1091	962			
12:00 PM	1134	882	1069	856	1095	1007			
1:00 PM	977	923	993	947	1003	969			
2:00 PM	991	1052	1128	1048	1170	1078			
3:00 PM	**1386**	**1559**	**1418**	**1571**	**1639**	**1515**			
4:00 PM	1240	1348	1280	1339	1462	1334			
5:00 PM	1298	1466	1394	1344	1463	1393			
6:00 PM	1236	1340	1384	1232	1464	1331			
7:00 PM	1077	1076	1056	1050	1161	1084			
8:00 PM	752	752	736	777	919	787			
9:00 PM	579	559	546	627	732	609			
10:00 PM	394	381	372	375	582	421			
11:00 PM	232	199	258	225	377	258			
Day Total	17583	17381	17457	17334	19180	17787			
% Weekday Average	98.9%	97.7%	98.1%	97.5%	107.8%				
% Week Average									
AM Peak	8:00 AM	7:00 AM	9:00 AM	7:00 AM	7:00 AM	7:00 AM			
Volume	1197	1152	1062	1211	1099	1116			
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM			
Volume	1386	1559	1418	1571	1639	1515			

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB/WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 29 2012 - Sep 30 2012

Start Time			Sat 29-Sep-12	Sun 30-Sep-12	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			251	274	263	
1:00 AM			159	175	167	
2:00 AM			146	153	150	
3:00 AM			79	107	93	
4:00 AM			82	61	72	
5:00 AM			110	83	97	
6:00 AM			206	133	170	
7:00 AM			322	273	298	
8:00 AM			637	494	566	
9:00 AM			894	776	835	
10:00 AM			1139	917	1028	
11:00 AM			**1228**	**1057**	**1143**	
12:00 PM			**1421**	1135	1278	
1:00 PM			1415	**1202**	**1309**	
2:00 PM			1313	1157	1235	
3:00 PM			1363	1176	1270	
4:00 PM			1201	1009	1105	
5:00 PM			1278	994	1136	
6:00 PM			1122	980	1051	
7:00 PM			1064	949	1007	
8:00 PM			828	792	810	
9:00 PM			631	594	613	
10:00 PM			488	398	443	
11:00 PM			436	218	327	
Day Total			17813	15107	16466	
% Weekday Average						
% Week Average			108.2%	91.7%		
AM Peak			11:00 AM	11:00 AM	11:00 AM	
Volume			1228	1057	1143	
PM Peak			12:00 PM	1:00 PM	1:00 PM	
Volume			1421	1202	1309	

Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: EB/WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 24 2012 - Sep 30 2012

Start Time	Mon 24-Sep-12	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic	Sat 29-Sep-12	Sun 30-Sep-12	Average Week Hourly Traffic	Average Week Profile
12:00 AM	112	129	115	136	135	125	251	274	165	
1:00 AM	52	82	82	85	82	77	159	175	102	
2:00 AM	47	46	52	58	84	57	146	153	84	
3:00 AM	49	51	45	75	69	58	79	107	68	
4:00 AM	104	118	110	104	113	110	82	61	99	
5:00 AM	211	263	279	252	246	250	110	83	206	
6:00 AM	479	504	487	505	497	494	206	133	402	
7:00 AM	1188	**1152**	928	**1211**	**1099**	**1116**	322	273	882	
8:00 AM	**1197**	1037	1047	1088	1008	1075	637	494	930	
9:00 AM	875	760	**1062**	763	825	857	894	776	851	
10:00 AM	898	807	747	784	864	820	1139	917	879	
11:00 AM	1075	895	869	882	1091	962	**1228**	**1057**	**1014**	
12:00 PM	1134	882	1069	856	1095	1007	**1421**	1135	1085	
1:00 PM	977	923	993	947	1003	969	1415	**1202**	1066	
2:00 PM	991	1052	1128	1048	1170	1078	1313	1157	1123	
3:00 PM	**1386**	**1559**	**1418**	**1571**	**1639**	**1515**	1363	1176	**1445**	
4:00 PM	1240	1348	1280	1339	1462	1334	1201	1009	1268	
5:00 PM	1298	1466	1394	1344	1463	1393	1278	994	1320	
6:00 PM	1236	1340	1384	1232	1464	1331	1122	980	1251	
7:00 PM	1077	1076	1056	1050	1161	1084	1064	949	1062	
8:00 PM	752	752	736	777	919	787	828	792	794	
9:00 PM	579	559	546	627	732	609	631	594	610	
10:00 PM	394	381	372	375	582	421	488	398	427	
11:00 PM	232	199	258	225	377	258	436	218	278	
Day Total	17583	17381	17457	17334	19180	17787	17813	15107	17411	
% Weekday Average	98.9%	97.7%	98.1%	97.5%	107.8%					
% Week Average	101.0%	99.8%	100.3%	99.6%	110.2%	102.2%	102.3%	86.8%		
AM Peak	8:00 AM	7:00 AM	9:00 AM	7:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	1197	1152	1062	1211	1099	1116	1228	1057	1014	
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	1:00 PM	3:00 PM	
Volume	1386	1559	1418	1571	1639	1515	1421	1202	1445	

Comments:

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 25 2012 - Sep 30 2012

Start Time	Mon	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic	Sat 29-Sep-12	Sun 30-Sep-12	Average Week Hourly Traffic	Average Week Profile
12:00 AM		51	42	51	47	48	105	111	68	
1:00 AM		31	32	28	36	32	58	65	42	
2:00 AM		11	18	18	30	19	43	59	30	
3:00 AM		31	25	45	34	34	32	47	36	
4:00 AM		80	80	76	84	80	46	27	66	
5:00 AM		199	206	194	193	198	75	51	153	
6:00 AM		362	333	344	335	344	117	81	262	
7:00 AM		**659**	555	**695**	**638**	**637**	189	153	482	
8:00 AM		609	**596**	601	578	596	340	297	**504**	
9:00 AM		423	584	415	431	463	475	385	452	
10:00 AM		206	385	420	434	361	571	479	416	
11:00 AM		447	436	464	504	463	**625**	**534**	502	
12:00 PM		432	505	422	515	469	**718**	569	527	
1:00 PM		449	499	432	468	462	712	562	520	
2:00 PM		483	529	471	538	505	631	538	532	
3:00 PM		**693**	620	**728**	**752**	**698**	639	**604**	**673**	
4:00 PM		599	547	571	641	590	566	485	568	
5:00 PM		592	597	605	657	613	608	440	583	
6:00 PM		592	**666**	526	659	611	550	439	572	
7:00 PM		470	449	439	514	468	480	434	464	
8:00 PM		320	289	330	385	331	361	329	336	
9:00 PM		224	226	241	340	258	276	252	260	
10:00 PM		147	156	149	257	177	201	150	177	
11:00 PM		77	104	80	152	103	196	89	116	
Day Total		8187	8479	8345	9222	8560	8614	7180	8341	
% Weekday Average		95.6%	99.1%	97.5%	107.7%					
% Week Average		98.2%	101.7%	100.0%	110.6%	102.6%	103.3%	86.1%		
AM Peak		7:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume		659	596	695	638	637	625	534	504	
PM Peak		3:00 PM	6:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	3:00 PM	3:00 PM	
Volume		693	666	728	752	698	718	604	673	

Comments:

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: WB
CITY/STATE: San Lorenzo, CA
DATE: Oct 01 2012 - Oct 01 2012

Start Time	Mon 01-Oct-12	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM	41					41			41	
1:00 AM	17					17			17	
2:00 AM	20					20			20	
3:00 AM	33					33			33	
4:00 AM	75					75			75	
5:00 AM	162					162			162	
6:00 AM	350					350			350	
7:00 AM	670					670			670	
8:00 AM	**673**					**673**			**673**	
9:00 AM	478					478			478	
10:00 AM	457					457			457	
11:00 AM	552					552			552	
12:00 PM	490					490			490	
1:00 PM	**494**					**494**			**494**	
2:00 PM	455					455			455	
3:00 PM	434					434			434	
4:00 PM	242					242			242	
5:00 PM	187					187			187	
6:00 PM	164					164			164	
7:00 PM	177					177			177	
8:00 PM	109					109			109	
9:00 PM	89					89			89	
10:00 PM	69					69			69	
11:00 PM	28					28			28	
Day Total	6466					6466			6466	
% Weekday Average	75.5%									
% Week Average	77.5%					100.0%				
AM Peak	8:00 AM					8:00 AM			8:00 AM	
Volume	673					673			673	
PM Peak	1:00 PM					1:00 PM			1:00 PM	
Volume	494					494			494	

Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 24 2012 - Sep 28 2012

Start Time	Mon 24-Sep-12	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	41	51	42	51	47	46			
1:00 AM	17	31	32	28	36	29			
2:00 AM	20	11	18	18	30	19			
3:00 AM	33	31	25	45	34	34			
4:00 AM	75	80	80	76	84	79			
5:00 AM	162	199	206	194	193	191			
6:00 AM	350	362	333	344	335	345			
7:00 AM	670	**659**	555	**695**	**638**	**643**			
8:00 AM	**673**	609	**596**	601	578	611			
9:00 AM	478	423	584	415	431	466			
10:00 AM	457	206	385	420	434	380			
11:00 AM	552	447	436	464	504	481			
12:00 PM	490	432	505	422	515	473			
1:00 PM	**494**	449	499	432	468	468			
2:00 PM	455	483	529	471	538	495			
3:00 PM	434	**693**	620	**728**	**752**	**645**			
4:00 PM	242	599	547	571	641	520			
5:00 PM	187	592	597	605	657	528			
6:00 PM	164	592	**666**	526	659	521			
7:00 PM	177	470	449	439	514	410			
8:00 PM	109	320	289	330	385	287			
9:00 PM	89	224	226	241	340	224			
10:00 PM	69	147	156	149	257	156			
11:00 PM	28	77	104	80	152	88			
Day Total	6466	8187	8479	8345	9222	8139			
% Weekday Average	79.4%	100.6%	104.2%	102.5%	113.3%				
% Week Average									
AM Peak	8:00 AM	7:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM			
Volume	673	659	596	695	638	643			
PM Peak	1:00 PM	3:00 PM	6:00 PM	3:00 PM	3:00 PM	3:00 PM			
Volume	494	693	666	728	752	645			

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 29 2012 - Sep 30 2012

Start Time			Sat 29-Sep-12	Sun 30-Sep-12	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			105	111	108	
1:00 AM			58	65	62	
2:00 AM			43	59	51	
3:00 AM			32	47	40	
4:00 AM			46	27	37	
5:00 AM			75	51	63	
6:00 AM			117	81	99	
7:00 AM			189	153	171	
8:00 AM			340	297	319	
9:00 AM			475	385	430	
10:00 AM			571	479	525	
11:00 AM			**625**	**534**	**580**	
12:00 PM			**718**	569	**644**	
1:00 PM			712	562	637	
2:00 PM			631	538	585	
3:00 PM			639	**604**	622	
4:00 PM			566	485	526	
5:00 PM			608	440	524	
6:00 PM			550	439	495	
7:00 PM			480	434	457	
8:00 PM			361	329	345	
9:00 PM			276	252	264	
10:00 PM			201	150	176	
11:00 PM			196	89	143	
Day Total			8614	7180	7903	
% Weekday Average						
% Week Average			109.0%	90.9%		
AM Peak			11:00 AM	11:00 AM	11:00 AM	
Volume			625	534	580	
PM Peak			12:00 PM	3:00 PM	12:00 PM	
Volume			718	604	644	

Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: Lewelling Boulevard between Tracy Street and Sharon Street
QC JOB #: 10814603
SPECIFIC LOCATION: 100 ft from
DIRECTION: WB
CITY/STATE: San Lorenzo, CA
DATE: Sep 24 2012 - Sep 30 2012

Start Time	Mon 24-Sep-12	Tue 25-Sep-12	Wed 26-Sep-12	Thu 27-Sep-12	Fri 28-Sep-12	Average Weekday Hourly Traffic	Sat 29-Sep-12	Sun 30-Sep-12	Average Week Hourly Traffic	Average Week Profile
12:00 AM	41	51	42	51	47	46	105	111	64	
1:00 AM	17	31	32	28	36	29	58	65	38	
2:00 AM	20	11	18	18	30	19	43	59	28	
3:00 AM	33	31	25	45	34	34	32	47	35	
4:00 AM	75	80	80	76	84	79	46	27	67	
5:00 AM	162	199	206	194	193	191	75	51	154	
6:00 AM	350	362	333	344	335	345	117	81	275	
7:00 AM	670	**659**	555	**695**	**638**	**643**	189	153	508	
8:00 AM	**673**	609	**596**	601	578	611	340	297	**528**	
9:00 AM	478	423	584	415	431	466	475	385	456	
10:00 AM	457	206	385	420	434	380	571	479	422	
11:00 AM	552	447	436	464	504	481	**625**	**534**	509	
12:00 PM	490	432	505	422	515	473	**718**	569	522	
1:00 PM	**494**	449	499	432	468	468	712	562	517	
2:00 PM	455	483	529	471	538	495	631	538	521	
3:00 PM	434	**693**	620	**728**	**752**	**645**	639	**604**	**639**	
4:00 PM	242	599	547	571	641	520	566	485	522	
5:00 PM	187	592	597	605	657	528	608	440	527	
6:00 PM	164	592	**666**	526	659	521	550	439	514	
7:00 PM	177	470	449	439	514	410	480	434	423	
8:00 PM	109	320	289	330	385	287	361	329	303	
9:00 PM	89	224	226	241	340	224	276	252	235	
10:00 PM	69	147	156	149	257	156	201	150	161	
11:00 PM	28	77	104	80	152	88	196	89	104	
Day Total	6466	8187	8479	8345	9222	8139	8614	7180	8072	
% Weekday Average	79.4%	100.6%	104.2%	102.5%	113.3%					
% Week Average	80.1%	101.4%	105.0%	103.4%	114.2%	100.8%	106.7%	88.9%		
AM Peak	8:00 AM	7:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	673	659	596	695	638	643	625	534	528	
PM Peak	1:00 PM	3:00 PM	6:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	3:00 PM	3:00 PM	
Volume	494	693	666	728	752	645	718	604	639	

Comments:

Multimodal Level of Service (MMLOS) Scoring Sheets – Existing and ACBD Specific Plan Buildout Conditions

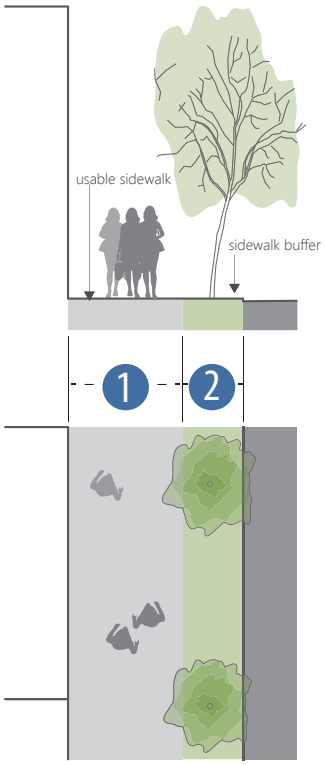
FEHR PEERS

Pedestrian MMLOS

Ashland-Cherryland

Segment Location: E. 14th St/Mission Blvd Corridor - Existing

Segment LOS = 1 + 2 + 3



1

Usable Sidewalk Width	Score	
≥8′	5	5
>6′ and <8′	4	0
≤6′	2	0

2

Buffer Between Sidewalk & Roadway	Score	
Yes	2	2
No	0	0

3

Crosswalk spacing < 400′	Score	
Yes	3	0
No	0	0

TOTAL	7

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

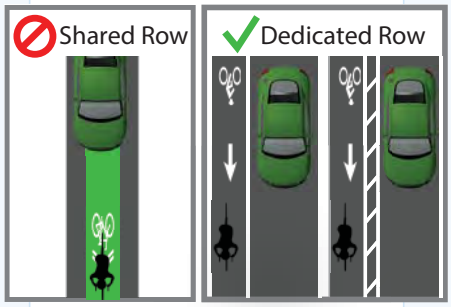
Bicycle MMLOS

Ashland-Cherryland

Segment Location: E. 14th St/Mission Blvd Corridor - Existing

SEGMENT TYPE		SCORE
1	PRESENCE of **DESIGNATED BIKEWAY** (lane, cycletrack or sharrow)	2
2	PRESENCE of **DEDICATED BIKE RIGHT-of-WAY** (lane or cycletrack). Assumes minimum 5 feet for one-directional facility, 8 feet for two-directional facility; vertical separation from sidewalk of 4 inches or more or horizontal separation from sidewalk of 5 feet or more.	4
3	BUFFER from TRAFFIC (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	1
	3-foot buffer	2
	Solid buffer (includes on-street parking)	2
4	BUFFER from PARKING (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	2
	3-foot buffer	2
	Solid buffer or no on-street parking	2

2



KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

Bicycle Segment LOS Scoring Table

Segment (Two-Way Roadway) LTS		
Segment		
Field	Category	Score
1	Presence of designated bikeway	0
2	Presence of dedicated bike right-of-way	0
3	Buffer from traffic	0
4	Buffer from parking	0
	TOTAL	0

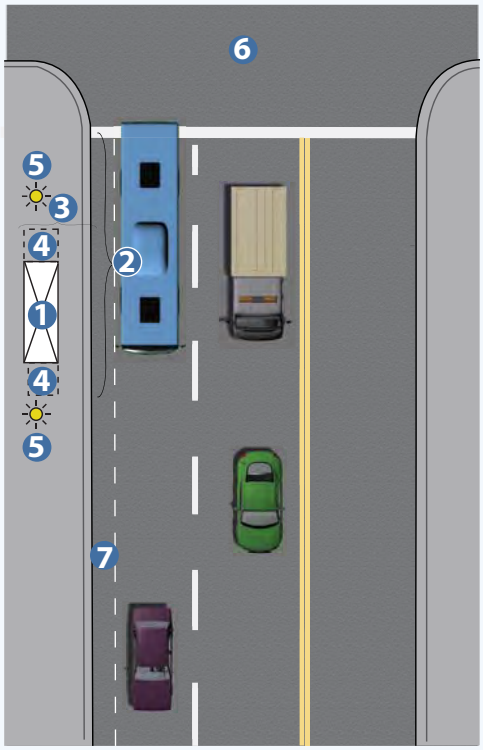
Transit MMLOS

Ashland-Cherryland

Bus Stop Location: E. 14th St/Mission Blvd Corridor - Existing

1 Bus Stop Amenities

Score one point for each bus stop amenity unless otherwise noted.



① Bus Stop Amenities	Score	
Shelter and Bench	2	0
Bench Only, No Shelter	1	1
Bus Bulb	1	0
Wayfinding/Routing Information	1	1
Bicycle Parking	1	0
Total		2

2 Bus Stop & Travel Way Characteristics

Enter score from #1 above and score each of items 2-7 that apply.		
Field	Category	Score
1	Bus Stop Amenities	2
2	Minimum Bus Stop Length & Red Curb Provided (80')	0
3	Minimum Pedestrian Path of Travel (4')	1
4	ADA Compliant Bus Stop Area (8' x 5' landing)	1
5	Pedestrian-scale Lighting	0
6	Far-side Stop	1
7	Dedicated Bike Lane Provided on Roadway? (0 points if YES, -1 points if NO)	-1
	TOTAL	4

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

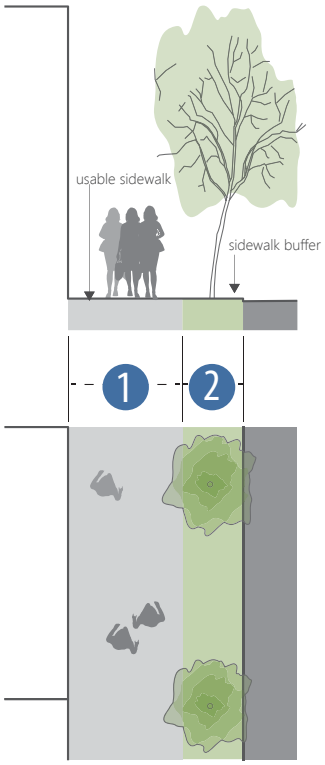
FEHR PEERS

Pedestrian MMLOS

Ashland-Cherryland

Segment Location: E. 14th St/Mission Blvd Corridor - Proposed Class II Bike Lanes

Segment LOS = 1 + 2 + 3



1

Usable Sidewalk Width	Score	
≥8′	5	5
>6′ and <8′	4	0
≤6′	2	0

2

Buffer Between Sidewalk & Roadway	Score	
Yes	2	2
No	0	0

3

Crosswalk spacing < 400′	Score	
Yes	3	0
No	0	0

TOTAL	7

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

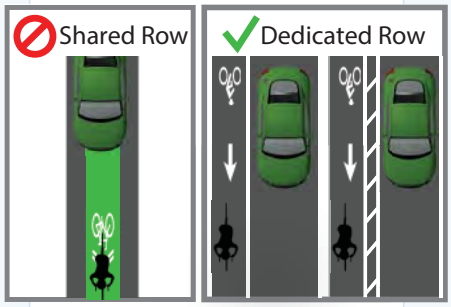
Bicycle MMLOS

Ashland-Cherryland

Segment Location: E. 14th St/Mission Blvd Corridor - Proposed Class II Bike Lanes

SEGMENT TYPE		SCORE
1	PRESENCE of **DESIGNATED BIKEWAY** (lane, cycletrack or sharrow)	2
2	PRESENCE of **DEDICATED BIKE RIGHT-of-WAY** (lane or cycletrack). Assumes minimum 5 feet for one-directional facility, 8 feet for two-directional facility; vertical separation from sidewalk of 4 inches or more or horizontal separation from sidewalk of 5 feet or more.	4
3	BUFFER from TRAFFIC (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	1
	3-foot buffer	2
	Solid buffer (includes on-street parking)	2
4	BUFFER from PARKING (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	2
	3-foot buffer	2
	Solid buffer or no on-street parking	2

2



KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

Bicycle Segment LOS Scoring Table

Segment (Two-Way Roadway) LTS		
Segment		
Field	Category	Score
1	Presence of designated bikeway	2
2	Presence of dedicated bike right-of-way	4
3	Buffer from traffic	0
4	Buffer from parking	0
	TOTAL	6

FEHR PEERS

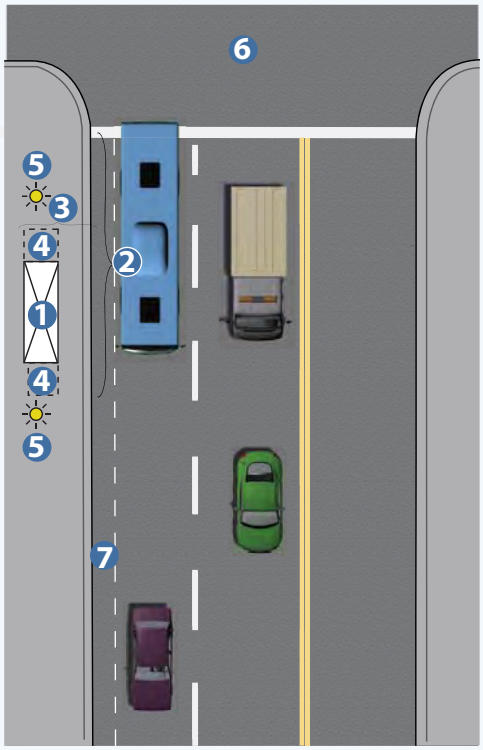
Transit MMLOS

Ashland-Cherryland

Bus Stop Location: E. 14th St/Mission Blvd Corridor - Proposed Class II Bike Lanes

1 Bus Stop Amenities

Score one point for each bus stop amenity unless otherwise noted.



① Bus Stop Amenities	Score	
Shelter and Bench	2	2
Bench Only, No Shelter	1	0
Bus Bulb	1	0
Wayfinding/Routing Information	1	1
Bicycle Parking	1	1
Total		4

2 Bus Stop & Travel Way Characteristics

Enter score from #1 above and score each of items 2-7 that apply.		
Field	Category	Score
1	Bus Stop Amenities	4
2	Minimum Bus Stop Length & Red Curb Provided (80')	1
3	Minimum Pedestrian Path of Travel (4')	1
4	ADA Compliant Bus Stop Area (8' x 5' landing)	1
5	Pedestrian-scale Lighting	0
6	Far-side Stop	1
7	Dedicated Bike Lane Provided on Roadway? (0 points if YES, -1 points if NO)	0
	TOTAL	8

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

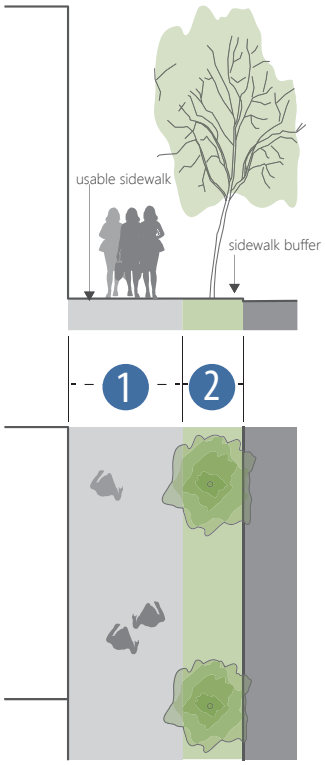
FEHR PEERS

Pedestrian MMLOS

Ashland-Cherryland

Segment Location: E. 14th St/Mission Blvd Corridor - Proposed Class III Bike Sharrows

Segment LOS = 1 + 2 + 3



1

Usable Sidewalk Width	Score	
≥8′	5	5
>6′ and <8′	4	0
≤6′	2	0

2

Buffer Between Sidewalk & Roadway	Score	
Yes	2	2
No	0	0

3

Crosswalk spacing < 400′	Score	
Yes	3	0
No	0	0

TOTAL	7

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

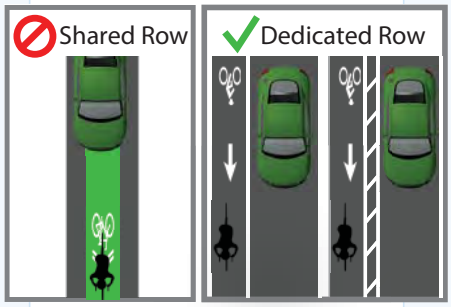
Bicycle MMLOS

Ashland-Cherryland

Segment Location: E. 14th St/Mission Blvd Corridor - Proposed Class II Bike Sharrows

SEGMENT TYPE		SCORE
1	PRESENCE of **DESIGNATED BIKEWAY** (lane, cycletrack or sharrow)	2
2	PRESENCE of **DEDICATED BIKE RIGHT-of-WAY** (lane or cycletrack). Assumes minimum 5 feet for one-directional facility, 8 feet for two-directional facility; vertical separation from sidewalk of 4 inches or more or horizontal separation from sidewalk of 5 feet or more.	4
3	BUFFER from TRAFFIC (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	1
	3-foot buffer	2
	Solid buffer (includes on-street parking)	2
4	BUFFER from PARKING (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	2
	3-foot buffer	2
	Solid buffer or no on-street parking	2

2



KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

Bicycle Segment LOS Scoring Table

Segment (Two-Way Roadway) LTS		
Segment		
Field	Category	Score
1	Presence of designated bikeway	2
2	Presence of dedicated bike right-of-way	0
3	Buffer from traffic	0
4	Buffer from parking	0
	TOTAL	2

FEHR PEERS

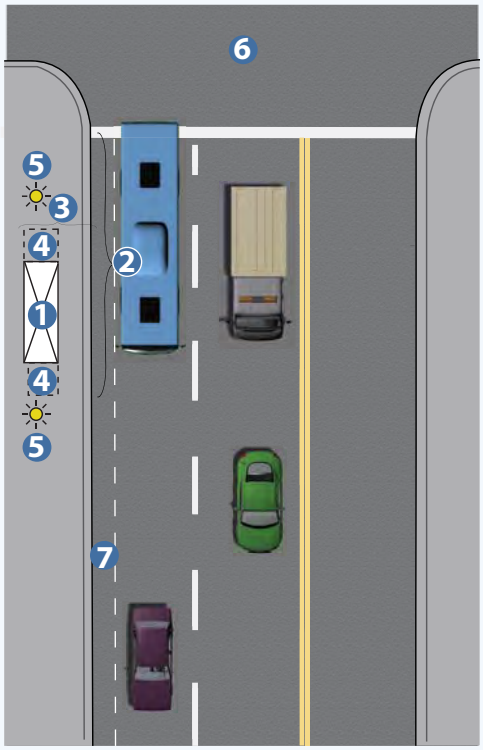
Transit MMLOS

Ashland-Cherryland

Bus Stop Location: E. 14th St/Mission Blvd Corridor - Proposed Class III Bike Sharrows

1 Bus Stop Amenities

Score one point for each bus stop amenity unless otherwise noted.



① Bus Stop Amenities	Score	
Shelter and Bench	2	2
Bench Only, No Shelter	1	0
Bus Bulb	1	0
Wayfinding/Routing Information	1	1
Bicycle Parking	1	1
Total		4

2 Bus Stop & Travel Way Characteristics

Enter score from #1 above and score each of items 2-7 that apply.		
Field	Category	Score
1	Bus Stop Amenities	4
2	Minimum Bus Stop Length & Red Curb Provided (80')	1
3	Minimum Pedestrian Path of Travel (4')	1
4	ADA Compliant Bus Stop Area (8' x 5' landing)	1
5	Pedestrian-scale Lighting	0
6	Far-side Stop	1
7	Dedicated Bike Lane Provided on Roadway? (0 points if YES, -1 points if NO)	-1
	TOTAL	7

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

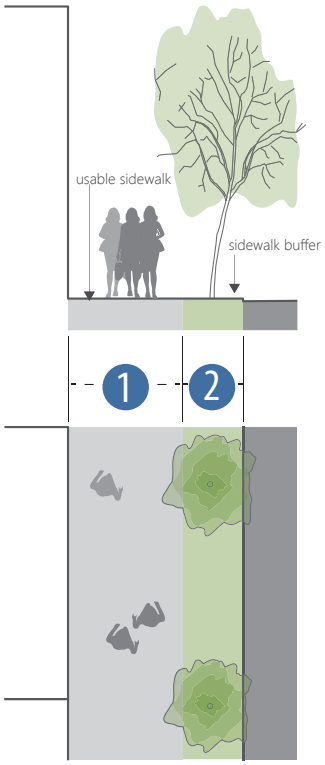
FEHR PEERS

Pedestrian MMLOS

Ashland-Cherryland

Segment Location: E. Lewelling Blvd Phase I Segment - Existing

Segment LOS = 1 + 2 + 3



1

Usable Sidewalk Width	Score	
≥8′	5	5
>6′ and <8′	4	0
≤6′	2	0

2

Buffer Between Sidewalk & Roadway	Score	
Yes	2	2
No	0	0

3

Crosswalk spacing < 400′	Score	
Yes	3	0
No	0	0

TOTAL	7

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

FEHR PEERS

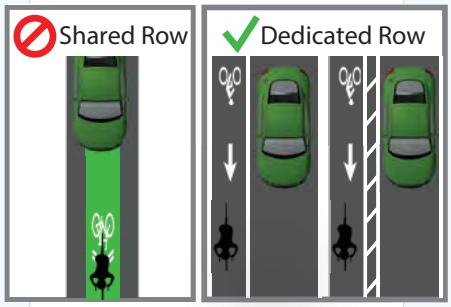
Bicycle MMLOS

Ashland-Cherryland

Segment Location: E. Lewelling Blvd Phase I Segment - Existing

SEGMENT TYPE		SCORE
1	PRESENCE of **DESIGNATED BIKEWAY** (lane, cycletrack or sharrow)	2
2	PRESENCE of **DEDICATED BIKE RIGHT-of-WAY** (lane or cycletrack). Assumes minimum 5 feet for one-directional facility, 8 feet for two-directional facility; vertical separation from sidewalk of 4 inches or more or horizontal separation from sidewalk of 5 feet or more.	4
3	BUFFER from TRAFFIC (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	1
	3-foot buffer	2
	Solid buffer (includes on-street parking)	2
4	BUFFER from PARKING (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	2
	3-foot buffer	2
	Solid buffer or no on-street parking	2

2



KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

Bicycle Segment LOS Scoring Table

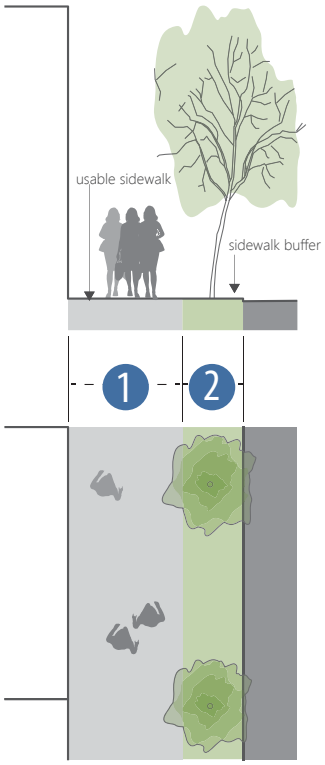
Segment (Two-Way Roadway) LTS		
Segment		
Field	Category	Score
1	Presence of designated bikeway	2
2	Presence of dedicated bike right-of-way	4
3	Buffer from traffic	0
4	Buffer from parking	0
	TOTAL	6

Pedestrian MMLOS

Ashland-Cherryland

Segment Location: E. Lewelling Blvd Phase II Segment - Existing

Segment LOS = 1 + 2 + 3



1

Usable Sidewalk Width	Score	
≥8′	5	0
>6′ and <8′	4	4
≤6′	2	0

2

Buffer Between Sidewalk & Roadway	Score	
Yes	2	2
No	0	0

3

Crosswalk spacing < 400′	Score	
Yes	3	0
No	0	0

TOTAL	6

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

FEHR PEERS

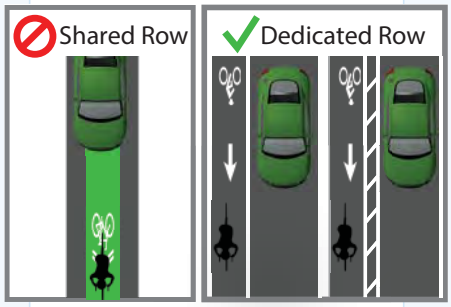
Bicycle MMLOS

Ashland-Cherryland

Segment Location: E. Lewelling Blvd Phase II Segment - Existing

SEGMENT TYPE	SCORE
1 PRESENCE of **DESIGNATED BIKEWAY** (lane, cycletrack or sharrow)	2
2 PRESENCE of **DEDICATED BIKE RIGHT-of-WAY** (lane or cycletrack). Assumes minimum 5 feet for one-directional facility, 8 feet for two-directional facility; vertical separation from sidewalk of 4 inches or more or horizontal separation from sidewalk of 5 feet or more.	4
3 BUFFER from TRAFFIC (pick one)	
No buffer	0
Painted buffer	
2-foot buffer	1
3-foot buffer	2
Solid buffer (includes on-street parking)	2
4 BUFFER from PARKING (pick one)	
No buffer	0
Painted buffer	
2-foot buffer	2
3-foot buffer	2
Solid buffer or no on-street parking	2

2



KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

Bicycle Segment LOS Scoring Table

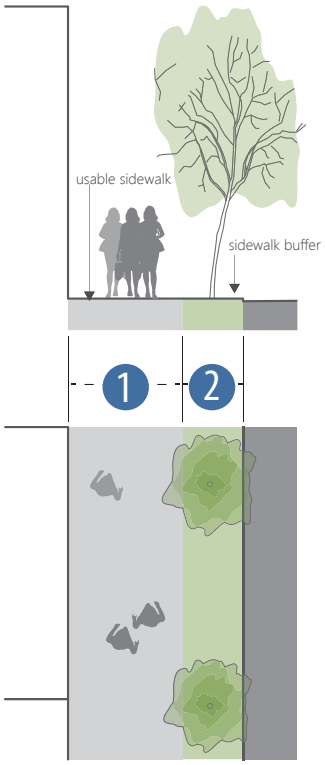
Segment (Two-Way Roadway) LTS		
Segment		
Field	Category	Score
1	Presence of designated bikeway	0
2	Presence of dedicated bike right-of-way	0
3	Buffer from traffic	0
4	Buffer from parking	0
	TOTAL	0

Pedestrian MMLOS

Ashland-Cherryland

Segment Location: E. Lewelling Blvd Phase II Segment - Proposed

Segment LOS = 1 + 2 + 3



1

Usable Sidewalk Width	Score	
≥8′	5	5
>6′ and <8′	4	0
≤6′	2	0

2

Buffer Between Sidewalk & Roadway	Score	
Yes	2	2
No	0	0

3

Crosswalk spacing < 400′	Score	
Yes	3	0
No	0	0

TOTAL	7

KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

FEHR PEERS

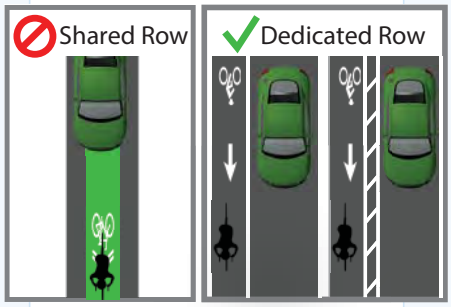
Bicycle MMLOS

Ashland-Cherryland

Segment Location: E. Lewelling Blvd Phase II Segment - Proposed

SEGMENT TYPE		SCORE
1	PRESENCE of **DESIGNATED BIKEWAY** (lane, cycletrack or sharrow)	2
2	PRESENCE of **DEDICATED BIKE RIGHT-of-WAY** (lane or cycletrack). Assumes minimum 5 feet for one-directional facility, 8 feet for two-directional facility; vertical separation from sidewalk of 4 inches or more or horizontal separation from sidewalk of 5 feet or more.	4
3	BUFFER from TRAFFIC (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	1
	3-foot buffer	2
	Solid buffer (includes on-street parking)	2
4	BUFFER from PARKING (pick one)	
	No buffer	0
	Painted buffer	
	2-foot buffer	2
	3-foot buffer	2
	Solid buffer or no on-street parking	2

2



KEY

Level of Service	Score
BEST	8-10
GOOD	6-7
POOR	≤5

Bicycle Segment LOS Scoring Table

Segment (Two-Way Roadway) LTS		
Segment		
Field	Category	Score
1	Presence of designated bikeway	2
2	Presence of dedicated bike right-of-way	4
3	Buffer from traffic	0
4	Buffer from parking	0
	TOTAL	6

Congestion Management Program (CMP) Evaluation

FEHR PEERS

Ashland Cherryland Business District Specific Plan Update
Alameda CTC Roadway System Analysis Summary - 2020 PM

Link Location	Segment Limits		A node	B node	# Lanes	Model Volume	Model Volume	Project Trips	No Project Volume	With Project Volume	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C >3%
Freeway Segments																
I-880 Northbound																
Between	Davis Street	Marina Boulevard	28360	28361	5	6,758	6,613	145	6,758	6,903	0.68	0.69	C	C	No	-
Between	Marina Boulevard	SR 238	28377	28382	5	6,663	6,507	156	6,663	6,819	0.67	0.68	C	C	No	-
Between	SR 238	A Street	41309	28415	5	6,560	6,303	257	6,560	6,817	0.66	0.68	C	C	No	-
Between	A Street	Winton Ave	28600	28602	4	6,799	6,548	251	6,799	7,050	0.85	0.88	D	D	No	-
Between	Winton Ave	SR 92	28597	28598	4	6,591	6,346	245	6,591	6,836	0.82	0.85	D	D	No	-
I-880 Southbound																
Between	SR 92	Winton Ave	28640	28639	4	7,145	6,923	222	7,145	7,367	0.89	0.92	D	E	No	-
Between	Winton Ave	A Street	28603	28601	4	7,557	7,326	231	7,557	7,788	0.94	0.97	E	E	No	-
Between	A Street	SR 238	28416	28606	5	7,208	6,971	237	7,208	7,445	0.72	0.74	C	C	No	-
Between	SR 238	Marina Boulevard	28400	28399	4	7,053	6,883	170	7,053	7,223	0.88	0.90	D	D	No	-
Between	Marina Boulevard	Davis Street	28279	28278	5	7,303	7,139	164	7,303	7,467	0.73	0.75	C	C	No	-
I-580 Eastbound/Southbound																
Between	Crow Canyon Road	Redwood Road	28502	41120	5	9,053	8,818	235	9,053	9,288	0.91	0.93	E	E	No	-
Between	Redwood Road	SR 238	31085	27739	5	9,354	9,114	240	9,354	9,594	0.94	0.96	E	E	No	-
Between	SR 238	163rd Avenue	28445	28434	4	7,012	6,633	379	7,012	7,391	0.88	0.92	D	E	No	-
Between	163rd Avenue	150th Avenue	28438	28444	4	7,470	7,091	379	7,470	7,849	0.93	0.98	E	E	No	-
Between	150th Avenue	Grand Avenue	28335	28443	4	7,730	7,302	428	7,730	8,158	0.97	1.02	E	F	Yes	-
I-580 Westbound/Northbound																
Between	Grand Avenue	150th Avenue	34176	28453	4	5,693	5,294	399	5,693	6,092	0.71	0.76	C	D	No	-
Between	150th Avenue	163rd Avenue	28481	28480	4	4,692	4,308	384	4,692	5,076	0.59	0.63	C	C	No	-
Between	163rd Avenue	SR-238	28479	28482	4	4,363	4,052	311	4,363	4,674	0.55	0.58	B	B	No	-
Between	SR 238	Redwood Road	27755	28500	5	4,369	4,112	257	4,369	4,626	0.44	0.46	B	B	No	-
Between	Redwood Road	Crow Canyon Road	31103	28501	4	5,104	4,853	251	5,104	5,355	0.64	0.67	C	C	No	-
SR 238 Westbound																
Between	I-880	E. 14th Street	41310	31040	3	3,293	2,897	396	3,293	3,689	0.55	0.61	B	C	No	-
Between	E. 14th Street	I-580	28437	28435	4	3,230	2,889	341	3,230	3,571	0.40	0.45	B	B	No	-
Between	I-580	Grove Way	33027	31051	4	3,890	3,778	112	3,890	4,002	0.49	0.50	B	B	No	-
Between	Grove Way	A Street	33018	12219	5	3,471	3,456	15	3,471	3,486	0.35	0.35	B	B	No	-
SR 238 Eastbound																
Between	A Street	Grove Way	12219	33018	5	2,489	2,474	15	2,489	2,504	0.25	0.25	A	A	No	-
Between	Grove Way	I-580	31051	33027	4	2,843	2,663	180	2,843	3,023	0.36	0.38	B	B	No	-
Between	I-580	Lewelling Boulevard	28412	28411	4	5,033	4,709	324	5,033	5,357	0.63	0.67	C	C	No	-
Between	Lewelling Boulevard	I-880	28422	28413	3	4,574	4,177	397	4,574	4,971	0.76	0.83	D	D	No	-
Arterials																
Mission Boulevard (SR 185) Northbound																
Between	San Leandro Boulevai	Hesperian Boulevard	33722	33715	2	476	398	78	476	554	0.26	0.31	A	A	No	-
Between	Hesperian Boulevard	Fairmont Drive	33251	28427	2	154	74	80	154	234	0.09	0.13	A	A	No	-
Between	Fairmont Drive	Ashland Avenue	28439	32709	2	303	111	192	303	495	0.17	0.27	A	A	No	-
Between	Ashland Avenue	163rd Avenue	28440	28439	2	203	(94)	297	203	500	0.11	0.28	A	A	No	-
Between	163rd Avenue	Lewelling Boulevard	32703	28494	2	613	103	510	613	1,123	0.34	0.62	A	C	No	-
Between	Lewelling Boulevard	Mattox Road	28519	33020	2	366	(86)	452	366	818	0.20	0.45	A	B	No	-
Between	Mattox Road	A Street	33024	31050	2	698	318	380	698	1,078	0.39	0.60	B	C	No	-
Mission Boulevard (SR 185) Southbound																
Between	SR-92	A Street	28521	32998	5	3,256	3,046	210	3,256	3,466	0.72	0.77	C	D	No	-

Ashland Cherryland Business District Specific Plan Update
Alameda CTC Roadway System Analysis Summary - 2020 PM

Link Location	Segment Limits		A node	B node	# Lanes	Model Volume	Model Volume	Project Trips	No Project Volume	With Project Volume	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C >3%
Between	A Street	Mattox Road	31050	33024	2	400	50	350	400	750	0.22	0.42	A	B	No	-
Between	Mattox Road	Lewelling Boulevard	33020	28519	2	428	52	376	428	804	0.24	0.45	A	B	No	-
Between	Lewelling Boulevard	163rd Avenue	28494	32703	2	629	240	389	629	1,018	0.35	0.57	B	B	No	-
Between	163rd Avenue	Ashland Avenue	28439	28440	2	428	166	262	428	690	0.24	0.38	A	B	No	-
Between	Ashland Avenue	Fairmont Drive	32709	28439	2	780	559	221	780	1,001	0.43	0.56	B	B	No	-
Between	Fairmont Drive	Hesperian Boulevard	28427	33251	2	349	263	86	349	435	0.19	0.24	A	A	No	-
Between	Hesperian Boulevard	San Leadandro Boulev	33715	33722	2	648	596	52	648	700	0.36	0.39	B	B	No	-
Jackson Street (SR 92) Westbound																
Between	Industrial Boulevard	Hesperian Boulevard	28655	28656	3	2,299	2,274	25	2,299	2,324	0.85	0.86	D	D	No	-
Between	Hesperian Boulevard	I-880	28662	28636	3	3,764	3,700	64	3,764	3,828	1.39	1.42	F	F	-	No
Between	I-880	SR-185	31253	28611	3	2,246	2,166	80	2,246	2,326	0.83	0.86	D	D	No	-
Jackson Street (SR 92) Eastbound																
Between	SR-185	I-880	28611	31253	3	2,933	2,858	75	2,933	3,008	1.09	1.11	F	F	-	No
Between	I-880	Hesperian Boulevard	28634	28658	4	3,661	3,586	75	3,661	3,736	1.02	1.04	F	F	-	No
Between	Hesperian Boulevard	Industrial Boulevard	28651	28654	4	6,447	6,402	45	6,447	6,492	1.79	1.80	F	F	-	No
Hesperian Boulevard Southbound																
Between	SR-185	Fairmont Drive	28385	33724	3	1,385	1,366	19	1,385	1,404	0.51	0.52	B	B	No	-
Between	Fairmont Drive	SR-238	33720	12121	3	2,282	2,262	20	2,282	2,302	0.85	0.85	D	D	No	-
Between	SR-238	Lewelling Boulevard	28421	32977	3	2,236	2,214	22	2,236	2,258	0.83	0.84	D	D	No	-
Between	Lewelling Boulevard	A Street	28592	32960	3	1,297	1,276	21	1,297	1,318	0.48	0.49	B	B	No	-
Between	A Street	Winton Avenue	31024	28618	3	597	582	15	597	612	0.22	0.23	A	A	No	-
Between	Winton Avenue	SR-92	31384	28647	3	690	678	12	690	702	0.26	0.26	A	A	No	-
Hesperian Boulevard Northbound																
Between	SR-92	Winton Avenue	28647	31384	3	1,455	1,434	21	1,455	1,476	0.54	0.55	B	B	No	-
Between	Winton Avenue	A Street	28618	31024	3	2,454	2,431	23	2,454	2,477	0.91	0.92	E	E	No	-
Between	A Street	Lewelling Boulevard	32960	28592	3	2,800	2,775	25	2,800	2,825	1.04	1.05	F	F	-	No
Between	Lewelling Boulevard	SR-238	32977	28421	3	2,894	2,874	20	2,894	2,914	1.07	1.08	F	F	-	No
Between	SR-238	Fairmont Drive	12121	33720	3	2,187	2,168	19	2,187	2,206	0.81	0.82	D	D	No	-
Between	Fairmont Drive	SR-185	33724	28385	3	1,933	1,916	17	1,933	1,950	0.72	0.72	C	C	No	-
A Street Westbound																
Between	I-880	SR-185	28556	28541	2	599	539	60	599	659	0.33	0.37	A	B	No	-
Between	SR-185	SR-238	31183	31164	5	2,581	2,356	225	2,581	2,806	0.57	0.62	B	C	No	-
Between	SR-238	Grove Way	28511	28451	2	2,058	2,038	20	2,058	2,078	1.14	1.15	F	F	-	No
Between	Grove Way	I-580	27740	12133	3	2,057	2,039	18	2,057	2,075	0.76	0.77	D	D	No	-
A Street Eastbound																
Between	I-580	Grove Way	12133	27740	3	1,545	1,495	50	1,545	1,595	0.57	0.59	B	C	No	-
Between	Grove Way	SR-238	28451	28511	2	2,079	2,069	10	2,079	2,089	1.16	1.16	F	F	-	No
Between	SR-185	I-880	28541	28556	2	731	667	64	731	795	0.41	0.44	B	B	No	-
Winton Avenue/D Street Westbound																
Between	Hesperian Boulevard	I-880	31378	31388	2	950	910	40	950	990	0.53	0.55	B	B	No	-
Between	I-880	SR-185	32986	28567	2	618	568	50	618	668	0.34	0.37	A	B	No	-
Winton Avenue/D Street Eastbound																
Between	SR-185	I-880	28567	32986	2	2,039	1,989	50	2,039	2,089	1.13	1.16	F	F	-	No
Between	I-880	Hesperian Boulevard	31388	31378	2	1,088	1,048	40	1,088	1,128	0.60	0.63	C	C	No	-
Grove Way/Crow Canyon Road Westbound																
Between	A Street	I-580	28505	12134	1	193	133	60	193	253	0.21	0.28	A	A	No	-
Between	I-580	Cull Canyon Road	28538	31099	2	452	407	45	452	497	0.25	0.28	A	A	No	-
Grove Way/Crow Canyon Road Eastbound																
Between	Cull Canyon Road	I-580	31099	28538	2	1,754	1,719	35	1,754	1,789	0.97	0.99	E	E	No	-
Between	I-580	A Street	12134	28505	1	756	746	10	756	766	0.84	0.85	D	D	No	-
Fairmont Drive Westbound																
Between	Hesperian Boulevard	SR-185	28446	30640	2	327	270	57	327	384	0.18	0.21	A	A	No	-
Between	SR-185	I-580	28448	30647	2	190	36	154	190	344	0.11	0.19	A	A	No	-
Fairmont Drive Eastbound																
Between	I-580	SR-185	30647	28448	2	1,008	887	121	1,008	1,129	0.56	0.63	B	C	No	-
Between	SR-185	Hesperian Boulevard	30640	28446	2	1,498	1,451	47	1,498	1,545	0.83	0.86	D	D	No	-

Fehr & Peers, 2015.

Ashland Cherryland Business District Specific Plan Update
Alameda CTC Roadway System Analysis Summary - 2040 PM

Link Location	Segment Limits		A node	B node	# Lanes	Model Volume	Project Trips	Without Project Volume	With Project Volume	% Increase	V/C Ratio - Without Project	V/C Ratio - With Project	Without Project LOS	With Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C >0.03
Freeway Segments																
I-880 Northbound																
Between	Davis Street	Marina Boulevard	28360	28361	5	6,857	90	6,857	6,947	1%	0.686	0.695	C	C	No	-
Between	Marina Boulevard	SR 238	28377	28382	5	6,698	101	6,698	6,799	2%	0.670	0.680	C	C	No	-
Between	SR 238	A Street	41309	28415	5	6,585	178	6,585	6,763	3%	0.659	0.676	C	C	No	-
Between	A Street	Winton Ave	28600	28602	4	6,808	172	6,808	6,980	3%	0.851	0.872	D	D	No	-
Between	Winton Ave	SR 92	28597	28598	5	6,562	166	6,562	6,728	3%	0.656	0.673	C	C	No	-
I-880 Southbound																
Between	SR 92	Winton Ave	28640	28639	5	8,109	138	8,109	8,247	2%	0.811	0.825	D	D	No	-
Between	Winton Ave	A Street	28603	28601	4	8,086	147	8,086	8,233	2%	1.011	1.029	F	F	-	No
Between	A Street	SR 238	28416	28606	5	7,796	153	7,796	7,949	2%	0.780	0.795	D	D	No	-
Between	SR 238	Marina Boulevard	28400	28399	4	7,524	118	7,524	7,642	2%	0.941	0.955	E	E	No	-
Between	Marina Boulevard	Davis Street	28279	28278	5	7,829	112	7,829	7,941	1%	0.783	0.794	D	D	No	-
I-580 Eastbound/Southbound																
Between	Crow Canyon Road	Redwood Road	28502	41120	5		149	-	149	0%	0.000	0.015	A	A	No	-
Between	Redwood Road	SR 238	31085	27739	5	9,672	154	9,672	9,826	2%	0.967	0.983	E	E	No	-
Between	SR 238	163rd Avenue	28445	28434	4	7,605	263	7,605	7,868	3%	0.951	0.983	E	E	No	-
Between	163rd Avenue	150th Avenue	28438	28444	4	8,011	257	8,011	8,268	3%	1.001	1.033	F	F	-	Yes
Between	150th Avenue	Grand Avenue	28335	28443	4	8,320	296	8,320	8,616	4%	1.040	1.077	F	F	-	Yes
I-580 Westbound/Northbound																
Between	Grand Avenue	150th Avenue	34176	28453	4	6,106	257	6,106	6,363	4%	0.763	0.795	D	D	No	-
Between	150th Avenue	163rd Avenue	28481	28480	4	5,088	253	5,088	5,341	5%	0.636	0.668	C	C	No	-
Between	163rd Avenue	SR-238	28479	28482	4	4,747	217	4,747	4,964	5%	0.593	0.621	C	C	No	-
Between	SR 238	Redwood Road	27755	28500	5	4,937	178	4,937	5,115	4%	0.494	0.512	B	B	No	-
Between	Redwood Road	Crow Canyon Road	31103	28501	4	5,516	172	5,516	5,688	3%	0.689	0.711	C	C	No	-
SR 238 Westbound																
Between	I-880	E. 14th Street	41310	31040	3	2,976	263	2,976	3,239	9%	0.496	0.540	B	B	No	-
Between	E. 14th Street	I-580	28437	28435	4	2,915	347	2,915	3,262	12%	0.364	0.408	B	B	No	-
Between	I-580	Grove Way	33027	31051	4	3,847	69	3,847	3,916	2%	0.481	0.490	B	B	No	-
Between	Grove Way	A Street	33018	12219	5	3,558	10	3,558	3,568	0%	0.356	0.357	B	B	No	-
SR 238 Eastbound																
Between	A Street	Grove Way	12219	33018	5	3,168	10	3,168	3,178	0%	0.317	0.318	A	A	No	-
Between	Grove Way	I-580	31051	33027	4	3,396	115	3,396	3,511	3%	0.425	0.439	B	B	No	-
Between	I-580	Lewelling Boulevard	28412	28411	4	4,755	223	4,755	4,978	5%	0.594	0.622	C	C	No	-
Between	Lewelling Boulevard	I-880	28422	28413	3	4,151	268	4,151	4,419	6%	0.692	0.736	C	C	No	-
Arterials																
Mission Boulevard (SR 185) Northbound																
Between	San Leandro Boulevar	Hesperian Boulevard	33722	33715	2	566	49	566	615	9%	0.314	0.342	A	A	No	-
Between	Hesperian Boulevard	Fairmont Drive	33251	28427	2	173	51	173	224	30%	0.096	0.124	A	A	No	-
Between	Fairmont Drive	Ashland Avenue	28439	32709	2	252	135	252	387	54%	0.140	0.215	A	A	No	-
Between	Ashland Avenue	163rd Avenue	28440	28439	2	318	207	318	525	65%	0.176	0.291	A	A	No	-
Between	163rd Avenue	Lewelling Boulevard	32703	28494	2	338	324	338	662	96%	0.188	0.368	A	B	No	-
Between	Lewelling Boulevard	Mattox Road	28519	33020	2	275	291	275	566	106%	0.153	0.314	A	A	No	-
Between	Mattox Road	A Street	33024	31050	2	621	245	621	866	39%	0.345	0.481	A	B	No	-
Mission Boulevard (SR 185) Southbound																
Between	SR-92	A Street	28521	32998	5	3,587	154	3,587	3,741	4%	0.797	0.831	D	D	No	-
Between	A Street	Mattox Road	31050	33024	2	601	216	601	817	36%	0.334	0.454	A	B	No	-
Between	Mattox Road	Lewelling Boulevard	33020	28519	2	621	245	621	866	39%	0.345	0.481	A	B	No	-
Between	Lewelling Boulevard	163rd Avenue	28494	32703	2	827	258	827	1,085	31%	0.459	0.603	B	C	No	-
Between	163rd Avenue	Ashland Avenue	28439	28440	2	860	177	860	1,037	21%	0.478	0.576	B	B	No	-
Between	Ashland Avenue	Fairmont Drive	32709	28439	2	1,288	168	1,288	1,456	13%	0.715	0.809	C	D	No	-
Between	Fairmont Drive	Hesperian Boulevard	28427	33251	2	874	59	874	933	7%	0.486	0.519	B	B	No	-
Between	Hesperian Boulevard	San Leadandro Boulev	33715	33722	2	1,867	40	1,867	1,907	2%	1.037	1.060	F	F	-	No

Ashland Cherryland Business District Specific Plan Update
Alameda CTC Roadway System Analysis Summary - 2040 PM

Link Location	Segment Limits		A node	B node	# Lanes	Model Volume	Project Trips	Without Project Volume	With Project Volume	% Increase	V/C Ratio - Without Project	V/C Ratio - With Project	Without Project LOS	With Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C >0.03
Jackson Street (SR 92) Westbound																
Between	Industrial Boulevard	Hesperian Boulevard	28655	28656	3	2,704	35	2,704	2,739	1%	1.001	1.014	F	F	-	No
Between	Hesperian Boulevard	I-880	28662	28636	3	3,756	40	3,756	3,796	1%	1.391	1.406	F	F	-	No
Between	I-880	SR-185	31253	28611	3	2,526	52	2,526	2,578	2%	0.935	0.955	E	E	No	-
Jackson Street (SR 92) Eastbound																
Between	SR-185	I-880	28611	31253	3	2,915	52	2,915	2,967	2%	1.080	1.099	F	F	-	No
Between	I-880	Hesperian Boulevard	28634	28658	4	4,332	52	4,332	4,384	1%	1.203	1.218	F	F	-	No
Between	Hesperian Boulevard	Industrial Boulevard	28651	28654	4	6,225	32	6,225	6,257	1%	1.729	1.738	F	F	-	No
Hesperian Boulevard Southbound																
Between	SR-185	Fairmont Drive	28385	33724	3	1,832	12	1,832	1,844	1%	0.679	0.683	C	C	No	-
Between	Fairmont Drive	SR-238	33720	12121	3	2,906	13	2,906	2,919	0%	1.076	1.081	F	F	-	No
Between	SR-238	Lewelling Boulevard	28421	32977	3	2,646	15	2,646	2,661	1%	0.980	0.985	E	E	No	-
Between	Lewelling Boulevard	A Street	28592	32960	3	2,151	14	2,151	2,165	1%	0.797	0.802	D	D	No	-
Between	A Street	Winton Avenue	31024	28618	3	1,187	12	1,187	1,199	1%	0.440	0.444	B	B	No	-
Between	Winton Avenue	SR-92	31384	28647	3	1,050	10	1,050	1,060	1%	0.389	0.392	B	B	No	-
Hesperian Boulevard Northbound																
Between	SR-92	Winton Avenue	28647	31384	3	1,414	13	1,414	1,427	1%	0.524	0.529	B	B	No	-
Between	Winton Avenue	A Street	28618	31024	3	2,561	15	2,561	2,576	1%	0.948	0.954	E	E	No	-
Between	A Street	Lewelling Boulevard	32960	28592	3	2,856	17	2,856	2,873	1%	1.058	1.064	F	F	-	No
Between	Lewelling Boulevard	SR-238	32977	28421	3	2,936	13	2,936	2,949	0%	1.088	1.092	F	F	-	No
Between	SR-238	Fairmont Drive	12121	33720	3	2,316	12	2,316	2,328	1%	0.858	0.862	D	D	No	-
Between	Fairmont Drive	SR-185	33724	28385	3	1,651	10	1,651	1,661	1%	0.612	0.615	C	C	No	-
A Street Westbound																
Between	I-880	SR-185	28556	28541	2	629	19	629	648	3%	0.350	0.360	A	B	No	-
Between	SR-185	SR-238	31183	31164	5	3,124	156	3,124	3,280	5%	0.694	0.729	C	C	No	-
Between	SR-238	Grove Way	28511	28451	2	2,057	19	2,057	2,076	1%	1.143	1.153	F	F	-	No
Between	Grove Way	I-580	27740	12133	3	1,992	15	1,992	2,007	1%	0.738	0.743	C	C	No	-
A Street Eastbound																
Between	I-580	Grove Way	12133	27740	3	1,527	18	1,527	1,545	1%	0.566	0.572	B	B	No	-
Between	Grove Way	SR-238	28451	28511	2	2,116	20	2,116	2,136	1%	1.176	1.187	F	F	-	No
Between	SR-185	I-880	28541	28556	2	551	22	551	573	4%	0.306	0.319	A	A	No	-
Winton Avenue/D Street Westbound																
Between	Hesperian Boulevard	I-880	31378	31388	2	788	25	788	813	3%	0.438	0.452	B	B	No	-
Between	I-880	SR-185	32986	28567	2	858	32	858	890	4%	0.476	0.494	B	B	No	-
Winton Avenue/D Street Eastbound																
Between	SR-185	I-880	28567	32986	2	2,035	32	2,035	2,067	2%	1.130	1.148	F	F	-	No
Between	I-880	Hesperian Boulevard	31388	31378	2	1,081	25	1,081	1,106	2%	0.600	0.614	C	C	No	-
Grove Way/Crow Canyon Road Westbound																
Between	A Street	I-580	28505	12134	1	278	50	278	328	18%	0.309	0.365	A	B	No	-
Between	I-580	Cull Canyon Road	28538	31099	2	624	38	624	662	6%	0.347	0.368	A	B	No	-
Grove Way/Crow Canyon Road Eastbound																
Between	Cull Canyon Road	I-580	31099	28538	2	1,972	35	1,972	2,007	2%	1.096	1.115	F	F	-	No
Between	I-580	A Street	12134	28505	1	774	10	774	784	1%	0.860	0.871	D	D	No	-
Fairmont Drive Westbound																
Between	Hesperian Boulevard	SR-185	28446	30640	2	411	44	411	455	11%	0.228	0.253	A	A	No	-
Between	SR-185	I-580	28448	30647	2	119	124	119	243	104%	0.066	0.135	A	A	No	-
Fairmont Drive Eastbound																
Between	I-580	SR-185	30647	28448	2	1,091	88	1,091	1,179	8%	0.606	0.655	C	C	No	-
Between	SR-185	Hesperian Boulevard	30640	28446	2	1,815	33	1,815	1,848	2%	1.008	1.027	F	F	-	No

Fehr & Peers, 2015.