Addendum to the City of Pleasanton Housing Element and Climate Action Plan General Plan Amendment and Rezonings Supplemental Environmental Impact Report for The Commons at Gateway (PUD-96) City of Pleasanton, Alameda County, California

State Clearinghouse No. 2011052002

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Report Date: August 1, 2013

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SECTION 1: INTRODUCTION

1.1 - Project Details

1. Project Title and Number

The Commons at Gateway (PUD-96)

2. Lead Agency Name and Address

City of Pleasanton
200 Old Bernal Avenue
Pleasanton, CA 94566

3. Contact Person and Phone Number

Marion Pavan, Associate Planner
925.931.5610

4. Project Location and APN

1600 Valley Avenue
Assessor's Parcel Number: 947-0008-017

5. Project Sponsor's Name & Address

Pleasanton Gateway, LLC
1690 Dell Avenue
Campbell, CA 95008
408.379.0400

6. General Plan Designation

Medium Density Residential (MDR) on 19.72 acres; High Density Residential (HDR) on 7.0 acres

7. Specific Plan Designation

Bernal Property Specific Plan – Medium Density Residential (MDR) on 19.72 acres; High Density Residential (HDR) on 7.0 acres

8. Zoning

Planned Unit Development - High Density Residential and Medium Density Residential (PUD-HDR and MDR)

9. Description of Project

210 Multi-family (apartment) dwelling units, 62 three-story row-house-style single-family detached units, 35 single-family detached units, and common areas/amenities.

10. Requested Permits/Approvals

A. Planned Unit Development (PUD) Development Plan (PUD-96)
B. Development Agreement (P13-1928)
C. Growth Management Approval (P13-1929)
D. Vesting Tentative and Final Subdivision Maps
E. Grading Permit
F. Building Permit

11. Other Public Agencies Whose Approval is Required

A. San Francisco Regional water Quality Control Board

1.2 - Background

On July 21, 2009, the City of Pleasanton adopted the Pleasanton General Plan Update 2005-2025 based upon the certification of the Pleasanton General Plan Update 2005-2025 EIR (State Clearinghouse No. 2005122139). However, as a result of two lawsuits (*Urban Habitat Program v. City of Pleasanton*, and *State of California v. City of Pleasanton*) and a subsequent Settlement Agreement and Covenant Not to Sue, dated August 2010, the City was obligated to update its Housing Element to meet regional housing needs (including eliminating the housing cap) and to adopt a Climate Action Plan, both of which are subject to the provisions of CEQA.

On January 4, 2012, under Resolution No. 12-493 (Appendix A), the City of Pleasanton certified the Supplemental Environmental Impact Report (EIR) for the City of Pleasanton Housing Element and Climate Action Plan General Plan Amendment and Rezonings (State Clearinghouse No. 2011052002), hereinafter referred to as the Supplemental EIR. The document provided supplemental information for the City of Pleasanton General Plan Program EIR (State Clearinghouse No. 2005122139) relating to an updated Housing Element, the adoption of a Climate Action Plan, and related General Plan Amendments and Rezonings. The Supplemental EIR considered the potential impacts that were likely to result from implementation of the policies and programs contained within the updated Housing Element and Climate Action Plan and the changes in land use designations proposed in the General Plan Amendment and rezonings. Within the Supplement EIR, the City identified 21 potential sites for rezoning and the buildout potentials of those sites to provide an adequate inventory of housing to meet Pleasanton's share of regional housing needs through 2014 (City of Pleasanton 2011). Not all 21 sites were needed to meet Pleasanton's share of regional housing needs, and the City ultimately selected only nine of the 21 sites for rezoning. As such, the Supplemental EIR provides a conservative analysis of potential impacts resulting from the development of residential land uses on rezoned sites.

The subject property (project site) was included as a potential site for rezoning in the Supplemental EIR as site number 7. Within the Supplemental EIR, the project site was considered for the development of 300 to 400 single-family and multi-family residential units. Any future development on the project site would be required to abide by all applicable mitigation included in the Supplemental EIR. Based on the Supplemental EIR, the project site was rezoned from Planned Unit

Development (PUD) to Planned Unit Development – High Density Residential and Medium Density Residential (PUD-HDR and MDR) (City of Pleasanton Ordinance No. 2031). The Supplemental EIR assumed future development of up to 400 residential units on this site. The PUD-HDR zoning for the project site allows residential development at a minimum density of 30 units per acre on 8.0 acres and the PUD-MDR zoning allows residential development at a density between 2 and 8 units per acre on the remaining 19.72 acres.

The Supplemental EIR concluded that all potential impacts resulting from the implementation of the Housing Element and Climate Action Plan were either less than significant or could be reduced to a less than significant level after mitigation, with the exception of two significant unavoidable impacts:

- The demolition of a potentially significant historic resource on Site 6.
- The addition of traffic to segments of Sunol Boulevard (First Street) and Hopyard Road, to the point at which these roadway segments would operate unacceptably under Cumulative Plus Project Conditions.

This document analyzes the conclusions of the Supplemental EIR to confirm whether the current project would result in any new significant environmental effect or increase the severity of any previously identified environmental effect, such that preparation of a subsequent EIR or Mitigated Negative Declaration would be necessary pursuant to CEQA Guidelines Section 15162. To the contrary, if a subsequent EIR or Mitigated Negative Declaration is not triggered, the City may rely on an addendum to the Supplemental EIR to approve the project. The City of Pleasanton General Plan Program EIR (State Clearinghouse No. 2005122139) and Supplemental Environmental Impact Report (EIR) for the City of Pleasanton Housing Element and Climate Action Plan General Plan Amendment and Rezonings (State Clearinghouse No. 2011052002) are incorporated by reference into this document.

1.3 - Project Site

The project site consists of 26.72 acres located at 1600 Valley Avenue in Pleasanton, California (Exhibit 1). The project site is roughly square in shape and bounded by the Pleasanton Gateway Shopping Center (north); Valley Avenue, a neighborhood park, multi-family and single family residential (east); Bernal Open Space (south); and Interstate 680 (I-680) (west) (Exhibit 2). The project site is currently undeveloped and consists of ruderal (weedy) vegetation that is mowed and/or disked regularly. Historically, the project site was used for agricultural purposes but has not otherwise been developed.

The project site is zoned Planned Unit Development-High Density Residential and Medium Density Residential (PUD-HDR and MDR) and has General Plan land use designations of High Density Residential (HDR) and Medium Density Residential (MDR).

1.3.1 - Proposed Project

The applicant proposes to build a pedestrian-oriented community consisting of 307 residences along with common areas, parking, and onsite amenities (Exhibit 3). The project consists of the following discretionary review applications:

1) PUD-96: an application for a Planned Unit Development (PUD) Development Plan to allow the construction of 210 apartment units, 97 single-family detached units, and related site improvements on an approximately 26.72-acre site;
2) P13-1928: an application for a Development Agreement to vest the entitlement for this project for ten years; and
3) P13-1929: an application for a Growth Management allocation;
4) An Affordable Housing Agreement for the 307-unit development; and,
5) Applications for a Vesting Tentative and Final Subdivision Map to divide the property into private lots and common areas.

The 307 residences would consist of three separate dwelling types:

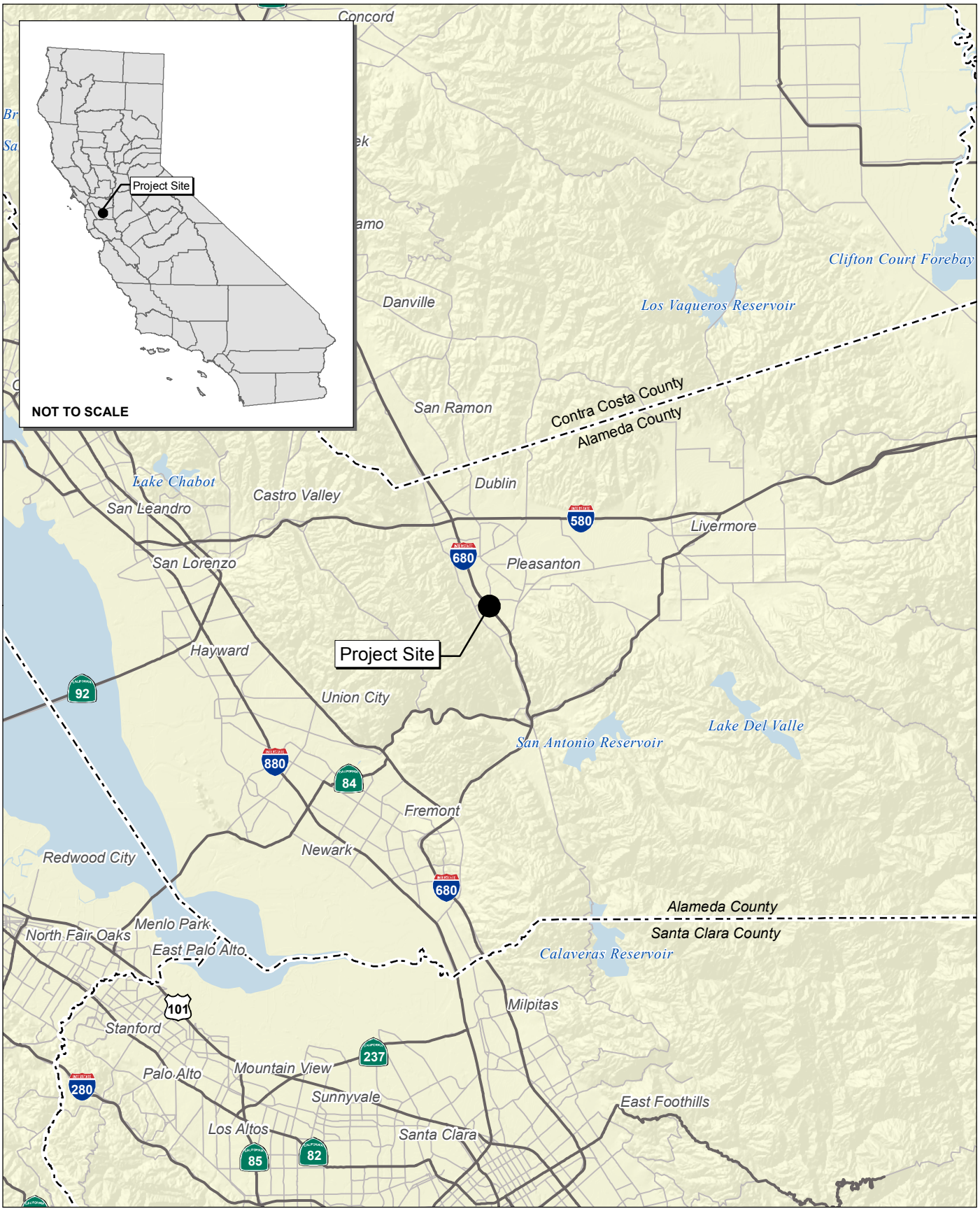
- 210 apartments
- 62 three story row-house-style single-family detached residences; and
- 35 two-story single-family detached residences

Table 1 presents the breakdown of housing units and square footage. Distribution of the residential types throughout the project site is illustrated in Exhibit 4. The project would have a floor area ratio (FAR) of 0.50 and an overall density of approximately 11.5 dwelling units per acre.

Table 1: Project Summary

Building Type	# of Units	Total Square Footage[1]
Apartments	210	237,559
Row-House Single Family Residences	62	345,944
Single Family Residences	35	
Recreation and Leasing Buildings	n/a	9,200
Total	307	592,703

Note:
[1] Based on gross floor area inclusive of dwelling accessory structures, and garage space no dedicated for parking.
Source: Pleasanton Gateway LLC 2013.



Source: Census 2000 Data, The CaSIL, MBA GIS 2013.

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5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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CITY OF PLEASANTON • THE COMMONS AT GATEWAY
ADDENDUM TO THE CITY OF PLEASANTON HOUSING ELEMENT AND CAP
GENERAL PLAN AMENDMENT AND REZONINGS SUPPLEMENTAL EIR

Source: Google Earth Pro, 2012.

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1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map
Aerial Base

Source: Smith + Smith, January 2013.

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Exhibit 3
Site Plan

21480009 • 06/2013 | 3_site_plan.cdr

CITY OF PLEASANTON • THE COMMONS AT GATEWAY
ADDENDUM TO THE CITY OF PLEASANTON HOUSING ELEMENT AND CAP
GENERAL PLAN AMENDMENT AND REZONINGS SUPPLEMENTAL EIR

Source: ktgy Architecture and Planning, May 2013.

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Exhibit 4
Residential Type Distribution

21480009 • 06/2013 | 4_residential_type_distribution.cdr

CITY OF PLEASANTON • THE COMMONS AT GATEWAY
ADDENDUM TO THE CITY OF PLEASANTON HOUSING ELEMENT AND CAP
GENERAL PLAN AMENDMENT AND REZONINGS SUPPLEMENTAL EIR

As shown in Exhibit 4, the site plan distributes densities and heights in a west to east direction from I-680 to Valley Avenue with higher densities and taller buildings near I-680.

- The apartments would be located in 9 three-story buildings along the project site's western edge, near I-680. The buildings would be approximately 43.5 feet tall.
- The three-story row houses would be located between Valley Avenue and Street B along Gateway Commons Road, and throughout the middle of the project site. The three-story row houses would not exceed 45 feet in height.
- The two-story single-family residences would be located along Valley Avenue with a maximum building height of approximately 38.5 feet.

Building architecture would emulate a New England design style. Each of the three building types would have a separate architectural identity while also tying the designs of the individual onsite building types and with the residential developments on the east side of Valley Avenue. Design elements used throughout project include walk-up porches, masonry wall surfaces, detailed entrances, bay windows and wall pop-outs, and varied building forms and rooflines for visual interest.

A recreation building and swimming pool would be located near the center of the project site and would include a business center, conference facilities, and gym. Adjacent to the recreation building, a 1.3-acre community park would provide open grassy areas, barbeques, fire pits, a playground, pet areas, and a bocce ball court. An open space area would be located at the project's southwestern corner and would include a 14- to 16-foot combination earthen berm and sound wall.

Approximately 533,000 square feet of landscaping is proposed, including over 2,000 trees. The project includes approximately 630,968 square feet of impervious surfaces, inclusive of buildings, roadways, and sidewalk areas (Pleasanton Gateway LLC 2013).

Access and Circulation

Vehicular and pedestrian access to the site would be provided from a new driveway entrance from Valley Avenue located approximately mid-point on the project site, the existing shared driveway entrance with the Pleasanton Gateway shopping center from Valley Avenue, and the existing driveway entrance from Bernal Avenue through the Pleasanton Gateway Shopping center. As shown in Exhibit 3, the Street B access point would align with and connect to the Pleasanton Gateway Shopping Center's north/south driveway. The Street D access point would connect to the Valley Avenue/E. Gate Way roundabout (Exhibit 3). The planned driveway entrance from Valley Avenue opposite Whispering Oaks Way would be removed, but the median break would remain to maintain accessibility from Valley Avenue to Whispering Oaks Way. A pedestrian/bicycle trail would be located along I-680 connecting the Gateway Commons Shopping Center to the open space/future park site south of the project.

Circulation is arranged in the following hierarchy:

- B Street and D Street would provide the main driveway connections to Valley Avenue and Bernal Avenue. D Street connects to Valley Avenue. B Street is aligned with the Main north/south driveway of the adjacent Gateway Commons Shopping Center.
- An internal ring road (A Street) would provide access to the driveway courts and garages of the development. A Street is parallel with the project site's southern boundary to maintain an open view of the future City park site south of the project site.
- C Street and a segment of A Street surround and define the recreation area and maintain the views of recreation areas.

Sustainability and Impact-reducing Features

The proposed project has been designed with the goal of obtaining Silver Certification under U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. To ensure that the project's environmental impacts are minimized, the following project design features would be implemented:

- During construction, all off-road construction equipment greater than 50 horsepower would be equipped with a minimum of Tier 3 engine controls, and equipment over 150 horsepower would be equipped with Level 3 diesel particulate filters.
- A vegetative barrier along I-680 would be planted to help with particulate matter removal and health risk reduction.
- Installation of medium-efficiency reporting value (MERV) -13 or equivalent filters capable of at least 90 percent filtration efficiency for diesel particulate matter and $PM_{2.5}$ would be installed on both the air intake and recirculation vents of residences. As part of title reports or lease/rental documents, residents would be advised of proper maintenance procedures in accordance with manufacturer recommendations to ensure proper operation.
- Windows in rooms along I-680 in the proposed apartment residential units would have a Sound Transmission Class (STC) rating of 35 to 39, and windows in rooms perpendicular to I-680 would have STCs of 32 to 36 to meet the interior noise standard of 45 dB. On the façade opposite the freeway, and in the shielded courtyards of the residences along I-680, sound insulation ratings are would be STC 30 or lower.
- The proposed project would include ventilation or air-conditioning system to provide a habitable interior environment in accordance with Title 24.
- Windows and doors of single-family houses closest to I-680 would demonstrate sound insulation ratings of STC 36 to meet the interior 45 dB standard. STC ratings would decrease at houses located farther from I-680 and where they are shielded by barriers or other buildings.
- Landscaping at the Valley Avenue/E. Gate Way/Street D roundabout's northwestern corner would be maintained to avoid sight distance conflicts (shrubs would not be higher than approximately 30 inches and tree canopies would be approximately 6 feet from the ground).

- To ensure delivery vehicle conflicts do not result in traffic conflicts or hazards, delivery vehicles would not be allowed to park on Valley Avenue or in the Gateway Commons Shopping Center. Signs would be posted to ensure compliance. Residents would be encouraged by onsite leasing office staff to conduct move-in and move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Furthermore, moving trucks and delivery vehicles would be allowed to park in parallel parking stalls on the designated streets within the development to maintain two-way travel on internal roadways.
- The project applicant would review trash procedures with the Pleasanton Garbage Service to ensure all homes can be served in a safe manner that does not create traffic conflicts.
- The proposed project would provide information to new residents regarding transit service provided in the area.
- For proposed property owners and apartment dwellers along the northern boundary of the site, the project will provide information in the title report or lease/rental documents regarding the proximity of the adjacent retail space and that noise from the loading dock and other commercial activities may be audible.

SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Determination

The Supplemental EIR analyzed the development of the project site with between 300 to 400 single-family and multi-family residential units. The project as currently envisioned includes development of 307 residential units, which is within the range previously analyzed.

As indicated by CEQA Guidelines Section 15162, when an EIR has been certified for a project, no subsequent EIR shall be prepared for that project unless the City determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

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

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

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:
   (A) The project will have one or more significant effects not discussed in the previous EIR;
   (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
   (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
   (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

On the basis of the record and the analysis contained herein:

(1) The modifications proposed to the project do not require major revisions to the Supplemental EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
(2) Substantial changes have not occurred with respect to the circumstances under which the project is undertaken which will require major revisions of the Supplemental EIR due to the involvement of new significant environmental effects or a substantial increase in the severity

of previously identified significant effects. The circumstances under which the project is undertaken are substantially the same as under the Supplemental EIR.

(3) There is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Supplemental EIR was certified, that shows any of the following:

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

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

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

On the basis of the record and this evaluation, it is concluded that an addendum to the Supplemental EIR is the appropriate document to be prepared.

Evaluation of Environmental Impacts

The following analysis includes a discussion of each item identified in the current CEQA environmental checklist (Appendix G). Required mitigation measures are identified (if applicable) where necessary to reduce a projected impact to a level that is determined to be less than significant. The 2009 Pleasanton General Plan Update EIR (State Clearinghouse No. 2005122139) and 2011 Housing Element and Climate Action Plan Subsequent Draft EIR (State Clearinghouse No. 2011052002) are herein incorporated by reference in accordance with Section 15150 of the CEQA Guidelines. Copies of these documents and all other documents referenced herein are available for review at the City Pleasanton Planning Division, 200 Old Bernal Avenue Pleasanton, California.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. 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 building 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?	☐	☐	☒	☐

Environmental Setting

The project site is located on undeveloped land that has been historically used for agriculture. The site contains ruderal/weedy vegetation that is disked regularly. Because of the undeveloped nature of the project site, views of the Pleasanton Ridgelands to the west and hills to the south and southeast are primarily unobstructed. The project site is bounded to the west by Interstate 680 (I-680), which is an officially designated State Scenic Highway. Exhibit 5 provides photographs of the existing site conditions and views surrounding the project site.

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would have a less than significant impact related to each aesthetic checklist question, after the implementation of mitigation for potential impacts to scenic vistas.

As discussed below, the project would not result in any new substantial impacts and would not exceed the level of impacts previously identified, due to project modifications, physical changes on the property, or new information or changed circumstances that would result in any new significant impact or increase the severity of any previously identified impact.

Scenic Vistas

The Supplemental EIR concluded that, by following goals, policies, and programs included as part of the proposed Housing Element, General Plan, applicable zoning requirements, design guidelines and specific plans, Pleasanton's visual resources, including hillsides and ridgelines, would largely be protected from impacts resulting from development facilitated by the Housing Element. However,

the Supplemental EIR recognized that the development of three- to four-story buildings on the project site could affect views from Valley and Bernal Avenues towards the Pleasanton Ridgelands to the west. As such, Mitigation Measure 4.A-1 was included as follows to ensure impacts were reduced to less than significant:

Mitigation Measure 4.A-1: The City shall require that site plans for the proposed Site 7 residential development to [*sic*] incorporate view corridors through the site which maintain views of the ridgelines to the west from Valley Avenue.

Scenic resources surrounding Pleasanton include Mt. Diablo to the north, the Pleasanton Ridgelands west of I-680, and hills to the west, southeast, and east of Pleasanton. As a result of Measure F, passed in November of 1993, Pleasanton citizens voted to protect the existing visual quality of the Pleasanton Ridgelands. In Measures PP and QQ, passed in November 2008, Pleasanton citizens voted to preserve hillside and ridge views in the hill areas. The project site is located within the Phase I Planning Area of the Bernal Specific Plan and is required to comply with applicable policies therein regarding the protection of scenic vistas.

As indicated in the Final Supplement EIR, scenic views of the ridgelines are currently somewhat obscured by existing trees and other vegetation along Valley Avenue. The project has been designed to preserve the existing line of site from residences east of Valley Avenue to the top of the Pleasanton Ridgelines to the west by locating two-story buildings along Valley Avenue and taller three-story buildings along I-680. The project design includes a 20- to 25-foot setback from Valley Avenue, to facilitate the existing view corridor to the ridgelines, which are 620 feet in height. Exhibit 6 illustrates the proposed projects changes to viewsheds as seen from the east and west.

In addition, as shown on Exhibit 7, and in compliance with Mitigation Measure 4.A-1 of the Supplemental EIR, a view corridor has also been incorporated along Street D of the project site, to further protect views from Valley Avenue. The proposed project would be consistent with surrounding land uses and would include extensive landscaping along I-680, Valley Avenue, and the project site's southern boundary to buffer the appearance of buildings from adjacent roadways and land uses.

Views of the Pleasanton Ridgelands from Bernal Community Park and future expansions of the park would be minimally affected, as the project site is located to the north-northwest and therefore would not significantly block views towards this scenic resource.

Views from Pleasanton Ridgelands (particularly Augustin Bernal Park and Pleasanton Ridge Regional Park) east towards the City of Pleasanton and the project site would not be significantly changed due to the distance and the project's consistency with the surrounding urban land uses.

Source: ktgy Architecture and Planning, January 2013.

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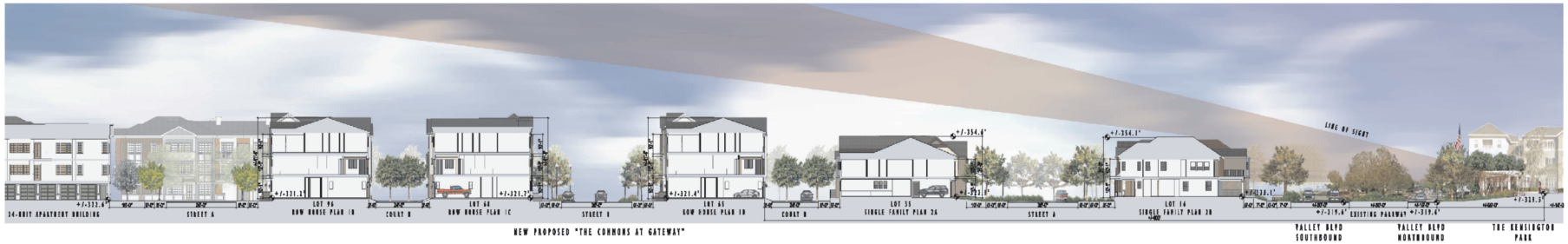
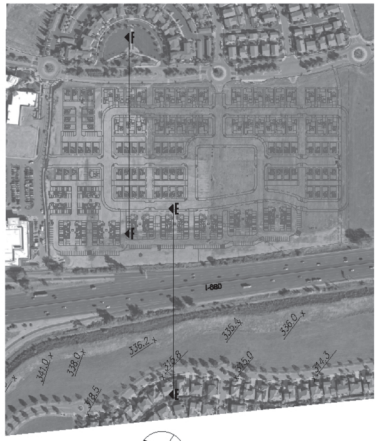
Exhibit 5
Site Photographs

Ⓔ SECTION THROUGH FREEWAY AND SINGLE FAMILY NEIGHBORHOOD TO SOUTHWEST (VIEW NORTHWEST)



Ⓕ SECTION THROUGH VALLEY AVE AND PARK TO NORTHEAST (VIEW NORTHWEST)



KEY PLAN

Source: ktgy Architecture and Planning, January 2013.

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Exhibit 6
Viewshed Changes

Source: ktgy Architecture and Planning, May 2013.

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Exhibit 7
View Corridor

As such, with the implementation of Mitigation Measure 4.A-1 from the Supplemental EIR, the project would not introduce any new impacts to scenic vistas not previously disclosed and impacts would continue to be less than significant.

State Scenic Highway

The project site is bounded to the west by Interstate 680 (I-680), which runs north-south, and is an Officially Designated State Scenic Highway from Mission Boulevard in Fremont, north to the Contra Costa County Line. The Supplemental EIR concluded that although multiple sites zoned for residential development or identified as potential sites for rezoning under the proposed Housing Element are visible along the I-580 and I-680 corridors, development of these sites would not result in substantial damage to scenic resources, and impacts would be less than significant.

Scenic views from the highway are described as wooded hillsides and valleys (Caltrans 2013). The project would not result in any development on hillsides or ridgelines, and as the wooded hillsides are located primarily to the west of I-680, the project would not block views of these features from the highway (Exhibit 8). The proposed project would not introduce any new impacts to views from State Scenic Highways not previously disclosed. Impacts would continue to be less than significant.

Visual Character

The Supplemental EIR concluded that potential adverse effects of new development on the visual character of the site and surrounding area would be reduced through the Design Review process required by Chapter 18.20 of the Pleasanton Municipal Code. The project as proposed is consistent with the land use and intensity evaluated in the Supplemental EIR and would also be consistent with existing development to the north, south, and east. Furthermore, the project is subject to Design Review, which would ensure consistency with the architectural style of the surrounding area, including height and massing. The Bernal Property Specific Plan and City-approved Housing Site Development Standards and Design Guidelines also include guidelines to ensure compatibility with surrounding buildings. Therefore, visual character impacts due to new development would be less than significant. In conclusion, the project would not introduce any new impacts to visual character that were not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Light and Glare

The Supplemental EIR concluded that new development would introduce artificial light from residences and outdoor parking areas, and would also introduce glare. However, compliance with the State's Nighttime-Sky Title 24 Outdoor Lighting Standards, and the City's General Plan policies, Municipal Code regulations, and the site lighting guidelines of the Housing Site Development Standards and Design Guidelines would reduce potential light and glare effects to a less than significant level. The project has been designed in compliance with these regulations and therefore would not introduce any new lighting or glare impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Conclusion

The project would not result any aesthetic impacts beyond than those considered in the Supplemental EIR. All impacts continue to be less than significant and no mitigation is required.

Mitigation Measures

None required.

LOOKING NORTHEAST INTO SOUTHERN EDGE OF COMMUNITY

LOOKING NORTH EAST INTO COMMUNITY

Source: ktgy Architecture and Planning, May 2013.

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Exhibit 8
View of Project from I-680

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

Environmental Setting

The project site is not currently used for agricultural or forest purposes but has been used for agricultural purposes in the past. The project site is undeveloped, but it is located in an urban area, surrounded by urban development, and is designated for urban uses by the General Plan and the Zoning Map. The area surrounding the project site is composed of residential, commercial buildings, and recreational land uses. There are no Williamson Act lands within or near the project site.

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would have no impacts related to agricultural or timber resources, and no mitigation was required. No change has occurred regarding the presence of agricultural or timber land on or surrounding the project site since the adoption of the Supplemental EIR. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical changes on the property, or new information.

Important Farmland

The Supplemental EIR concluded that the project would not result in conversion of farmland to non-agricultural use. The project site is designated as Grazing Land by the Farmland Mapping and Monitoring Program (FMMP) of the California Department of Agriculture, but is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. While the project site has historically been used for agriculture, such practices have not recently occurred on the site. Furthermore, the project site is located in an urban area, surrounded by urban development, and is designated for urban uses by the General Plan and the Zoning Map. As such, the project would not introduce any new agricultural land conversion impacts not previously disclosed. No impact would occur.

Agricultural Zoning or Williamson Act

The Supplemental EIR concluded that the project would not result in any impacts to lands zoned for agriculture or existing Williamson Act contracts. No changes have occurred to the status of the project site's zoning and the project site continues to be unencumbered by a Williamson Act contract. As such, the project would not introduce any new agricultural zoning or Williamson Act impacts not previously disclosed. No impact would occur.

Forest Land or Timberland Zoning

The Supplemental EIR concluded that the project would not result in any impacts to forest land or timberland. The project site is not zoned for forest or timberland uses and does not contain any forest or timberland. As such, the project would not introduce any new forest land or timberland zoning impacts not previously disclosed. No impact would occur.

Conversion or Loss of Forest or Agricultural Land

The Supplemental EIR concluded that the project would not result in any impacts related to the conversion or loss of agricultural land. No changes have occurred to the project or project site that would alter this conclusion.

The project site does not contain any forest or timberland and there no forest or timberlands in the surrounding area. As such, the project would not result in the conversation or loss of forest or timberland land. No impacts would occur.

Conclusion

Consistent with the conclusions of the Supplemental EIR, the project would not result in impacts to agricultural or timber resources. No impact would occur and no mitigation is required.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. Air Quality *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.* *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)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The project site is located in the Bay Area Air Quality Management District (BAAQMD). BAAQMD's 2010 California Environmental Quality Act Air Quality Guidelines (2010 Air Quality Guidelines) were used in the Supplemental EIR's analysis of potential sites for rezoning and residential development. Since the certification of the Supplemental EIR by the City of Pleasanton on January 4, 2012, the Alameda County Superior Court issued a judgment, in *California Building Industry Association v. Bay Area Air Quality Management District*, finding that the BAAQMD had failed to comply with CEQA when it adopted its 2010 Air Quality Guidelines. The original Air Quality Guidelines were published in 1999. The 2010 Air Quality Guidelines were updated with minor edits in May 2011; however, for the purposes of clarity, the updated Air Quality Guidelines are referred to in this section by the 2010 adoption date (2010 Air Quality Guidelines). The Air Quality Guidelines were further updated in 2012, as described below.

The Guidelines detail an iterative process of first gathering project information and then comparing the project information with a number of screening criteria or significance thresholds. The first level of significance determination deals with the use of screening criteria. If a project exceeds the screening criteria, the next step is to perform a more detailed and refined analysis and then compare project impacts with a set of significance thresholds. If a project does not exceed the screening

criteria or significance thresholds, then the project would have a less than significant impact and no mitigation would be required. A project that exceeds the significance thresholds would be required to implement all feasible mitigation measures.

The 2010 Air Quality Guidelines included new screening levels and thresholds of significance (2010 Air Quality Thresholds) for construction-related criteria pollutants (exhaust PM_{10} and $PM_{2.5}$), ozone precursors (ROG and NO_x), and toxic air pollutants (TACs) and operational related cumulative TACs. In addition, the 2010 Air Quality Thresholds included reduced criteria pollutant thresholds for operational criteria pollutants and ozone precursors to provide a more conservative threshold.

As previously mentioned, on March 5, 2012, the Court ruled that the adoption of new thresholds (including new thresholds for toxic air contaminants and $PM_{2.5}$) is considered a "project" under CEQA, and, thus, the BAAQMD should have prepared the required CEQA review and documentation for the 2010 Air Quality Guidelines, which provided the 2010 Air Quality Thresholds. The Court issued a writ of mandate ordering the BAAQMD to set aside the 2010 Air Quality Thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. As such, this ruling effectively nullified the BAAQMD's adoption of the 2010 Air Quality Thresholds, and the BAAQMD has ceased recommending them for use in evaluating significance of projects. The BAAQMD currently recommends that lead agencies can use the 1999 Air Quality Thresholds or determine appropriate air quality thresholds of significance based on substantial evidence in the record. In the May 2012 update to the 2010 Air Quality Guidelines, the BAAQMD removed all references of the 2010 Air Quality Thresholds, including related screening criteria.

Table 2 and Table 3 compare the 2010 Air Quality Guidelines thresholds (2010 Air Quality Thresholds) to the thresholds established in the original 1999 Air Quality Guidelines.

Table 2: BAAQMD Project-Level Construction-Related Thresholds

Pollutant	1999 Air Quality Thresholds	2010 Air Quality Thresholds
ROG	None	54 lbs/day
NO_x	None	54 lbs/day
PM_{10}	None	82 lbs/day (exhaust)
$PM_{2.5}$	None	54 lbs/day (exhaust)
PM_{10}/ $PM_{2.5}$ (fugitive dust)	BMPs	BMPs
TACs	None	• Increased cancer risk of >10 in a million • Increased non-cancer risk of >1 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase >0.3 $\mu g/m^3$ annual average

Table 2: (cont.): BAAQMD Project-Level Construction-Related Thresholds

Pollutant	1999 Air Quality Thresholds	2010 Air Quality Thresholds
Cumulative TACs	None	• Increased cancer risk of >100 in a million • Increased non-cancer risk of >10 Hazard Index (chronic) • Ambient $PM_{2.5}$ increase >0.8 µg/m^3 annual average

Notes:
lbs/day = pounds per day
O_x = nitrous oxides
CO = carbon monoxide
TACs = toxic air contaminants
ROG = reactive organic gases
PM = particulate matter
BMPs = best management practices
Source: Bay Area Air Quality Management District 1999, 2011.

Table 3: BAAQMD Project-Level Operational Related Thresholds

Pollutant	1999 Air Quality Thresholds	2010 Air Quality Thresholds	
		Average Daily Emissions	Maximum Annual Emissions
ROG	80 lbs/day	54 lbs/day	10 t/y
NO_x	80 lbs/day	54 lbs/day	10 t/y
PM_{10}	80 lbs/day	82 lbs/day	15 t/y
$PM_{2.5}$	None	54 lbs/day	10 t/y
Local CO	9.0 ppm (8-hour average), 20 ppm (1-hour average)	9.0 ppm (8-hour average), 20 ppm (1-hour average)	
TACs	• Increased cancer risk of >10 in a million • Increased non-cancer risk of >1 Hazard Index	• Increased cancer risk of >10 in a million • Increased non-cancer risk of >1 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase >0.3 µg/m^3 annual average	
Cumulative TACs	None	• Increased cancer risk of >100 in a million • Increased non-cancer risk of >10 Hazard Index (chronic) • Ambient $PM_{2.5}$ increase >0.8 µg/m^3 annual average	
Accidental Release	Storage or use of acutely hazardous materials near receptors or new receptors near stored or used acutely hazardous materials	Storage or use of acutely hazardous materials near receptors or new receptors near stored or used acutely hazardous materials	

Table 3 (cont.): BAAQMD Project-Level Operational Related Thresholds

Pollutant	1999 Air Quality Thresholds	2010 Air Quality Thresholds	
		Average Daily Emissions	Maximum Annual Emissions
Odor	>1 confirmed complaint per year averaged over three years or 3 unconfirmed complaints per year averaged over three years	5 confirmed complaints per year averaged over three years	

Notes:
ROG = reactive organic gases
PM = particulate mater
TACs = toxic air contaminants
lbs/day = pounds per day
NO_x = nitrous oxides
CO = carbon monoxide
ppm = parts per million
t/y = tons per year
Source: Bay Area Air Quality Management District 1999, 2011.

The Supplemental EIR utilized the 2010 Air Quality Guidelines and the 2010 Air Quality Thresholds. Although BAAQMD is no longer recommending the 2010 Air Quality Thresholds, this document uses the 2010 Air Quality Guidelines and 2010 Air Quality Thresholds for screening and analysis purposes for most impacts. In certain circumstances, consistent with the May 2012 Update to the 2010 CEQA Guidelines, this document uses alternative thresholds where deemed appropriate and supported by substantial evidence. Pursuant to the Air Quality Guidelines if a project does not exceed the thresholds contained within the 2010 Air Quality Guidelines or alternative thresholds, it will result in a less than significant impact.

Findings

The Supplemental EIR concluded that implementing of the General Plan Amendment and rezonings of the project site for eventual residential development would have a less than significant impact related to (1) consistency with the Clean Air Plan, (2) consistency with the implementation measures of the 2010 Clean Air Plan, (3) net increase of criteria pollutants, (4) impacts on sensitive receptors after implementation of mitigation, and (5) exposure to objectionable odors after implementation of mitigation.

As shown in Table 1, the proposed project includes the development of 210 apartment units, 62 row-house single family residences, and 35 single family residences, which is less than the maximum number of 400 residences as analyzed under the Supplemental EIR. Project design features would include a vegetative barrier along I-680 to help with particulate matter removal and health risk reduction. Environ (June 2013) conducted modeling in its Health Risk Assessment report (Appendix B), which estimates that a 26 percent particle removal efficiency and risk reduction would result from the vegetative barrier. In addition, medium-efficiency reporting value (MERV) filter of MERV-13 or equivalent filters capable of at least 90 percent filtration efficiency would be installed on both the air intake and recirculation vents of residences.

As discussed below, the proposed project would not result in any new substantial impacts and would not exceed the level of impacts previously identified, due either to project modifications, physical changes on the property, or new information or changed circumstances that would result in any new significant air quality effect or increase the severity of any previously identified air quality effect.

Air Quality Plan Compliance: The Supplemental EIR concluded that the project would not conflict with the implementation Bay Area 2010 Clean Air Plan (2010 Clean Air Plan) because:

- The projected rate of vehicle miles traveled (VMT) associated with the Housing Element and associated rezonings would not be greater than the projected rate of increase in population, and
- The Housing Element and associated rezonings demonstrate reasonable efforts to implement control measures contained in the 2010 Clean Air Plan.

Implementation of following Circulation Element policies of the Pleasanton General Plan 2005-2025 would include transportation control measures (TCM) from the 2010 Clean Air Plan:

- **Policy 3:** Facilitate the free flow of vehicular traffic on major arterials.
- **Policy 4:** In the Downtown, facilitate the flow of traffic and access to Downtown businesses and activities consistent with maintaining a pedestrian-friendly environment.
- **Policy 5:** At gateway intersections, facilitate the flow of traffic and access into and out of the City, consistent with maintaining visual character, landscaping, and pedestrian convenience.
- **Policy 8:** Maximize traffic safety for automobile, transit, bicycle users, and pedestrians.
- **Policy 9:** Work with other local jurisdictions and regional agencies such as the Metropolitan Transportation Commission (MTC), Alameda County Congestion Management Agency (ACCMA), Alameda County Transportation Improvement Authority (ACTIA), and Tri-Valley Transportation Council to plan and coordinate regional transportation improvements.
- **Policy 13:** Phase transit improvements to meet the demand for existing and future development.
- **Policy 14:** Encourage coordination and integration of Tri-Valley transit to create a seamless transportation system.
- **Policy 15**: Reduce the total number of average daily traffic trips throughout the city.
- **Policy 16:** Reduce the percentage of average daily traffic trips taken during peak hours.
- **Policy 17:** Support the continued and expanded operation of the Livermore Amador Valley Transit Authority (LAVTA).

A project would be judged to conflict with or obstruct implementation of the 2010 Clean Air Plan if it would result in substantial new regional emissions not foreseen in the air quality planning process. The proposed project would not result in a substantial unplanned increase in population, employment, or regional growth in vehicle miles traveled, or emissions, so it could not conflict with or obstruct implementation of the air quality plan. As such, the proposed project would be consistent with the 2010 Clean Air Plan and would not introduce any new impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Air Quality Standards or Violations

The Supplemental EIR concluded that the General Plan Amendment and rezonings would result in increased long-term emissions of criteria pollutants associated with construction activities that could contribute substantially to an air quality violation. Development anticipated by the Supplemental EIR would require demolition and removal of existing structures where applicable, grading, and site preparation and construction of new structures. Emissions generated during construction activities would include exhaust emissions from heavy-duty construction equipment, trucks used to haul construction materials to and from sites, worker vehicle emissions, as well as fugitive dust emissions associated with earth-disturbing activities. However, as indicated in the Supplemental EIR, implementation of mitigation would reduce this impact to less than significant. Compliance with Mitigation Measure 4.B-1a would ensure that impacts from fugitive dust would be less than significant as well as ensure the other construction emissions would adhere to the BAAQMD's requirements.

The proposed project includes the development of 307 residences, which is less than the maximum of 400 dwelling units allotted for the site and analyzed in the Supplemental EIR. The Supplemental EIR did not analyze the project's potential to generate a localized CO hotspot, or quantify construction emissions. The Supplemental EIR noted that subsequent projects would require such analysis for project level impacts. The potential for CO hotspot and construction emissions impacts are analyzed below.

Carbon Monoxide Hotspot

A significant impact related to carbon monoxide hotspots is identified if a project would exceed the BAAQMD Local CO threshold. The BAAQMD's 2010 Air Quality Guidelines contain a preliminary screening methodology that provides a conservative indication of whether the implementation of a proposed project would result in CO emissions that exceed the CO thresholds of significance. If a project meets the preliminary screening methodology, quantification of CO emissions is not necessary.

A development project would result in a less than significant impact to localized CO concentrations if the following screening criteria were met:

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

As noted in Section 2.16, Transportation/Traffic of this addendum, the proposed project would be consistent with applicable transportation policies establishing effectiveness. The proposed project would not cause any signalized study intersections to operate below acceptable level of service (LOS) standards after the implementation of mitigation and compliance with General Plan Transportation Element Program 1.1. Because the proposed project is consistent with the Housing Element of the General Plan, it is also consistent with other applicable transportation related policies of the General Plan. As such, the proposed project would not introduce any new impacts related to Applicable Transportation Plans and Policies not previously disclosed and would have a less than significant impact.

Based on existing surface road volumes in the project vicinity, the project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour, and would have no effect on any intersections where vertical and/or horizontal mixing is substantially limited. As shown in the Traffic Assessment, Koll Center Drive/Bernal Avenue is the project-affected intersection with the current highest volume, which experiences a PM peak-hour volume of 3,659 vehicles. Based on the BAAQMD screening methodology, this volume of traffic would have a less than significant impact on carbon monoxide concentrations. As such, the proposed project would not introduce any new impacts not previously disclosed in the Supplemental EIR. Impacts would continue to be less than significant and no mitigation is necessary.

Construction Fugitive Dust Emissions

The Supplemental EIR concluded that the General Plan Amendment and rezonings would result in increased long-term emissions of criteria pollutants associated with construction activities that could contribute substantially to an air quality violation. Specifically, development anticipated by the Supplemental EIR would require demolition and removal of existing structures where applicable, grading, and site preparation and construction of new structures. Emissions generated during construction activities would include exhaust emissions from heavy-duty construction equipment, trucks used to haul construction materials to and from sites, worker vehicle emissions, as well as fugitive dust emissions associated with earth disturbing activities. However, as indicated in the Supplemental EIR, compliance with Mitigation Measure 4.B-1a would ensure that impacts from fugitive dust would be less than significant as well as ensure the other construction emissions would adhere to the BAAQMD's requirements.

In summary, the proposed project would not introduce any new impacts related to air quality standards or violations not previously disclosed. Impacts would continue to be less than significant with the implementation of Mitigation Measure 4.B-1a from the Supplemental EIR.

Cumulatively Considerable Net Increase of a Nonattainment Pollutant

The Supplemental EIR concluded that the implementation of residential development on rezoned sites would have less than significant impacts related to cumulatively considerable net increases of criteria pollutants for which the project region is nonattainment after implementation of Mitigation Measure 4.B-1a. As discussed below, the proposed project would not introduce any new significant impacts not previously disclosed. Further analysis of the project's potential impacts and emissions modeling output is provided below and in Appendix B.

Construction Exhaust Pollutants

The CalEEMod model was used to quantify construction emissions based on the known land uses and project information, as well as reasonable assumptions included for the purposes of modeling. Project construction was assumed to begin August 2013. Default CalEEMod construction phase lengths, equipment, and equipment hours of operation were used for all phases. In accordance with guidance from BAAQMD, average daily emissions were computed by dividing the total construction period emissions by the number of anticipated construction days (Peterson, pers. comm.). Emissions were anticipated to occur over approximately 380 work days. Resulting construction-related emissions for the proposed project are presented in Table 4.

Table 4: Average Daily Construction Emissions

Description	ROG	NO_x	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)
2013 Annual Emissions (tons)	9.56	2.85	0.16	0.16
2014 Annual Emissions (tons)	0.58	3.27	0.20	0.20
Average Daily Emissions (pounds/day)	53.4	32.2	1.89	1.89
Threshold of Significance	54	54	82	54
Significant Impact?	No	No	No	No

Notes:
Some overlap of phases is assumed to occur. The maximum daily emissions are estimated to occur during
Abbreviations:
ROG = reactive organic gases
NO_x = nitrogen oxides
PM_{10} = particulate matter 10 microns and less in diameter
$PM_{2.5}$ = particulate matter 2.5 microns and less in diameter.
Source of emissions: Michael Brandman Associates, 2013.
Source of thresholds: BAAQMD 2011.

As shown in Table 4, the construction emissions would be below the BAAQMD thresholds of significance. Furthermore, the project includes 93 fewer residential units than the maximum number considered in the Supplemental EIR, resulting in reduced construction emissions. As such, the proposed project would not introduce any new impacts related to construction emissions not previously disclosed in the Supplemental EIR. Impacts would continue to be less than significant and no mitigation is necessary.

Operational Pollutants

The 2010 Air Quality Guidelines provide screening criteria developed for criteria pollutants and precursors. According to the 2010 Air Quality Guidelines, if the project meets the screening criteria then its air quality impacts relative to criteria pollutants may be considered less than significant. In developing the 2010 Air Quality Guidelines, BAAQMD also considered the emission levels for which a project's individual emissions would be cumulatively considerable. As shown in Table 5, the project's proposed land use is less than the BAAQMD's screening size for criteria air pollutants and precursors. Therefore, the project would have a less than significant impact with respect to criteria pollutants and ozone precursors, individually and cumulatively.

Table 5: Criteria Air Pollutant and Precursors Screening for Operational Emissions

Land Use	Screening Size	Project Size	Percent of Screening size
Apartment Mid Rise	494 DU	210 DU	43%
Single-Family	325 DU	97 DU	30%
		Total Project size relative to Screening size	**37%**

Note:
DU = dwelling units
Source: BAAQMD 2011.

In summary, the proposed project would not introduce any new impacts related to cumulatively considerable net increases of nonattainment pollutants not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Expose Receptors to Substantial Pollutants

The Supplemental EIR concluded that the project would not subject residents, neighbors, or customers and employees of nearby businesses to substantial concentrations of air pollutants after incorporation of mitigation.

Implementation of Mitigation Measure 4.B-4 requires project-specific health risk assessments and the implementation of any combination of measures required by the health risk assessment to reduce receptor exposures to a level below the threshold. Measures could include the incorporation of design features, trees, and/or high-efficiency central heating and ventilation systems. (Environ 2013). As discussed below, the proposed project would not introduce any new substantial impacts not previously disclosed. Further analysis of the project's potential toxic air contaminant (TAC) impacts and emissions modeling output are provided below and in the Health Risk Assessment prepared by Environ in June 2013 (Appendix B) for the proposed project consistent with Mitigation Measure 4.B-4.

Construction Localized Fugitive Dust

Activities associated with site preparation, and construction would generate short-term emissions of fugitive dust resulting in increase dustfall and locally elevated levels of PM_{10} and $PM_{2.5}$ downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties. Consistent with BAAQMD's 2010 Air Quality Guidelines, the Supplemental EIR included Mitigation Measure 4.B-1a to ensure that the current best management practices (BMPs) would be implemented to reduce fugitive dust emissions from construction activities to less than significant. Implementation of Mitigation Measure 4.B-1a by the proposed project would ensure impacts would remain less than significant.

Construction Toxic Air Contaminants Generation

As stated in the project description, the project plans and specifications incorporate a construction emissions minimization plan designed to reduce the creation of construction-period TACs in accordance with 2010 Air Quality Guidelines. Specifically, equipment over 50 horsepower would be

equipped with minimum of Tier 3 engine controls, and equipment over 150 horsepower would be equipped with Level 3 diesel particulate filters. Further, Mitigation Measure 4.B-1 requires the preparation of an air quality construction plan and submittal to the City prior to issuance of grading or building permits that demonstrates BAAQMD recommended control measures will minimize risks to sensitive receptors. These project design features and implementation of Mitigation Measure 4.B-1 would ensure that construction emissions would remain below the construction toxic air contaminant thresholds from the 2010 Air Quality Guidelines. This would be a less than significant impact.

Operational Toxic Air Contaminants Exposure

The project would expose future residents to mobile and stationary sources of TACs that currently affect the site. Consistent with the requirements of Supplemental EIR Mitigation Measure 4.B-4, a Health Risk Assessment (HRA) was prepared by ENVIRON to assess community risks and hazards related TACs (Appendix B). Mitigation Measure 4.B-4 requires that exposure to TACs fall below "BAAQMD's threshold of significance at the time of project approval." However, BAAQMD currently has no adopted threshold and states that lead agencies should determine the appropriate threshold for themselves. The City of Pleasanton has not yet adopted thresholds of significance for the risks and hazards evaluated in this report; however, the United States Environmental Protection Agency (EPA), BAAQMD, and other local agencies have provided guidance on acceptable limits.

The EPA has long found 100 in a million to be an "acceptable" level of cancer risk for conducting air toxic analyses and making risk management decisions at the facility and community-scale level (BAAQMD 2009a). As described by the BAAQMD, the EPA considers a cancer risk of 100 per million to be within the "acceptable" range of cancer risk. The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling (BAAQMD 2009). Additionally, the City of San Francisco now uses a total cancer risk of 100 in a million from all offsite sources on all development projects. Most recently, Metropolitan Transportation Commission and Association of Bay Area Governments have also used a total cancer risk of 100 in a million in the Final Draft EIR certified for "Plan Bay Area" on July 19, 2013. The Plan Bay Area Draft EIR was peer reviewed by staff at BAAQMD prior to its circulation. The Final EIR and the Plan Bay Area were certified and adopted, respectively, on July 19, 2013. Thus, there is substantial evidence to utilize the 100-in-a-million threshold for cancer risk to evaluate the total potential impact from local offsite sources on the new onsite sensitive receptors.

Additionally, BAAQMD-recommended thresholds of 10 for chronic health index and 0.8 $\mu g/m^3$ for $PM_{2.5}$ were also used (BAAQMD 2012). The following evaluates impacts from potential offsite sources (stationary and mobile sources within 1,000 feet of the project's boundary) on new onsite sensitive receptors.

Stationary Sources

BAAQMD has developed a Stationary Source and Risk Analysis Tool (BAAQMD Risk Analysis Tool) for permitted sources within the District to identify offsite stationary sources of TACs. The BAAQMD Risk Analysis Tool was utilized to compile a list of potential stationary sources to be evaluated within 1,000 feet of the Project boundary. Resulting stationary sources within 1,000 feet included the

Safeway gas station, Bernal Corners/Chevron gas station, City of Pleasanton Fire Department's diesel generator, and the Bernal Cleaners.

Mobile Sources
BAAQMD CEQA Guidelines recommend performing a health risk assessment of all high-volume roadways within 1,000 feet of the project, which are defined as roadways with over 10,000 vehicles per day or 1,000 trucks per day. For the project, I-680, Bernal Avenue, Valley Avenue, and four I-680 ramps fall into this category. (Average daily trips for these roadways can be found in Table 2 of the Health Risk Assessment in Appendix B.)

Health Risk Assessment Results
As indicated in the project description, medium-efficiency reporting value (MERV)-13 or equivalent filters capable of at least 90 percent filtration efficiency for diesel particulate matter and $PM_{2.5}$ would be installed on both the air intake and recirculation vents of residences to improve indoor air quality. Residents would be advised of proper maintenance procedures in accordance with manufacturer recommendations to ensure proper operation. In addition, the landscape vegetation along I-680 would assist with the removal of airborne particulate matter from I-680. The Health Risk Assessment conservatively estimated that the vegetation barrier would provide a 26-percent particle removal efficiency.

As shown in Table 6, when the above mentioned project design features are taken into consideration, the maximum estimated total cancer risk for new residents due to offsite stationary sources (including the modeling results for stationary sources within the 1,000-foot boundary) and highways and surface streets within 1,000 feet of the project boundary, is 17 in a million, and does not exceed the significance threshold of 100 in a million (see Table 6). Similarly, the estimated chronic HI and the annual average $PM_{2.5}$ concentrations fall below the corresponding significance thresholds. The detailed analysis is provided in Appendix B.

Table 6: Stationary and Mobile Risk Hazard Analysis

Source	Lifetime Excess Cancer Risk (in a million)	Chronic Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
Stationary Sources			
Safeway Gas	3.0	0.002	N/A
Bernal Corners/Chevron Gas	1.0	0.04	N/A
City of Pleasanton	0.01	2E-04	2.4E-05
Bernal Cleaners	0	0	0
Mobile Sources			
Interstate 680	16.0	0.06	0.2
Interstate 680 Ramps	0.7	0.002	0.01

Table 6 (cont.): Stationary and Mobile Risk Hazard Analysis

Source	Lifetime Excess Cancer Risk (in a million)	Chronic Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
Bernal Avenue	0.5	0.002	0.006
Valley Avenue	0.4	0.002	0.007
Total Risk from All Local Sources[1]	**17**	**0.1**	**0.24**
Threshold	100	10	0.8
Exceeds Threshold?	No	No	No

Note:
[1] The maximum values for different sources may not occur at the same receptor location. Thus, the value at the maximally impacted new on-site receptor presented here is less than the sum of values from each source type.
Source: Environ 2013, BAAQMD 2011.

In summary, the proposed project has incorporated project design features required by Mitigation Measure 4.B-4 (completion of an HRA, incorporation of vegetation barrier, and MERV filters) to ensure exposure to air pollutants are less than significant. Implementation of construction and operational features required by Mitigation measure 4.B-4 would further ensure impacts would continue to be less than significant.

Odors

The Supplemental EIR concluded that the project would not subject residents to objectionable odors after incorporation of mitigation.

As a new sensitive receptor for odors, the project is distant from the types of land uses that identified by the BAAQMD as having potential to create objectionable odors. As shown in the Supplemental EIR, the project site is beyond the 2-mile screening distance for odor sources identified within the Supplemental EIR. Impacts would continue to be less than significant and no mitigation is necessary.

Conclusion

The proposed project would not introduce any new substantial or more severe impacts to air quality than those considered in the Supplemental EIR. All impacts would continue to be less than significant with the implementation of mitigation as contained within the Supplemental EIR, as cited below.

Mitigation Measures

The following mitigation measures appear in the Supplemental EIR and apply to the project:

Mitigation Measure 4.B-1a: Prior to the issuance of a grading or building permit, whichever is sooner, the project applicant for a potential site for rezoning shall submit an air quality construction plan detailing the proposed air quality construction measures related to the project such as construction phasing, construction equipment, and dust control measures, and such plan shall be approved by the Director of Community Development. Air quality construction measures shall include Basic Construction Mitigation Measures (BAAQMD, May 2011) and, where construction-related emissions would exceed the applicable thresholds, Additional Construction Mitigation Measures included on all grading, utility, building, landscaping, and improvement plans during all phases of construction.

Mitigation Measure 4.B-4: Indoor Air Quality. In accordance with the recommendations of BAAQMD, appropriate measures shall be incorporated into building design in order to reduce the potential health risk due to exposure of sensitive receptors to TACs to a less than significant level.

Project applicants shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the BAAQMD requirements to determine the exposure of project residents/occupants/users to air pollutants prior to PUD approval. The HRA shall be submitted to the Community Development Department for review and approval. The applicant shall implement the approved HRA mitigation measure recommendations, if any, in order to reduce exposure to TACs below BAAQMDs threshold of significance at the time of project approval.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources *Would the project:*				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game 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?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Environmental Setting

The undeveloped project site consists primarily of grasslands and ruderal (weedy) vegetation that is disked regularly. Several mature trees are located offsite, along I-680. The project site is surrounded by urban development to the north, east, and west. Zoning maps indicate that the area south of the project site and west of the project site and I-680 are designated as Bernal Open Space. Wildlife

within the project area is primarily limited to those species such as feral cats, rats, mice, and birds, that are adapted to urban activities and human disturbance.

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would have a less than significant impact related to local policies or ordinances protecting biological resources, or habitat conservation plans. The Supplemental EIR concluded that, with the implementation of mitigation, the project would have a less than significant impact related to sensitive species, riparian habitat, wetlands, and fish or wildlife movement. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Sensitive Species

The Supplemental EIR indicates that most special-status species associated with the Pleasanton area were considered unlikely to occur on the project site. Most documented special-status occurrences are concentrated outside City limits, and no CNDDB recorded occurrences of special-status species occur on the project site. The Supplemental EIR does indicate that due to its location and grassland habitat, the project site presents potential upland and aestivation habitat for California red-legged frogs and tiger salamanders. However, all grassland at the project site is disked on a regular basis and there are few small mammal burrows present to provide aestivation habitat for special-status amphibians. Therefore, special-status amphibians are not expected to occur.

The Supplemental EIR also indicated that the site may provide suitable grassland habitat required for Western burrowing owl, but, as previously mentioned and as discussed in the Supplemental EIR, the site is disked regularly, precluding the establishment of ground squirrel complexes used by burrowing owls for shelter and nesting.

In addition, the removal of grassland vegetation could affect nesting habitat for ground nesting birds protected under the Migratory Bird Treaty Act. Construction activities could also affect birds nesting or roosting in the trees located offsite along I-680. As provided in the Supplemental EIR, impacts to nesting birds would require mitigation to ensure that special-status species are avoided or minimized. The Supplemental EIR included Mitigation Measures 4.C-1a as follows:

Mitigation Measure 4.C-1a: Pre-construction Breeding Bird Surveys. The City shall ensure that prior to development of all potential sites for rezoning (Sites 1-4, 6-11, 13, 14, and 16-21) and each phase of project activities that have the potential to result in impacts on breeding birds, the project applicant shall take the following steps to avoid direct losses of nests, eggs, and nestlings and indirect impacts to avian breeding success:

- If grading or construction activities occur only during the non-breeding season, between August 31 and February 1, no surveys will be required.
- Pruning and removal of trees and other vegetation, including grading of grasslands, should occur whenever feasible, outside the breeding season (February 1 through August 31).
- During the breeding bird season (February 1 through August 31) a qualified biologist will survey activity sites for nesting raptors and passerine birds not more than 14 days prior to any ground-disturbing activity or vegetation removal. Surveys will include all line-of-sight trees within 500 feet (for raptors) and all vegetation (including bare ground) within 250 feet for all other species.
- Based on the results of the surveys, avoidance procedures will be adopted, if necessary, on a case-by-case basis. These may include construction buffer areas (up to several hundred feet in the case of raptors) or seasonal avoidance.
- Bird nests initiated during construction are presumed to be unaffected, and no buffer would be necessary, except to avoid direct destruction of a nest or mortality of nestlings.
- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by nesting or other special-status birds may be pruned or removed.

As contemplated in the Supplemental EIR, Mitigation Measure 4.c-1b regarding bat surveys, and Mitigation Measures 4.C-1c and 4.C-1d regarding burrowing owls are not applicable to Site 7, as suitable onsite habitat does not occur for bats and the site is regularly mowed or disked, precluding burrowing owls from establishing habitat onsite.

With the implementation of Mitigation Measure 4.C-1a, the project's impacts on special-status species would continue to be less than significant.

Riparian Habitat

The project site does not contain any riparian areas and is not adjacent to any riparian areas. As such, Supplemental EIR Mitigation Measure 4.C-2 does not apply.

Even if there were riparian areas on or adjacent to the site, the project's site plans, design, and BMPs would be required to demonstrate proper compliance with applicable water quality regulations as project proponents apply for required development permits and the applicable NPDES permit. The City and/or the San Francisco Bay Regional Water Quality Control Board (RWQCB) would confirm compliance with these regulations and ensure that design level measures avoid and minimize

potential impacts related to water quality. As such, impacts to riparian habitat would continue to be less than significant as concluded in the Supplemental EIR.

Wetlands

The Supplemental EIR indicated that there are no wetlands, seasonal wetlands, or other waters present on any of the potential sites for rezoning. No evidence of wetlands was observed during site surveys conducted by an ESA biologist in July 2011 or through a review of current and historical aerials. As such, impacts to wetlands would continue to be less than significant as concluded in the Supplemental EIR.

Fish or Wildlife Movement

The Supplemental EIR concluded development facilitated under the Housing Element is not anticipated to substantially modify established migration or dispersal corridors, given the urbanized land uses surrounding the project site. Furthermore, the project site is not located near an arroyo that could provide a corridor. As such, impacts would continue to be less than significant as concluded in the Supplemental EIR.

Tree Preservation

The project site does not contain any trees; therefore, removal or disturbance of heritage trees would not occur and impacts would continue to be less than significant as concluded in the Supplemental EIR. The project would not result in the damage or removal of any trees located offsite, along the I-680 right-of-way.

Habitat Conservation Plans

The Supplemental EIR concluded that development facilitated by the Housing Element would not result in conflicts with a habitat or natural community conservation plan because the City is not located within such a designated area. No changes have occurred that would alter this conclusion. As such, impacts would continue to be less than significant as concluded in the Supplemental EIR.

Conclusion

The project would not introduce any new substantial or more severe impacts to biological resources beyond those considered in the Supplemental EIR. All impacts would continue to remain less than significant with the implementation of applicable mitigation proposed in the Supplemental EIR, as cited below.

Mitigation Measures

Mitigation Measure 4.C-1a: Pre-construction Breeding Bird Surveys. The City shall ensure that prior to development of all potential sites for rezoning (Sites 1-4, 6-11, 13, 14, and 16-21) and each phase of project activities that have the potential to result in impacts on breeding birds, the project applicant shall take the following steps to avoid direct losses of nests, eggs, and nestlings and indirect impacts to avian breeding success:

- If grading or construction activities occur only during the non-breeding season, between August 31 and February 1, no surveys will be required.
- Pruning and removal of trees and other vegetation, including grading of grasslands, should occur whenever feasible, outside the breeding season (February 1 through August 31).
- During the breeding bird season (February 1 through August 31) a qualified biologist will survey activity sites for nesting raptors and passerine birds not more than 14 days prior to any ground-disturbing activity or vegetation removal. Surveys will include all line-of-sight trees within 500 feet (for raptors) and all vegetation (including bare ground) within 250 feet for all other species.
- Based on the results of the surveys, avoidance procedures will be adopted, if necessary, on a case-by-case basis. These may include construction buffer areas (up to several hundred feet in the case of raptors) or seasonal avoidance.
- Bird nests initiated during construction are presumed to be unaffected, and no buffer would be necessary, except to avoid direct destruction of a nest or mortality of nestlings.
- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by nesting or other special-status birds may be pruned or removed.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. 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 pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Environmental Setting

As indicated in the Supplemental EIR, a Native American archeological site was discovered within a portion of the project area. No historic properties were identified on the project site during the cultural resource assessment conducted for the Supplemental EIR and no unique geologic features are present on the project site. A review of historical aerials dating back to 1949 confirms that the project area has never been developed for urban uses (NetrOnline 2013).

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would result in less than significant impacts to cultural resources, including archaeological resources, unique paleontological or geologic resources, and human remains, after the implementation of mitigation.

The Supplemental EIR concluded that a significant unavoidable impact would occur with the demolition of a potentially significant historic resource on Site 6. The project is located on Site 7 and, therefore, would not contribute to the impact to Site 6 identified in the Supplemental EIR.

As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Historical Resources

The Supplemental EIR showed no information indicating the presence of historic structures in the vicinity of the project area. The Supplemental EIR also concluded that the project is located in a

"Low Sensitivity" zone for cultural resources, which include historical resources, because the project is not located within the Downtown Historic Neighborhoods and Structure Area (refer to Figure 4.D-1 of the Supplemental EIR) and no historic structures were identified in the vicinity of the project. As such, the project would not result in impacts to historic resources.

Archaeological Resources

The Supplemental EIR indicated that project-related construction activities involving ground-disturbance could result in significant impacts if previously unknown significant resources or sites are discovered. The Supplemental EIR states that:

> In general, it may be expected that portions of the city lying in the flat valley would reveal a low sensitivity for prehistoric sites, except along drainages. In contrast, the hills to the south and west, particularly around springs and creeks, would be expected to have a relatively high sensitivity for containing prehistoric sites. While the majority of the potential sites for rezoning identified in the proposed Housing Element are located in the flat valley area and on parcels that have had some level of previous development or disturbance, some sites, such as Sites 6 or 7 may have only been minimally disturbed in the past and, while they are located in the flat valley and are expected to reveal a low sensitivity for prehistoric sites, they may contain unknown archaeological resources. Site 7, for example, contains a Native American burial ground.

The project is located within Site 7 as delineated by the Supplemental EIR. As such, the project site contains known archaeological resources and may also contain previously unknown archeological resources. As indicated by the Supplemental EIR, current federal, state, and local laws as well as the goals, policies, and programs included in the General Plan (specifically Programs 5.1 through 5.3 of the Conservation and Open Space Element) address potential impacts to archaeological resources that may be discovered during implementation of residential development planned for under the Housing Element. The City requires a standard condition of approval for projects requiring Planning Department approval requiring that all construction stop in the event that cultural resources are discovered during excavation. With implementation of this standard condition, the project would be expected to have a less than significant effect on unknown cultural resources. In addition, since the project site is known to contain archaeological resources, the project would be required to implement Supplemental EIR Mitigation Measure 4.D-2 as follows:

Mitigation Measure 4.D-2: Prior to the issuance of grading permits for development on the potential sites for rezoning that have not been previously developed or have only experienced minimal disturbance, including Sites 6, 7 [the project site], 8, and 18, the applicant shall submit to the City an archaeological mitigation program that has been prepared by a licensed archaeologist with input from a Native American Representative. The applicant shall implement the requirements and measures of this program, which will include, but not be limited to:

- Submission of periodic status reports to the City of Pleasanton and the NAHC.
- Submission of a final report, matching the format of the final report submitted for CA-Ala-613/H, dated March 2005, to the City and the NAHC.
- A qualified archaeologist and the Native American Representative designated by the NAHC will be present on site during the grading and trenching for the foundations, utility services, or other onsite excavation, in order to determine if any bone, shell, or artifacts are uncovered. If human remains are uncovered, the applicant will implement Mitigation Measure 4.D-4, below.

Compliance with applicable regulations and General Plan policies and programs, as well as implementation of Mitigation Measure 4.D-2 would ensure the project would not introduce any new impacts to archaeological resources that were not previously disclosed. As such, impacts would continue to be less that significant with the implementation of mitigation.

Paleontological Resources

The Supplemental EIR concluded that Pleasanton is directly underlain by Quaternary Alluvium (see Section 4.F, Geology and Soils of the Supplemental EIR), which is unlikely to contain vertebrate fossils. However, it is possible that the City is also underlain by older Quaternary deposits that are known to contain vertebrate fossils. Fossils have been found within 5 miles of areas with similar deposits. Therefore, the City has moderate paleontological sensitivity. While shallow excavation or grading is unlikely to uncover paleontological resources, deeper excavation into older sediments may uncover significant fossils.

If a paleontological resource is uncovered and inadvertently damaged, the impact to the resource could be substantial. The City requires a standard condition of approval that requires all construction to stop in the event that paleontological resources are uncovered during excavation. With implementation of this standard condition, future projects in the Planning Area would be expected to have a less than significant impact on unknown paleontological resources. In addition, the Supplemental EIR included Mitigation Measure 4.D-3 as follows:

Mitigation Measure 4.D-3: In the event that paleontological resources are encountered during the course of development, all construction activity must temporarily cease in the affected area(s) until the uncovered fossils are properly assessed by a qualified paleontologist and subsequent recommendations for appropriate documentation and conservation are evaluated by the Lead Agency. Excavation or disturbance may continue in other areas of the site that are not reasonably suspected to overlie adjacent or additional paleontological resources.

With the implementation of the City's standard conditions of approval regarding paleontological discovery and Mitigation Measure 4.D-3, the project's potential impacts would be reduced to less than significant, consistent with the conclusions of the Supplemental EIR.

Human Remains: The Supplemental EIR indicated that the Pleasanton Gateway shopping center contained a Native American burial ground. Measures were taken to relocate the remains respectfully and in accordance with applicable regulations including the presence of a qualified archaeologist and the designated Native American representative. Recent investigations (subsurface bore holes and potholing) within the project site indicate that the known prehistoric site extends into the northern portion of the project site. While no additional burials were detected, there is still the potential for Native American human remains to be discovered during construction of the project, and any inadvertent disturbance would be a significant impact. The City requires a standard condition of approval requiring that all construction stop in the event that human remains are discovered during excavation. In addition, the Supplemental EIR included Mitigation Measure 4.D-4 as follows:

Mitigation Measure 4.D-4: In the event that human remains are discovered during grading and construction of development facilities by the Housing Element, work shall stop immediately. There shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in California Health and Safety Code Section 7050.5 and Public Resources Section 5097.98. These code provisions require notification of the County Coroner and the Native American Heritage Commission, who in turn must notify the persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains.

With implementation the City's standard conditions of approval and Mitigation Measure 4.D-4, the project's potential impacts to inadvertently disturb human remains would continue to be less than significant as concluded in the Supplemental EIR.

Conclusion

The proposed project would not introduce any new substantial or more severe impacts to cultural resources than those considered in the Supplemental EIR. All impacts would continue to be less than significant with the implementation of mitigation proposed in the Supplemental EIR, as cited below.

Mitigation Measures

Mitigation Measure 4.D-2: Prior to the issuance of grading permits for development on the potential sites for rezoning that have not been previously developed or have only experienced minimal disturbance, including Sites 6, 7 [the project site], 8, and 18, the applicant shall submit to the City an archaeological mitigation program that has been prepared by a licensed archaeologist with input from a Native American Representative. The applicant shall implement the requirements and measures of this program, which will include, but not be limited to:

- Submission of periodic status reports to the City of Pleasanton and the NAHC.
- Submission of a final report, matching the format of the final report submitted for CA-Ala-613/H, dated March 2005, to the City and the NAHC.
- A qualified archaeologist and the Native American Representative designated by the NAHC will be present on site during the grading and trenching for the foundations, utility services, or other onsite excavation, in order to determine if any bone, shell, or artifacts are uncovered. If human remains are uncovered, the applicant will implement Mitigation Measure 4.D-4, below.

Mitigation Measure 4.D-3: In the event that paleontological resources are encountered during the course of development, all construction activity must temporarily cease in the affected area(s) until the uncovered fossils are properly assessed by a qualified paleontologist and subsequent recommendations for appropriate documentation and conservation are evaluated by the Lead Agency. Excavation or disturbance may continue in other areas of the site that are not reasonably suspected to overlie adjacent or additional paleontological resources.

Mitigation Measure 4.D-4: In the event that human remains are discovered during grading and construction of development facilities by the Housing Element, work shall stop immediately. There shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in California Health and Safety Code Section 7050.5 and Public Resources Section 5097.98. These code provisions require notification of the County Coroner and the Native American Heritage Commission, who in turn must notify the persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. 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? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial 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?	☐	☐	☐	☒

Environmental Setting

The project site is generally flat with a slight downward gradient to the west. The site elevation is approximately 320 feet above mean sea level.

According to the General Plan, active faults in or near the Pleasanton Planning Area include the Calaveras, Verona, Concord-Green Valley, Greenville, Hayward, Mt. Diablo Thrust, and San Andreas

Faults. Figure 5-3 of the City's General Plan indicates that the project site is located in an area susceptible to violent intensity of peak ground shaking during earthquakes. The Calaveras and Verona Faults are the nearest faults designated as Alquist-Priolo Earthquake Fault Zones; however, these faults do not transverse the project site (City of Pleasanton 2009).

According to the Natural Resources Conservation Service, the project site's soils consist of Sycamore silt loam, Sunnyvale clay loam (drained), and Yolo loam (NRCS 2013).

The site is located near the center of the Coast Range geomorphic province. The ridges in the region are typically composed of resistant sandstones or marine volcanics, and the valley areas, in which the project is located, are composed of relatively deep alluvial deposits. The depth to bedrock is estimated at 100 to 150 feet below ground surface (bgs). The soil profile consists of unconsolidated, moderately sorted, permeable, and fine to medium-grained colluvium (Geologica 2012).

Figure 5-4 of the City of Pleasanton General Plan indicates the project site is located in an area designated as susceptible to liquefaction.

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would have less than significant impacts related to fault rupture, seismic ground shaking, seismic-related ground failure, landslides, erosion, or unstable soils. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Fault Rupture

The Supplemental EIR concluded that development facilitated by the proposed Housing Element would result in less than significant exposures of people and structures to surface rupture on a known fault. The Supplemental EIR indicated that while an Alquist-Priolo zone associated with the Calaveras fault occurs within the City, it is not located within the project site. In addition, the Alquist-Priolo zone associated with the Verona Fault is not located within the project site. No changes have occurred to the project site that would alter this conclusion. As such, the project would not result in any impacts related to fault rupture.

Seismic Ground Shaking

The Supplemental EIR concluded that groundshaking in the City of Pleasanton could cause significant damage to housing units developed on potential sites for rezoning if not engineered appropriately. However, as indicated in the Supplemental EIR, the project would be subject to Goals and Policies of the Public Safety Element of the Pleasanton General Plan that would minimize the risk from ground shaking, including a requirement for site-specific soil and geological studies that include recommendations for minimizing seismic hazards. The recommendations are required to be incorporated into project plans. In addition, compliance with the California Building Code, as adopted by the City of Pleasanton, would mitigate, to the extent feasible, structural failure resulting

form seismic-related ground shaking. Compliance with the California Building Code is required under state law and as a condition of building occupancy permits. As such, the project would not introduce any new impacts related to seismic ground shaking not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Seismic Related Ground Failure

The Supplemental EIR concluded that seismic-related ground failure is a risk that exists throughout much of the City, particularly risks related to liquefaction. The Supplemental EIR specifically identified the project site as a site within a liquefaction hazard zone. The Supplemental EIR indicated that compliance with the soil and foundation support parameters in Chapter 16 and 18 of the California Building Code (CBC), as well as the grading requirements in Chapter 18 of the CBC, as required by city and state law, would ensure the maximum practicable protection available from ground failure for structures and their foundations.

The Supplemental EIR also indicated that areas located within Seismic Hazard Zones for liquefaction, such as the project site, are required to comply with the requirements of Special Publication 117 in accordance with the Seismic Hazards Mapping Act, which provides guidelines for mitigating seismic hazards including liquefaction. Moreover, Goal 2, Policy 5 of the Public Safety Element of the General Plan describes strategies for reducing the risk from ground failure that would be required to be implemented as a part of the project including the completion of a geotechnical report. As such, the project would not introduce any new seismic-related ground failure impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Landslides

The Supplemental EIR indicated that because of the flat topography, the development facilitated by the proposed General Plan Amendment and rezonings would not expose people or structures to landslides. The project site is generally flat and no changes have occurred to the project site that would alter this conclusion. As such, the project would not introduce any new landslide-related impacts not previously disclosed. Impacts would continue to be less than significant.

Erosion

The Supplemental EIR concluded that the potential impacts related to erosion as the result of site grading would be less than significant. The Supplemental EIR indicated that the project site would be required to adhere to the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, which contains requirements for erosion control of exposed soils including implementation of a Stormwater Prevention Plan's Best Management Practices. In addition, policies in the Public Safety Element of the General Plan minimize the risk of soil erosion and mitigate its effects further (Goal 1, Policy 2; Goal 2, Policy 5). No project site or regulatory conditions have changed that would alter this conclusion. As such, the project would not introduce any new erosion-related impacts not previously disclosed. Impacts would continue to be less than significant.

Unstable Soils

The Supplemental EIR concluded that residential development would be required to implement geotechnical tests and reports specific to the development site to identify the suitability of soils and measures to minimize unsuitable soil conditions must be applied. The Supplemental EIR also indicated that the design of foundation support must conform to the analysis and implementation criteria described in the CBC, Chapters 16 and 18. Adherence to the City's codes and policies would ensure maximum practicable protection from unstable soils and less than significant impact would occur. Programs 5.1, 5.2, and 5.3 of Goal 2, Policy 5 of the Public Safety Element of the General Plan requires a site-specific geotechnical engineering study and mitigation measures to mitigate potential geologic safety hazards for a project site. Mitigation measures identified by the site engineering studies must be incorporated into the project design. Implementation of the recommendations would ensure that appropriate earthwork is performed prior to building construction to ensure that unstable soils are not present or are appropriately engineered. As such, the project would not introduce any new impacts related to unstable soils not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Expansive Soils

The Supplemental EIR concluded that expansive soils are typically found within the upper 5 feet of ground surface, and are often found in low-lying alluvial valleys such as the valley in which Pleasanton is located. The Supplemental EIR indicated that adherence to the City's codes and policies, and the California Building Code, Chapter 16 and 18, would ensure maximum practicable protection from expansive soils would be implemented, thereby reducing impacts to a less than significant level.

In accordance with Goal 2, Policy 5, a geotechnical study would be completed for the project and recommended mitigation incorporated into the project. Adherence to the City's codes and policies, and the California Building Code, Chapters 16 and 18 would ensure the recommendations made by the geotechnical study are incorporated into the project and would reduce an impacts from onsite soil expansion if such conditions are present. As such, the project would not introduce any new impacts related to soil expansion not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Septic Tanks

The Supplemental EIR did not analyze the use of septic tanks. However, the project would be required to connect to the City sewer system and would not utilize a septic tank or alternative wastewater disposal system. As such, no impact would occur concerning the use of a septic system or alternative wastewater disposal system.

Conclusion

The project would not introduce any new substantial or more severe geologic or soils impacts than those considered in the Supplemental EIR. All impacts would continue to be less than significant and no mitigation is required.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. 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 of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Setting

After the City certified the Supplemental EIR on January 4, 2012, the Alameda County Superior Court issued a judgment, in *California Building Industry Association v. Bay Area Air Quality Management District*, finding that the BAAQMD had failed to comply with CEQA when it adopted its 2010 California Environmental Quality Act Air Quality Guidelines (2010 Air Quality Guidelines). The Air Quality Guidelines were updated with minor amendments in May 2011; however, for the purposes of clarity, the document is referred to in this section by the 2010 adoption date. The Air Quality Guidelines were further updated in 2012, as described further below. The 2010 Air Quality Guidelines included new quantitative and qualitative thresholds of significance (2010 Air Quality Thresholds) for plan-level and project-level greenhouse gas generation.

On March 5, 2012, the Court ruled that the adoption of new thresholds is considered a "project" under CEQA, and, thus, the BAAQMD should have prepared the required CEQA review and documentation. The Court issued a writ of mandate ordering the BAAQMD to set aside the 2010 Air Quality Thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. As such, this ruling effectively nullified the BAAQMD's adoption of the 2010 Air Quality Thresholds, and the BAAQMD has ceased recommending them for use in evaluating significance of projects. The BAAQMD currently recommends that lead agencies determine appropriate air quality thresholds and greenhouse gas of significance based on substantial evidence in the record. In the May 2012 update to the 2010 Air Quality Guidelines, the BAAQMD removed all references of the 2010 Air Quality Thresholds, including related screening criteria.

Table 7 compares the greenhouse gas aspects of the 2010 Air Quality Guidelines thresholds (2010 Air Quality Thresholds) to the thresholds established in 1999 (1999 Air Quality Thresholds). (The 2012 Supplemental EIR evaluated the project's compliance with the 2010 Air Quality Thresholds.)

Table 7: BAAQMD Operational Greenhouse Gas Thresholds

Analysis Level	1999 Air Quality Thresholds	2010 Air Quality Thresholds
Project-level	None	• Compliance with a Qualified GHG Reduction Strategy, or • 1,100 MT of CO_2e/yr, or • 4.6 MT of CO_2e /SP/yr
Plan-level	None	• Compliance with a Qualified GHG Reduction Strategy, or • 6.6 MT of CO_2e /SP/yr

Notes:
MT = metric tons CO_2e = carbon dioxide equivalent
yr = year SP = service population (employees + residents)
Source: Bay Area Air Quality Management District 1999, 2011.

The Supplemental EIR utilized the 2010 Air Quality Guidelines and 2010 Air Quality Thresholds. In addition, the 2010 Air Quality Thresholds are more stringent than the 1999 Air Quality Thresholds, as shown above. Therefore, the 2010 Air Quality Guidelines and associated thresholds were utilized in this document for screening and analysis purposes. As with the rezonings analyzed in the Supplemental EIR, the proposed project would result in emissions related to construction and operation.

Findings

The Supplemental concluded that rezoning of the project site for residential development would have a less than significant impact related to generation of greenhouse gases and consistency with an applicable plan, policy, or regulation of an appropriate regulatory agency adopted for the purposes of reducing greenhouse gas emissions.

As shown in Table 1, the project includes a total of 307 residential units, 93 fewer than the maximum of 400 units analyzed in the Supplemental EIR. The proposed project would incorporate greenhouse gas emissions reducing features such as energy efficient appliances and water efficient fixtures. In addition, the project's location and close proximity to adjacent commercial land uses to the north supports alternative transportation use.

As discussed below, the proposed project would not result in any new substantial impacts and would not exceed the level of impacts previously identified, due either to project modifications, physical changes on the property, or new information or changed circumstances that would result in any new significant greenhouse gas impacts or increase the severity of any previously identified greenhouse gas impacts.

Greenhouse Gas Generation and Plan Consistency

For the purposes of analyzing the proposed project, the BAAQMD's 2010 Air Quality Guidelines were used. The Supplemental EIR determined that, because the quantifiable thresholds established in the

BAAQMD 2010 Air Quality Guidelines were based on AB 32 reduction strategies, a project cannot exceed the numeric thresholds without also conflicting with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The Supplemental EIR utilized the BAAQMD's 2010 plan-level threshold of 6.6 metric tons of carbon dioxide equivalent ($MTCO_2e$) per service population (SP) per year to determine significance.

The Supplemental EIR quantified emissions from the development of the project site as a component of the development facilitated by the Housing Element and associated rezonings. URBEMIS 2007 and the BAAQMD's Greenhouse Gas Model (BGM) were used to quantify emissions in the Supplemental EIR. For this analysis, the CalEEMod program was used to estimate construction and operational emission of greenhouse gases for the proposed project.

Project construction emissions were calculated as 422 $MTCO_2e$, to be emitted over the construction period. Construction emissions are generally considered separately from operational emissions because construction emissions are a one-time event, while operational emissions would be continuous over the life of the project. The 2010 Air Quality Guidelines do not contain a threshold for construction-generated greenhouse gases, but it recommends quantification and disclosure of these emissions. Because the Supplemental EIR included the annualized construction emissions in the significance analysis, the construction greenhouse gas generation is included in the significance analysis below.

Operational GHG emissions by source are shown in Table 8. Total operational emissions were estimated at 3,204 $MTCO_2e$, with an assumption of 857 residents based on an average of 2.79 persons per household as indicated by the Supplemental EIR. The project would generate approximately 3.7 $MTCO_2e$ per service person at year 2020. Therefore, the project would not exceed the BAAQMD's 2011 thresholds and would not have a significant generation of greenhouse gases. (The CalEEMod output is included in Appendix B.)

Table 8: Project Greenhouse Gas Emissions

Source	Annual Emissions ($MTCO_2e$)
Area Sources	141
Energy	730
Mobile (Vehicles)	2,174
Waste	97
Water	62
Total Emissions*	**3,204**
Service Population (Residents)	**857**
Project Emission Generation	**3.7 $MTCO_2e$/SP**

Table 8 (cont.): Project Greenhouse Gas Emissions

Source	Annual Emissions ($MTCO_2e$)
BAAQMD 2010 Threshold	**4.6 $MTCO_2e$/SP**
Does project exceed threshold?	**No**
Notes: * Based on non-rounded emissions output $MTCO_2e$ = metric tons of carbon dioxide equivalent Source: FCS 2013, Appendix B.	

The City adopted a Climate Action Plan as part of the adoption of the Supplemental EIR. As described in the Supplemental EIR, the Climate Action Plan includes the project site in its community-wide analysis of vehicle miles traveled and associated greenhouse gas emissions. The Supplemental EIR analysis of the Climate Action Plan shows that the City of Pleasanton can meet a community-wide 2020 emissions reduction target that is consistent with the provisions of AB 32, as interpreted by BAAQMD. The Supplemental EIR further found that the Housing Element, associated rezonings, and Climate Action Plan would improve the local jobs-housing balance and provide for additional greenhouse gas emissions mitigation, and would not conflict with AB 32 or any plan, policy or regulation regarding greenhouse gases.

This project would construct 307 residential units, which is less than the maximum 400 units analyzed within the Supplemental EIR. Therefore, the project would not conflict with City's Climate Action Plan, or any other applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gasses and would result in fewer emissions than considered under the Supplemental EIR.

Applying the City's General Plan Policies and Climate Action Plan, the proposed project would not result in the City exceeding the levels set forth above. As a result, the greenhouse gas impacts are less than significant.

Conclusion

The proposed project would not introduce any new substantial or more severe impacts to greenhouse gas emissions than those of the prior project. All impacts would continue to be less than significant and no mitigation is required.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Hazards and Hazardous Materials *Would the project:*				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard 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?	☐	☐	☒	☐

Environmental Setting

According to the Phase I Environmental Site Assessment (ESA) prepared by Geologica, Inc., dated December 21, 2012 (Appendix C), the project site is not listed on any federal, state, or local databases of hazardous sites or conditions. Multiple sites within one mile of the project site were listed on various databases of hazardous sites or conditions. However, the Phase I ESA determined that none posed a significant environmental concern to the project site.

The Phase I ESA also reviewed previously prepared environmental investigations prepared for the project site and surrounding areas, including three Phase I ESAs and one Phase II ESA (Geologica 2009, Geologica 2008, Levine-Fricke 2000a; Levine-Fricke 2000b, Cehn 2000). As indicated in the previous environmental investigations, the project site was formerly used for agricultural activities and contains no hazardous conditions or significant environmental concerns.

Findings

The Supplemental EIR concluded that, after mitigation, implementation of housing development on sites contemplated for rezoning, including the project site, would have less than significant impacts related to hazards and hazardous materials after the implementation of mitigation. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical changes on the property, or new information.

Routine Hazardous Material Use

The Supplemental EIR concluded that residential development consistent with the proposed Housing Element would involve demolition activities, and use of construction equipment that would require the use of hazardous materials such as fuel or solvents. These materials could accidentally spill and may cause a potentially significant impact to the public and/or environment. However, the Supplemental EIR indicated development such as the project would be required to comply with all applicable regulations for management of hazardous materials during construction and demolition. These policies include Title 22 and 26 of the California Code of Regulations governing hazardous material transport, Title 8 Standards for handling asbestos and lead during demolition/construction, and Title 19 of the California Code of Regulations and Chapter 6.95 of the Health and Safety Code for site remediation. In addition, the Pleasanton General Plan's Public Safety Element's Goal 5 and Policies 16 through 19 include regulations regarding the use and transport of hazardous materials and waste. Compliance with these regulations would ensure potential hazards resulting from hazardous material use during construction activities would be less than significant.

The Supplemental EIR also concluded that new residential development, such as the project, may routinely use commonly available hazardous substances such as fuels, lubricants, and household cleaners. However, such use typically consists of limited quantities and would not be expected to present a significant risk to the environment.

Overall, the Supplemental EIR concluded that because of a limited potential for exposure of people or the environment to hazardous materials—largely as a result of compliance with federal, state, and local regulations—impacts related to the routine transport, use, or disposal of hazardous materials would be less than significant. No changes have occurred to the project site or to the proposed development that would alter this conclusion. As such, project impacts related to the routine use of hazardous materials would continue to be less than significant and no mitigation is necessary.

Hazardous Material Upset or Accident

The Supplemental EIR concluded that construction of residences on sites for rezoning would disturb soils that could be contaminated from past releases of hazardous substances into the soil or groundwater. The project site was not identified in the Supplemental EIR as potentially containing contaminated soil or groundwater. Nonetheless, implementation of Mitigation Measure 4.G-2 as required by the Supplemental EIR required both the preparation of a Phase I ESA to determine the potential presence of onsite contamination and the provision of documentation indicating that any onsite contamination has been appropriately remediated. The Supplemental EIR concluded that with the implementation of Mitigation Measure 4.G-2, and adherence to General Plan Public Safety Element Policy 17—which requires contamination to be remediated prior to development—impacts related hazardous materials or accidents would be reduced to a less than significant level.

In accordance with Supplemental EIR Mitigation Measure 4.G-2, a Phase I ESA was prepared by Geologica, Inc. dated December 21, 2012. As indicated in the Phase I ESA, no evidence of recognized environmental conditions in connection with the property was identified, and no conditions requiring remediation occur onsite.

The Supplemental EIR also indicated that excavation involved in construction and maintenance of development facilitated by the Housing Element could lead to the rupture of a PG&E or other pipeline. The project site was not identified as containing or being close to a PG&E pipeline. As noted in the Supplemental EIR, prior to commencement of site development the project proponents would be required to coordinate with the City of Pleasanton's Public Works Department and utility owners through notification of the Underground Service Alert system to precisely locate any subsurface utilities, thereby ensuring avoidance of utility interference.

In summary, the project would not introduce any new impacts related to hazardous material upset or accident not previously disclosed. Mitigation Measure 4.G-2 has already been implemented through the preparation of Phase I ESA for the project site and impacts would be less than significant as concluded in the Supplemental EIR. No further mitigation is required.

Hazardous Materials in Proximity to Schools

The Supplemental EIR concluded that development facilitated by the Housing Element would not result in the handling of significant quantities of hazardous materials, substances, or wastes; therefore, risk of hazardous material releases within the vicinity of schools would be less than significant. Furthermore, there are no schools within 0.25 mile of the project. As such, the project would not introduce any new impacts related to hazardous materials in proximity to schools not

previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Contaminated Site

The Supplemental EIR concluded that development of sites known to be contaminated by hazardous materials or wastes could occur on potential sites for rezoning. However, the project site was not identified by the Supplemental EIR as containing hazardous materials. In compliance with Mitigation Measure 4.G-2, as discussed above, a Phase I ESA has been completed for the project site and concluded that no evidence of recognized environmental conditions in connection with the property exist. As such, the project would not introduce any new impacts related to hazardous material sites not previously disclosed. Because Mitigation Measure 4.G-2 has already been implemented through the preparation of Phase I ESA for the project site, impacts would be less than significant as concluded in the Supplemental EIR. No further mitigation is required.

Public Airport Safety

The Supplemental EIR concluded that a conflict between the Livermore Municipal Airport Land Use Compatibility Plan (ALUCP) and potential rezoning sites for housing development was not anticipated. However, at the time the Supplemental EIR was written, the ALUCP was being revised; therefore, the Supplemental EIR indicated that, without specific project site details and a newly adopted ALUCP, additional analysis regarding residential development consistency with the Livermore Municipal Airport would be speculative. As such, the Supplemental EIR included Mitigation Measure 4.G-5 as follows:

Mitigation Measure 4.G-5:

a. Prior to PUD approval for Sites 11 (Kiewit), 14 (Legacy Partners), 6 (Irby-Kaplan-Zia), 8 (Auf de Maur/Richenback), 10 (CarrAmerica), 16 (Vintage Hills Shopping Center), 17 (Axis Community Health), and 21 (4202 Stanley): 1) the project applicant shall submit information to the Director of Community Development demonstrating compliance with the ALUPP, as applicable, including its height guidance; and 2) the Director of Community Development shall forward this information and the proposed PUD development plans to the ALUC for review.

b. Prior to any use permit approval for Sites 11 (Kiewit), and 14 (Legacy Partners): the project applicant shall submit information to the Director of Community Development demonstrating compliance with the ALUPP, as applicable; and 2) the Director of Community Development shall forward this information and the proposed use permit to the ALUC for review.

c. The following condition shall be included in any PUD development approval for all the potential sites for rezoning: Prior to the issuance of a grading permit or building permit, whichever is sooner, the project applicant shall submit verification from the FAA,

or other verification to the satisfaction of the City Engineer or Chief Building Official, of compliance with the FAA Part 77 (Form 7460 review) review for construction on the project site.

The revised Airport Land Use Compatibility Plan (ALUCP) for the Livermore Municipal Airport has been completed, and confirms that the project site is not located within Airport Protection Area, Airport Influence Area, or Federal Aviation Regulation (FAR) Part 77 height restriction space as indicated by the ALUCP. Furthermore, none of the proposed onsite buildings would exceed 200 feet in height.

Mitigation Measure 4.G-5 parts a and b do not identify the project site and therefore do not apply. Since the project site is not located within the FAR Part 77 height restriction space, verification of compliance as required by Mitigation Measure 4.G-5 part c is not required. As such, the project would not introduce any new impacts related to air safety not previously disclosed. Impacts would continue to be less than significant as concluded in the Supplemental EIR.

Private Airport Safety

The Supplemental EIR concluded that no private airstrips exist in the vicinity of the City. Therefore, there would be no safety hazards related to the use of private airstrips and no impact would occur related to the development of housing under the General Plan Amendment and rezonings. No changes have occurred to the location of private airports in the vicinity of the project site. As such, the project would not introduce any new private airstrip safety hazards not previously disclosed. No impact would occur.

Emergency Response or Evacuation Plan

The Supplemental EIR concluded that the buildout of the proposed Housing Element would not interfere with current guidelines set forth in the Pleasanton Comprehensive Emergency Management Plan and impacts would be less than significant. No changes have occurred that would alter this conclusion. As such, the project would not impact implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would continue to be less than significant.

Wildland Fires

The Supplemental EIR concluded that all of the sites considered for rezoning, including the project site, are located outside of the designated wildland-urban interface threat areas within Pleasanton; therefore, impacts related to wildlife fires would be less than significant. Furthermore, the project would be required to comply with policies of the Public Safety Element of the City of Pleasanton General Plan and the Pleasanton Building Code that set standards for building sprinklers, fire response systems and built-in fire protection systems. No changes have occurred to the status of the project site's location outside of the wildland-urban interface area. As such, the project would not introduce any new wildland fire hazards not previously disclosed and impacts would continue to be less than significant.

Conclusion

The proposed project would not introduce any new substantial or more severe hazards or hazardous materials impacts than those considered in the Supplemental EIR. All impacts would continue to be less than significant and no mitigation is necessary.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. 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 of 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 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 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Setting

The project site currently undeveloped and does not contain any impervious surfaces. The project includes approximately 630,968 square feet of impervious surfaces, inclusive of buildings, roadways, and sidewalks.

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would have less than significant impacts related to hydrology and water quality. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Water Quality, Flooding, or Polluted Runoff

The Supplemental EIR concluded that development on rezoned sites could affect drainage patterns and create new impervious surfaces that can cause changes to stormwater flows and affect water quality. However, the Supplemental EIR indicated that compliance with the Alameda Countywide Clean Water Program (ACCWP) NPDES Permit, including the C.3 provision, and implementation of a Construction Storm Water Pollution Prevention Plan would reduce impacts to a less than significant level. As part of issuance of building and/or grading permits, the project would be required to demonstrate compliance with these regulations. Compliance would be further ensured by the City and/or the San Francisco Regional Water Quality Control Board through their review and approval of applicable permits, ensuring that the project would not substantially worsen existing water quality problems and no net increase in stormwater rates and runoff would occur.

In compliance with C.3 requirements, the project includes bioretention basins located throughout the project site. The bioretention basins would slow and capture stormwater, to ensure no net increase in offsite flow during storm events. The project's grading and drainage plans are in the process of being reviewed by the City's Engineering Division of the Community Development Department. The review and implementation of resulting recommendations and requirements would ensure compliance with city codes regarding flooding and drainage. As such, the project would not introduce any new water quality, flooding, or polluted runoff related impacts not previously disclosed in the Supplemental EIR. Impacts would continue to be less than significant and no mitigation is necessary.

Groundwater

The Supplemental EIR concluded that development of impervious surfaces on rezoning sites could potentially reduce groundwater infiltration and that the addition of new housing would result in an increase in consumption of municipal water supply, which could potentially increase demand on groundwater supplies. However, these impacts were determined to be less than significant because the City has already planned for the residential growth on the existing project site and because the Housing Element includes policies to protect water supplies.

Because the development of the project site was considered in the Supplemental EIR and is now included in the City of Pleasanton's General Plan, the project site's growth has been included in future water supply planning and would not deplete groundwater supplies. Implementation of the project would increase impervious surface area at the site but would not substantially interfere with groundwater recharge because the planned landscaping and bioretention areas included in the project would allow for groundwater recharge to continue to occur onsite. In summary, the project would not introduce any new groundwater impacts not previously disclosed in the Supplemental EIR. Impacts would continue to be less than significant.

Drainage Resulting in Erosion or Flooding

The Supplemental EIR concluded that compliance with existing regulatory requirements including the NPDES Construction General Permit requirements, provision C.3 of the ACCWP NPEDES permit, and Goal 6 of the Public Facilities and Community Programs Element of the City of Pleasanton General Plan would ensure that development resulting from the Housing Element would not result in erosion or flooding. As previously discussed under Water Quality, Flooding, or Polluted Runoff, the project would be required to demonstrate compliance with these regulations as part of issuance of building and/or grading permits. As such, the project would not introduce any new groundwater impacts not previously disclosed in the Supplemental EIR. Impacts would continue to be less than significant.

Flood Hazards

As indicated in the Supplemental EIR development proposals resulting from the Housing Element, such as the project, must be reviewed by the City's Engineering Division of the Community Development Department to ensure compliance with city codes regarding flooding and drainage (including properly sized storm sewers and building within FEMA flood hazard zones). The Supplemental EIR indicated that compliance with applicable regulations would ensure that development within flood hazard zones would be less than significant.

As indicated by Federal Emergency Management Agency Flood Insurance Rate Map 06001C0319G, the project site is located within Zone X and is not located within a 100-year flood zone. As such, the project would not introduce any new flood hazard impacts not previously disclosed in the Supplemental EIR. Impacts would continue to be less than significant.

Levee or Dam Failure

The Supplemental EIR indicated that most of the City of Pleasanton is within the 5- to 40-minute inundation area in the event of the failure of Del Valle Dam. However, catastrophic dam failure is considered highly unlikely, as the dam is regularly maintained and inspected. Flood retention facilities, including levees, throughout the City are undergoing updates under the Stream Management Master Plan. Residential development is not allowed within levee failure zones without being designed to acceptable flood protection standards. Accordingly, the Supplemental EIR concluded that impacts related to levee or dam failure would be less than significant. The project would not introduce any new levee or dam failure hazard impacts not previously disclosed in the Supplemental EIR. As such, impacts would continue to be less than significant.

Seiche, Tsunami, or Mudflow

The Supplemental EIR concluded that no impacts would occur related to a seiche, tsunami, or mudflow because the City is inland from the ocean and in a relatively flat area. No changes have occurred that would alter this conclusion.

Conclusion

The project would not introduce any new substantial or more severe impacts related to hydrology and water quality than those considered in the Supplemental EIR. All impacts would continue to be less than significant with adherence to applicable regulations.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. 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 any applicable habitat conservation plan or natural communities conservation plan?	☐	☐	☐	☒

Environmental Setting

The project site is designated by the General Plan as High Density Residential (HDR) and Medium Density Residential (MDR), is zoned Planned Unit Development – High Density Residential and Medium Density Residential (PUD-HDR and MDR) and is located within the Bernal Property Specific Plan, which also designates it as MDR and HDR.

Findings

The Supplemental EIR concluded that the rezoning of the project site for eventual residential development would have less than significant impact regarding conflicts with applicable land use plans, policies or regulations, or the division of an established community. No impact was found regarding conflict with habitat conservation or natural community conservation plans. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Division of an Established Community

The Supplemental EIR indicated that sites selected for rezoning met certain criteria established by the City as being suitable for high-density housing development, including compatibility with surrounding residential development and location within existing neighborhoods. As such, the Supplemental EIR concluded construction of residential units as allowed by the Housing Element would result in less than significant impacts related to the division of an established community. The project would consist of 307 residences surrounded by multi-family and single family homes, commercial, and open space land uses. The project would be consistent with surrounding existing uses and with land use and zoning designations of the site. As such, the project would not introduce

any new impacts related to the division of an established community. Impacts would continue to be less than significant.

Land Use plan, Policy, or Regulation Consistency

The Supplemental EIR indicated that several of the potential sites for rezoning are located in areas that, if not properly addressed, could result in conflicts with General Plan policies related to air quality and noise, due to their proximity to point sources of air pollution and to noise sources. However, the Supplemental EIR indicated that compliance with mitigation measures set forth in Section 4.B, Air Quality and 4.J, Noise, as well as consistency with applicable policies of the Housing Element would ensure that sites rezoned for residential development would be consistent with the General Plan and impacts would be less than significant.

General Plan Consistency

The project site is located within the Bernal Property Specific Plan, and is designated as Medium Density Residential (MDR) on 19.72 acres and High Density Residential (HDR) on 7.0 acres on the 26.72-acre site. The Bernal Property Specific Plan area includes a mixture of residential densities, commercial, and recreational land uses. As indicated by the General Plan, the original Bernal Property Specific Plan area allowed for the development mixed-density housing units, 750,000 square feet of commercial/office-building floor space, related infrastructure, and recreational facilities. The project would include the development of 307 residential units in a mixture of medium- and high-densities along with common areas and resident amenities on the former commercial site. As such, the development of the project would be consistent with the existing and planned land uses for the Bernal Property Specific Plan.

The General Plan defines Medium-Density Residential land uses as having between two and eight dwelling units per gross developable acre. Consistent with the General Plan, the project includes 97 residential units on the 19.72-acre portion designated as Medium-Density Residential, resulting in a 4.9 dwelling unit per acre density. High-Density Residential land uses are defined as having greater than eight dwelling units per gross developable acre. The project includes 210 residential units on the 7-acre portion designated as High-Density Residential resulting in a 30-dwelling-unit-per-acre density, which is also consistent with the General Plan.

Zoning Consistency

Since the certification of the Supplemental EIR, and because of City of Pleasanton Ordinance No. 2031 (January 4, 2012), the 26.72-acre project site has been rezoned to Planned Unit Development - High Density Residential and Medium Density Residential (PUD-HDR and MDR) on 7.0 acres and 19.72 acres, respectively. PUD-HDR zoning allows residential development at a minimum density of 30 units per acre and MDR zoning allows residential development between 2 and 8 units per acre. Consistent with this requirement, the project would result in a residential density of 30 units per acre in the area along I-680 designated as PUD-HDR.

As part of the rezoning of the project site, the City of Pleasanton adopted Ordinance No. 2048—the Housing Site Development Standards and Design Guidelines—which provides direction regarding use, density, building mass and height, setbacks, architectural features, parking, access, and street

character for the project site. The project has been designed to be consistent with these guidelines, including the provision of pedestrian and bicycle connections, group usable open space, landscaping and lighting. Furthermore, the development application is subject to the PUD process, which includes review and recommendations by the Planning Commission and approval or denial by the City Council. Finally, the project site would also be subject to applicable regulations of the Bernal Property Specific Plan and PUD Development Plan.

In summary, the project has been designed to be consistent with existing General Plan and Zoning designations, as well as the Housing Site Development Standards and Design Guidelines and Bernal Property Specific Plan. Impacts would continue to be less than significant as concluded in the Supplemental EIR and no mitigation is necessary.

Habitat or Natural Communities Conservation Plan

The Supplemental EIR concluded that no impact would occur with respect to conflicts with a habitat or natural community conservation plan because the City is not located within such a designated area. No changes have occurred that would alter this conclusion.

Conclusion

The project would not introduce any new substantial or more severe land use impacts than those considered in the Supplemental EIR. All impacts would continue to be less than significant with no mitigation required.

Mitigation Measures

None required.

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

Environmental Setting

The project site is located in the Mineral Resource Zone (MRZ) 1, which includes no significant mineral deposits (ESA 2011).

Findings

The Supplemental EIR concluded that the residential development facilitated by the General Plan Amendment and rezoning would have no impact related to each mineral resource checklist question, and no mitigation was required.

Conclusion

The project would not introduce any new substantial or more severe impacts to mineral resources than those identified in the Supplemental EIR. No impact would occur and no mitigation is required.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. 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 in the project vicinity 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 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 levels?	☐	☐	☒	☐

Environmental Setting

The project site is located in a developed area and in proximity to existing transportation and commercial noise sources. Noise at the site is primarily from vehicle traffic on I-680, which borders the site to the west. As illustrated by General Plan Figure 11-2 portions of the project site are within the future 60, 65, and 70 dBA[1] L_{dn} noise contours of I-680. The project site is also adjacent to Valley Avenue to the east and the Gateway Commons Shopping Center to the north, which are also sources of noise.

As shown on General Plan Figure 11-7, a single-family residential area is located east of the project site, across Valley Avenue (City of Pleasanton 2009).

[1] A-weighted sound pressure level (or noise level) represents the noisiness or loudness of a sound by weighting the amplitudes of various acoustical frequencies to correspond more closely with human hearing. A-weighting is specified by the EPA, OSHA, Caltrans, and others for use in noise measurements. All sounds levels (i.e., dB) discussed in this section are in A-weighted terms.

The Noise Element of the General Plan contains land use compatibility guidelines for environmental noise in the community. Table 9 below summarizes these guidelines for residential land uses and park areas.

Table 9: Noise and Land Use Compatibility Guidelines

DNL Value in Decibels			Compatibility Level
Detached Residential	Multi-Family Residential	Parks and Recreation Areas	
60 dB or less	65 dB or less		Normally Acceptable: Specified Land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements
60 to 75 dB	65 to 75 dB	65 to 80 dB	Conditionally Acceptable: Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.
Greater than 75 dB		Greater than 80 dB	Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.
Source: City of Pleasanton 2009, as summarized by Charles M. Salter Associates, 2013.			

In addition to the land use compatibly guidelines, the Noise Element outlines the following noise level goals:

- Interior noise goal of DNL 45 dB or lower for all single and multi-family residences
- Maximum instantaneous noise level goals indoors, when the noise source is rail activity or aircraft. (Note that the project site is located far outside both the 60 dB DNL railroad noise contour and the 60 dB CNEL airport noise contour for Livermore Municipal Airport. Therefore, this analysis assumes these instantaneous noise level goals do not apply.)

The City of Pleasanton Municipal Code also establishes noise limits summarized as follows:

- Noise levels from mechanical equipment such as air-conditioners are limited to 60 dB at residential property lines (Section 9.04.030).
- Construction noise is limited via: prescribed days and hours for construction activities; maximum noise limitations for individual pieces of equipment and at surrounding property lines; stipulations on stationary equipment placement; designated offsite construction vehicle routes; requirements that construction vehicles be muffled and meet DMV noise standards; and requirement of a designated noise disturbance coordinator (Section 9.04.100).

The State of California maintains noise standards applicable to multi-family uses. The standards are contained in Title 24, Part 2, of the State Building Code, which sets forth Noise Insulation Standards applicable to new multi-family housing. Projects exposed to an outdoor DNL greater than 60 dB require an acoustical analysis during the design phase showing that the proposed design will limit outdoor noise to the allowable 45 dB DNL interior noise level in habitable rooms. Additionally, if windows must be closed to meet the interior standard, "the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment" (CBC 2010).

Finally, the Supplemental EIR identifies 65 dB DNL as the outdoor noise goal for residential outdoor use spaces.

Findings

The Supplemental EIR concluded that the rezoning of the project site for eventual residential development would have less than significant impacts related to noise with the implementation of mitigation. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Construction Noise Levels

The Supplemental EIR indicated that construction activities on rezoning sites would involve the use of heavy equipment in addition to small power tools, generators, and hand tools. Noise would vary based on construction location relative to receptors and type and quantity of construction equipment. The Supplemental EIR concluded that because the development projects would be required to comply with Municipal Code 9.04.100, individual project construction equipment would not produce a noise level in excess of 83 dB L_{eq} at a distance of 25 feet, nor would total construction noise exposure exceed 86 dB L_{eq} outside of project boundaries. In addition, to ensure construction noise resulting from project development would result in less than significant impacts, the Supplemental EIR included Mitigation Measure 4.J-1 as follows:

Mitigation Measure 4.J-1: In addition to requiring that all project developers comply with the applicable construction noise exposure criteria established within the City's Municipal Code 9.04.100, the City shall require developers on the potential sites for rezoning to implement construction best management practices to reduce construction noise, including:

a. Locate stationary construction equipment as far from adjacent occupied buildings as possible.

b. Select routes for movement of construction-related vehicles and equipment so that noise-sensitive areas, including residences, and outdoor recreation areas, are avoided as much as possible. Include these routes in materials submitted to the City of Pleasanton for approval prior to the issuance of building permits.

c. All site improvements and construction activities shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. In addition, no construction shall be allowed on State and federal holidays. If complaints are received regarding the Saturday construction hours, the Community Development Director may modify or revoke the Saturday construction hours. The Community Development Director may allow earlier "start-times" for specific construction activities (e.g., concrete foundation/floor pouring), if it can be demonstrated to the satisfaction of the Community Development Director that the construction and construction traffic noise will not affect nearby residents.

d. All construction equipment must meet DMV noise standards and shall be equipped with muffling devices.

e. Designate a noise disturbance coordinator who will be responsible for responding to complaints about noise during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and shall be provided to the City of Pleasanton. Copies of the construction schedule shall also be posted at nearby noise-sensitive areas.

The nearest sensitive receptors to the project site are multi-family and single-family residences located approximately 90 feet to the east across Valley Avenue. As indicated in Table 4.J-5 of the Supplemental EIR, the use of pneumatic tools would be one of the loudest pieces of construction equipment with a noise level of 85 dB L_{max} at 50 feet. L_{max} refers to the maximum instantaneous noise level during a specific period of time, also referred to as the peak level. Most pneumatic tools (e.g., staple and nail guns) have loud but very brief impacts (L_{max}) by virtue of how they operate. When the L_{max} levels are perceived along with the predominant ambient levels (i.e., dBA L_{eq}) over time, the averaged noise level is much lower than the single event L_{max} level.

Additionally, point-source noise propagation will reduce sound levels by 6 dB per doubling of distance from the source. Relatively little construction will occur at the site's eastern extent, including installation of landscaped areas that do not generally require the use of pneumatic-type tools. Further, the sensitive receptors to the east are separated from the project site by Valley Avenue, which could mask some of the project's construction-related noise via line-source noise generated by vehicular traffic.

Nevertheless, construction equipment noise may exceed the Municipal Code's exposure limit of 83 dB at a distance of 25 feet, and may also exceed the Code's total construction noise exposure limit of 86 dB outside of project boundaries. The project would be required to implement Mitigation Measure 4.J-1 of the Supplemental EIR, inclusive of noise limits outlined by Municipal Code 9.04.100. As such, the project would not introduce any new impacts related to construction noise not previously disclosed. Impacts would continue to be less than significant.

Construction Vibration Levels

The Supplemental EIR concluded that vibration exposure at neighboring sensitive uses, which are expected to be greater than 100 feet removed from the rezoned construction sites, would not be expected to exceed the applicable criteria outlined by the Caltrans Transportation- and Construction-Induced Vibration Guidance Manual, except in situations where pile driving occurs. Should pile driving occur, the Supplemental EIR concluded that implementation of Mitigation Measure 4.J-2 would reduce construction-related vibration to a less than significant level.

Mitigation Measure 4.J-2: The City shall require developers on the potential sites for rezoning to conduct a vibration study which will estimate vibration levels at neighboring sensitive uses, and if required, provide mitigation efforts needed to satisfy the applicable construction vibration level limit established in Table 4.j-4. It is expected that vibration mitigation for all project sites will be reasonable and feasible.

While the boundary of the project site is within 90 feet of neighboring sensitive receptors, areas nearest to the boundary would be landscaped and, therefore, would not be likely to require the use of heavy earthmoving equipment. Buildings along Valley Avenue would be set back more than 10 feet; therefore, earthmoving equipment use for soil preparation at building footprints would be more than 100 feet from the nearest vibration sensitive receptors. Furthermore, pile driving would not be required during project construction. As such, the project would not introduce any new construction-related vibration impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Exposure to Train Noise

The Supplemental EIR concluded that train-related noise exposure would require the implementation of Mitigation Measure 4.J-3 for identified sites that are close to the Union Pacific Railroad mainline tracks. The project site is located more than 2,000 feet northwest of the Union Pacific Railroad mainline tracks and is not exposed to unacceptable noise levels from the tracks. Furthermore, the project site was not identified in the Supplemental EIR as “located in close proximity” where applicable noise limits may be exceeded within habitable rooms. As such, the project would not expose future residents to excessive train-related noise that would require implementation of Mitigation Measure 4.J-3. The project would not introduce any new train-related noise impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Exposure to Train Vibration

The Supplemental EIR concluded that train-related vibration exposure may be substantial for sites that are close to the Union Pacific Railroad mainline tracks. However, as noted in the Supplemental EIR and discussed previously herein, the project site is not located close to railroad tracks and would not expose future residents to excessive train-related vibration. As such, the proposed project would not introduce any new train-related vibration impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Traffic Noise Increase

The Supplemental EIR indicated that increases in traffic noise resulting from traffic pattern changes would be in the range of 1 to 3 dB at 100 feet. The Supplemental EIR identified two roadway segments (Hopyard Road between West Las Positas Boulevard and Valley Avenue, and Stoneridge Drive between West Las Positas Boulevard and Santa Rita Road) where increases in traffic noise could result in noise levels above 60 dB L_{dn} within single-family residential back yards, resulting in a potentially significant impact. To reduce this impact, the supplemental EIR included Mitigation Measure 4.J-5a, which requires preparation of an offsite noise study for residential sites that would add traffic noise in excess of 55 dBA (at 100 feet from roadway centerline) as described in Table 4.J-6 of the Supplemental EIR. The purpose of the study is to determine the project's contribution to offsite roadway noise and identify the project's required fair-share payment to mitigate the established noise impact.

The Supplemental EIR assumed that up to 400 residential units would be developed on the project site. Table 4.J-6 of the Supplemental EIR, indicates that existing traffic noise at 100 feet from the Valley Avenue roadway centerline, south of Bernal Avenue, is 57 dB L_{dn}, and that project conditions would result in a similar traffic noise level of 57 dB L_{dn} at 100 feet. As such, the Supplemental EIR concluded that project related traffic noise levels on Valley Avenue would not increase as a result of the development of up to 400 residential units at the project site (97 residential units more than the project).

As indicated in the Environmental Noise Assessment, dated June 11, 2013 and prepared by Charles M. Salter Associates, the project-generated traffic volumes associated with the project would be less than both the previously planned and approved office project and the recently re-designated residential use (resulting from the Supplemental EIR) for the site. Corresponding noise levels form project-generated traffic would be less at offsite residences than they would have been with either of the previously approved projects.

The Supplemental EIR also considered roadway noise impacts in the cumulative noise scenario (Year 2035). Potentially significant, cumulatively considerable traffic noise increases were identified along two additional roadway segments: Stoneridge Drive between Johnson Drive and Hopyard Road, and Hopyard Road between Stoneridge Drive and West Las Positas Boulevard. At these locations, increased traffic noise exposure may exceed the City's 60 dB L_{dn} limit within neighboring single-family residential backyards. To reduce this impact to less than significant, the supplemental EIR included Mitigation Measure 4.J-9 which, similar to Mitigation Measure 4.J-5a, required projects that would add traffic noise in excess of 55 dBA as described in Table 4.J-7 of the Supplemental EIR to conduct an offsite noise study to determine the project's contribution to offsite roadway noise and contribute its fair-share to mitigate the established noise impact. As explained above, the project-related traffic noise would be similar to noise levels in Table 4.J-6 and would not result in a considerable contribution to the cumulative noise scenario. As such, implementation of Mitigation Measure 4.J-9 would not be necessary.

The Supplemental EIR also concluded that developments on rezoned sites may be exposed to exterior traffic noise in excess of 65 dB and interior traffic-related noise exposure in excess of the

acceptable 45 dB L_{dn} threshold; therefore, impacts would be potentially significant. To ensure compliance and reduce impacts to less than significant, the Supplemental EIR included Mitigation Measures 4.J-5b and 4.J-5c as follows:

Mitigation Measure 4.J-5b: Any residential or office buildings shall be built to California's interior-noise insulation standard so that interior traffic noise exposure does not exceed 45 dB L_{dn}. Before building permits are issued, the project applicant shall be required to submit an acoustical analysis demonstrating that the buildings have been designed to limit interior traffic noise exposure to a level of 45 dB L_{dn}/CNEL or less.

Mitigation Measure 4.J-5c: Any locations of outdoor activity for sensitive uses associated with the project site shall be designed so that the noise exposure from traffic does not exceed 65 dB L_{dn} at these activity areas. This shall be done thru site orientation (i.e., location of activity areas away from roadways or shielded by project buildings) or with the inclusion of appropriate noise barriers. Prior to PUD approval, the project applicant shall be required to submit an acoustical analysis demonstrating that outdoor activity spaces associated with sensitive uses do not exceed 65 dB L_{dn} within these spaces.

As a part of the Environmental Noise Assessment conducted for the project, existing noise measurements were taken at the project site and are provided in Table 10.

Table 10: Existing Noise Environment

Site[1]	Location	DNL
1 (LT-1)	South west corner of project site, approximately 155 feet northeast of I-680 centerline, 12 feet above ground	74 dB
2 (LT-2)	Eastern boundary of project site near Wild Rose Place, approximately 12 feet southwest from Valley Avenue centerline, 12 feet above ground	67 dB
3 (LT-3)	Eastern boundary of project site between East Gate Way and Whispering Oaks Way, approximately 12 feet southwest from Valley Avenue centerline, 12 feet above ground	62 dB
4 (ST-1)	Middle of western boundary of project site, approximately 155 feet northeast of I-680 centerline, 10- and 40-feet above ground	72/75 dB

Note:
[1] Site names as indicated in Environmental Noise Assessment provided in parenthesis.
Source: Charles M. Salter Associates, 2013.

Interior Noise

Residential development is required to comply with Title 24 of the California Code of Regulations, which requires an interior noise exposure of 45 dB L_{dn}/CNEL or less within any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard.

Standard residential construction (sound transmission class [STC]-rated 27 windows, door weather-stripping, exterior wall insulation, etc.), results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. As indicated in the Project Description, the project incorporates appropriate STC rated walls, windows, and doors to ensure that interior noise levels would not exceed 45 dB Ldn standards. The project design and associated Environmental Noise Assessment fulfill the requirements of Mitigation Measure 4.J-b and ensure that impacts related to interior traffic noise would be less than significant as concluded in the Supplemental EIR. No additional mitigation is necessary.

Exterior Noise

As indicated in the Environmental Noise Assessment, noise levels in outdoor spaces of the project would vary, depending on the location and orientation on the site. The community park and pool, in the center of the project, would be mostly shielded from roadway noise by the apartment buildings located along I-680. The project would include a 16-foot-tall combination earthen berm (8 feet) and noise barrier (8 feet) in the southern portion of the site, and 8-foot-tall noise barriers at selected yards of detached houses. As a result, the combined distance and shielding from the apartment buildings would reduce estimated future traffic noise in the community park and pool area to approximately 65 dB or lower, consistent with the City's goal for exterior residential space.

For the single-family residences nearest I-680, estimated future un-shielded traffic noise (at the second and third stories), is approximately 73 dB DNL. The planned 16-foot tall earthen berm and noise barrier, and the noise barriers at the single-family residences would reduce traffic noise to approximately 65 dB DNL and below in the shielded yards at grade, thereby meeting the exterior residential space noise threshold. Along Valley Avenue, side and rear yards would be shielded by the related single-family residences thereby reducing traffic noise to approximately 60 to 65 dB DNL. The submittal of the Environmental Noise Assessment fulfills the requirements of Mitigation Measure 4.J-5c and ensures impacts related to exterior noise would be less than significant as concluded in the Supplemental EIR. Pursuant to standard City procedures, the Planning and Building Divisions may further refine material types and design during the building permit process to maximize noise attenuation. No additional mitigation is necessary.

In conclusion, provision of the Environmental Noise Assessment to the City of Pleasanton fulfills the requirements of both Mitigation Measure 4.J-5b and Mitigation Measure 4.J-5c and ensures that impacts related to exterior and interior traffic noise would be less than significant as concluded in the Supplemental EIR. As such, the project would not introduce any new transportation noise exposure impacts not previously disclosed. Impacts would continue to be less than significant.

Exposure to Stationary Noise Sources

The Supplemental EIR concluded that development on rezoned sites could be exposed to stationary noise sources (e.g., industrial/commercial area loading noise and late or 24-hour operations noise) resulting in a potentially significant impact. To ensure impacts would be reduced to a less than significant level, the Supplemental EIR included the following mitigation measures:

Mitigation Measure 4.J-6a: For all of the potential sites for rezoning the City shall require site-specific acoustical assessments to determine noise exposure, impact, and mitigation regarding non-transportation sources. Noise exposure shall be mitigated to satisfy the applicable City Code criterion using appropriate housing site design.

Mitigation Measure 4.J-6c: For all of the potential sites for rezoning, the City shall require noise disclosures and noise complaint procedures for new residents at the project site. The requirement shall include a) a disclosure of potential noise sources in the project vicinity; b) establish procedures and a contact phone number for a site manager the residents can call to address any noise complaints.

The Environmental Noise Assessment prepared for the proposed project did not quantify potential noise impacts from the adjacent commercial activity within the Gateway Commons Shopping Center. At its closest point, the north westernmost apartment building would be located approximately 65, feet from the nearest drive isle and 155 feet from Safeway's loading dock. The nearest homes to CVS's drive-through would be approximately 150 feet away. These businesses are constrained by conditions of approval included in PUD-02-07M, dated October 19, 2010, which includes the following provisions for loading/off-loading activities and drive through activities:

- Safeway delivery/loading/unloading hours are limited to between 6:00 am and 12:00 pm (midnight)
- CVS drive-through pharmacy activity is limited to pharmaceutical purchases only
- Parking lot sweeping and garbage pick-up is limited to between 6:00 am and 10:00 pm
- Delivery trucks and vendors must access the site via Bernal Avenue

The Environmental Noise Assessment recommended that the adjacency of the site to retail activities to the north be disclosed to potential residents as noise from commercial activity, including Safeway's loading docks, would occur. As such, the project would be required to implement Mitigation Measure 4.J-6c to ensure impacts are less than significant.

The project's mechanical equipment noise (residential air-conditioning units) would result in stationary noise sources. As such, the project would select and locate such units to meet the City's Municipal Code limit of 60 dB at adjacent residential property lines.

In conclusion, the proposed project would not introduce any new stationary noise source exposure impacts not previously disclosed. Impacts would continue to be less than significant with the implementation of Mitigation 4.J-6a and 4.J-6c.

Aviation Noise

The Supplemental EIR concluded that maximum noise levels from aircraft departures to the west from Livermore Municipal Airport may exceed the applicable 50/55 dB L_{max} criteria within habitable rooms at sites near the left-hand pattern of Runway 25L. The proposed project is not located near the left-hand pattern of Runway 25L and, therefore, would not be exposed to aircraft-related noise. As such, the project would not introduce any new aviation noise impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Conclusion

The project would not introduce any new substantial or more severe noise impacts than noise considered in the Supplemental EIR. All impacts would continue to be less than significant with the implementation of mitigation as provided below.

Mitigation Measures

Mitigation Measure 4.J-1: In addition to requiring that all project developers comply with the applicable construction noise exposure criteria established within the City's Municipal Code 9.04.100, the City shall require developers on the potential sites for rezoning to implement construction best management practices to reduce construction noise, including:

a. Locate stationary construction equipment as far from adjacent occupied buildings as possible.
b. Select routes for movement of construction-related vehicles and equipment so that noise-sensitive areas, including residences, and outdoor recreation areas, are avoided as much as possible. Include these routes in materials submitted to the City of Pleasanton for approval prior to the issuance of building permits.
c. All site improvements and construction activities shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. In addition, no construction shall be allowed on State and federal holidays. If complaints are received regarding the Saturday construction hours, the Community Development Director may modify or revoke the Saturday construction hours. The Community Development Director may allow earlier "start-times" for specific construction activities (e.g., concrete foundation/floor pouring), if it can be demonstrated to the satisfaction of the Community Development Director that the construction and construction traffic noise will not affect nearby residents.

d. All construction equipment must meet DMV noise standards and shall be equipped with muffling devices.

e. Designate a noise disturbance coordinator who will be responsible for responding to complaints about noise during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and shall be provided to the City of Pleasanton. Copies of the construction schedule shall also be posted at nearby noise-sensitive areas.

Mitigation Measure 4.J-6a: For all of the potential sites for rezoning the City shall require site-specific acoustical assessments to determine noise exposure, impact, and mitigation regarding non-transportation sources. Noise exposure shall be mitigated to satisfy the applicable City Code criterion using appropriate housing site design.

Mitigation Measure 4.J-6c: For all of the potential sites for rezoning, the City shall require noise disclosures and noise complaint procedures for new residents at the project site. The requirement shall include a) a disclosure of potential noise sources in the project vicinity; b) establish procedures and a contact phone number for a site manager the residents can call to address any noise complaints.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. 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?	☐	☐	☒	☐

Environmental Setting

According to the California Department of Finance, as of January 2013, the City of Pleasanton had a population of 71,871 persons, an average of 2.82 persons per household, and a total of 26,174 housing units (California Department of Finance 2013). The project would result in the construction of 210 multi-family (apartment) dwelling units, 62 three-story row-house-style single-family detached units, and 35 single-family detached units for a total of 307 residences.

Findings

The Supplemental EIR concluded that the rezoning of the project site for eventual residential development of up to 400 units would have less than significant impacts related to population and housing, and no mitigation was required. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Substantial Population Growth

The Supplemental EIR concluded that development of all the sites considered for rezoning could result in substantial population growth, resulting in significant impacts. However, only nine of the 21 sites contemplated for rezoning under the Supplemental EIR have been rezoned. The remaining sites considered for rezoning are not currently needed to meet the City of Pleasanton's Regional Housing Needs Allocation. Furthermore, the Supplemental EIR indicated that implementation of Housing Element policies would reduce any potential impacts related to future population and housing to less than significant while still meeting Regional Housing Needs Allocation (RHNA) need and without exceeding the City's current infrastructure by requiring infrastructure improvement funding, growth

management reporting, encouraging development where infrastructure is adequate or can be made adequate, and zoning sites at densities compatible with infrastructure capacity.

The project site is one of the nine sites that have been rezoned as ordered by the Court to ensure the city meets its RHNA housing allocations. The Supplemental EIR assumed that the project site would contain up to 400 residences. At a rate of 2.82 persons per household and a proposed total of 307 residences, the proposed project would house approximately 866 people, 262 people fewer than what was assumed in the Supplemental EIR.

The project would not include the extension of road or infrastructure that could result in indirect population growth. The project has been designed to be consistent with the policies included in the Housing Element and would assist the City in meeting the housing allocation as determined by RHNA. As such, impacts would continue to be less than significant and no mitigation is necessary.

Displace Housing

The Supplemental EIR concluded that impacts related to the displacement of existing homes, necessitating the construction of replacement housing elsewhere would be less than significant. The Supplemental EIR identified four existing homes that may be displaced as a result of rezoning; however, the project site does not contain any housing. As such, impacts would continue to be less than significant and no mitigation is needed.

Displace Persons

The project site does not contain any existing housing, and would not result in the displacement of people. As such, impacts would continue to be less than significant and no mitigation is needed.

Conclusion

The project would not introduce any new substantial or more severe impacts to population or housing than those considered in the Supplemental EIR. All impacts would continue to be less than significant and no mitigation is required.

Mitigation Measures

None required.

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

Environmental Setting

Fire protection is provided by the Livermore-Pleasanton Fire Department (LPFD). The nearest fire station to the project site is Fire Station 4, located at 1600 Oak Vista Way, approximately 0.3 mile northeast of the project site.

Police services are provided by the City of Pleasanton Police Department. The nearest police station is approximately 1.2 miles east of the project site, located on Bernal Avenue.

The Pleasanton Unified School District would provide education services for the project site.

The City of Pleasanton offers 42 community and neighborhood parks, the closest of which are Fawn Hills Park and Bernal Community Park. Park facilities are intended for community wide use and offer a variety of amenities. The City also includes approximately 24 miles of trails, the closest of which is the paved path connecting Bernal Community Park to the west side of I-680.

Findings

The Supplemental EIR concluded that the rezoning of the project site for eventual residential development would have less than significant impacts related to fire, police, school, parks, and other public service facilities. As discussed below, the project would not result in any new substantial impacts and would not exceed the level of impacts previously identified, due to project modifications, physical changes on the property, new information or changed circumstances that would result in any new significant impact or increase the severity of any previously identified impact.

Fire Protection

The Supplemental EIR concluded that impacts to fire protection services would be less than significant because all the proposed rezoning sites, including the project site, are located within a 5-minute response radius of a fire station; and, as required by the General Plan's Public Safety Element, Program 8.2, new development would be required to pay for related fire safety improvements.

In accordance with General Plan's Public Safety Element, Program 8.2, the project developer is required to pay a Public Facilities Fee to effectively mitigate any increase in demand for services. As such, the project would not introduce any new impacts related to fire services not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Police Protection

The Supplemental EIR concluded that impacts to police protection would be less than significant because the General Plan Public Safety Element's Program 26.2 requires that all new development pay for police safety improvements required of that development.

In accordance with Program 26.2, the project developer would be required to pay for police safety improvements required of the project, which would provide for capital facilities and equipment costs. As such, the project would not introduce any new impacts related to police protection not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

School Services

The Supplemental EIR indicated that new development on sites proposed for rezoning, such as the project site, would increase enrollment at schools, which could require additional facilities and staff. The Supplemental EIR concluded that with the payment of developer fees as collected by the Pleasanton Unified School District, impacts to schools would be less than significant.

The project would result in the construction of 307 residential units that would increase enrollment at nearby schools. However, the project developer would be required to pay fees to the Pleasanton Unified School District that would cover facility costs. As such, the project would not introduce any new impacts related to school services not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Park Services

The Supplemental EIR indicated that additional population resulting from sites rezoned for residential development, including the project site, could result in impacts to park services. The Supplemental EIR concluded impacts to park services would be less than significant because the City plans to build approximately 131 acres of new community parks in Pleasanton by 2025.

The project would provide onsite recreation opportunities to serve the existing residents. Furthermore, the project would be subject to park fees that would support the City's plans to construct additional parks to serve the expected population growth of the City, including the

population growth of the project. As such, the proposed project would not introduce any new impacts to park services not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Other Public Facility Service

The Supplemental EIR did not specifically address public facility services other than fire, police, school, and recreation. However, the project is located in an urbanized area currently served by a variety of public facilities; therefore, the project would not be expected to significantly change or impact public services or require the construction of new or remodeled public service facilities. As previously noted, the project would be required to pay applicable development fees related to incremental increases in demand on public services. As such, impacts would be less than significant and no mitigation is required.

Conclusion

The project would not introduce any new substantial or more severe public service impacts than those considered in the Supplemental EIR. All impacts would continue to be less than significant and no mitigation is necessary.

Mitigation Measures

None required.

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

Environmental Setting

There are no existing recreational or park facilities on the project site. As indicated by Figure 3-13 of the Pleasanton General Plan, a planned trail is located along the project's western border. The nearest parks to the project site are Fawn Hills Park and Bernal Community Park.

Findings

The Supplemental EIR concluded that the rezoning of the project site for eventual development would result in less than significant impacts related to the use or construction recreational facilities. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Construction or Expansion

The Supplemental EIR indicated that that future park development has been planned and accounted for in the General Plan and the impacts of this development have been analyzed in the General Plan EIR. Therefore, the Supplemental EIR concluded that adverse physical impacts associated with new parks and recreational facilities would be less than significant.

The proposed project would include recreational amenities, and the environmental effects of constructing these components have been considered in this document. Furthermore, increased offsite recreational facility use resulting from the project has been planned for in the General Plan and analyzed by the General Plan EIR. As such, the project would not introduce any new impacts related to the construction or expansion of recreational facilities not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Use of Recreational Facilities

The Supplemental EIR indicated that rezoned sites, such as the project site, would result in additional residents and a corresponding increased demand for park and recreational facilities. Based on the City's plan for the expansion of park facilities, the Supplemental EIR concluded that impacts to recreational facilities associated with buildout of the rezoned sites would be less than significant.

Although the Supplemental EIR indicates that recreational impacts would be less than significant, the project would provide additional onsite recreation amenities to serve the existing residents that would decrease the project's overall demand for public recreational facilities and would further reduce potential impacts related to recreational resources. The project would not introduce any new impacts related to the substantial physical deterioration of a recreational facility. Impacts would continue to be less than significant and no mitigation is necessary.

Conclusion

The project would not introduce any new substantial or more severe recreation impacts than those considered in the Supplemental EIR. All impacts would continue to be less than significant and no mitigation is required.

Mitigation Measures

None required.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Transportation/Traffic *Would the project:*				
a) Conflict with an applicable plan, ordinance or policy establishing measures 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?	☐	☒	☐	☐
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 uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Environmental Setting

Two existing access points are located along the project's frontage on Valley Avenue; one at an existing roundabout intersection, and one at the signalized intersection of Valley Avenue and Whispering Oaks Way. A third access point is located at the northwestern corner connecting to the adjoining Pleasanton Gateway Shopping Center.

Major local roadways that serve the project site include Valley Avenue and Bernal Avenue. Regional access is provided by I-680. The project site is served by the Livermore-Amador Valley Transit

Authority's (LAVTA's) Wheels Bus Service (Wheels). A bus stop is located at the project's eastern border on Valley Avenue and is served by Wheels Route 8. In the immediate project vicinity pedestrian crosswalks, push buttons, and signals are provided at the signalized intersections on Bernal Avenue. At the roundabouts on Valley Avenue, crosswalks are provided along the northern and southern legs through the median islands. Sidewalks are not currently present along the project's frontage on Valley Avenue.

Bicycle facilities consist of paved trails along the north and west sides of the Koll Center (located north of Bernal Avenue); Class II bike lanes on Valley Avenue, Bernal Avenue, and Laguna Creek Lane; and Class III bike lanes on Valley Avenue north of Bernal Avenue. According to the 2010 Bicycle and Pedestrian Master Plan, Class II bike lanes are proposed along Valley Avenue north of Bernal Avenue.

Information and analysis in this section are based on a Technical Memorandum for the project prepared by Fehr and Peers dated July 3, 2013 (Appendix E).

Study Intersections and Analysis Scenarios

The following intersections were included in Transportation Assessment as they provide access to the project site and are likely to be affected by the project:

1. Interstate 680 Southbound Ramps at Bernal Avenue
2. Interstate 680 Northbound Ramps at Bernal Avenue
3. Koll Center Drive at Bernal Avenue
4. Valley Avenue at Bernal Avenue
5. Valley Avenue at Gateway Right-in/right-out Driveway
6. Valley Avenue at Gateway Commons
7. Valley Avenue at Wild Rose Place North
8. Valley Avenue at Wild Rose Place South
9. Valley Avenue at East Gate Way
10. Valley Avenue at Whispering Oaks Way
11. Valley Avenue at Oak Vista Way
12. Valley Avenue at Case Avenue

Study intersection operations were evaluated during the peak hour of traffic for weekday morning (7:00 to 9:00 a.m.) and weekday evening (4:00 to 6:00 p.m.) peak periods for the following scenarios:

- **Existing** – Existing conditions based on recent traffic counts
- **Existing Plus Project** – Existing condition plus project-related traffic
- **Existing Plus Approved Projects** – Near-term conditions, which consider existing traffic plus anticipated traffic from approved developments that could affect the volumes at the study intersections
- **Existing Plus Approved Projects Plus Project** – Near-term conditions plus project-related traffic

- **Cumulative Without Project** – Future forecast conditions, which considers local and regional traffic growth
- **Cumulative With Project** – Future forecast conditions plus project-related traffic

Trip Generation

The project trip generation was estimated using rates from the Institute of Transportation Engineers (ITE) Trip Generation (9th Edition) land use numbers 220 (apartment) and 210 (single-family detached housing). The project is located in close proximity to the Pleasanton Gateway Shopping Center, which includes a supermarket, pharmacy, bank, and other small shops and restaurants, and the Koll Business Center, which has over one million square feet of office development. Because of the proximity of these features, some future residents of the project site might walk to the retail center or business center for work or shopping needs. As such, the project's trip generation was adjusted for likely walk or bike trips to adjacent developments. As shown in Table 11, the project is expected to generate 2,180 daily vehicle trips, with 177 trips occurring during the AM peak hour and 211 trips occurring during the PM peak hour.

Table 11: Project Trip Generation Estimates

Land Use	ITE Code	Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Apartments	220	210	1,400	21	86	107	86	47	133
Single Family Detached Housing	210	97	1,020	20	59	79	64	38	102
Total			2,420	41	145	186	150	85	235
Walk/Bike Trips to Adjacent Development1			-240	-2	-7	-9	-15	-9	-24
Net Vehicle Trips			2,180	39	138	177	135	76	211

Note:
[1] Walk/bike trips to adjacent retail development and employment center. Daily = 10%; AM = 5%; PM = 10%.
Source: Fehr & Peers, 2013.

Findings

The Supplemental EIR concluded that development facilitated by the General Plan Amendment and rezoning would have less than significant impacts to the levels of service at local intersections under existing plus project conditions and cumulative plus project conditions. The Supplemental EIR also concluded that less than significant impacts would result related to traffic safety hazards, emergency vehicle access, temporary construction traffic, and consistency with adopted policies, plans or programs supporting alternative transportation. The Supplemental EIR concluded that no impact would result related to air traffic.

The Supplemental EIR concluded that impacts to the regional roadway network under cumulative plus project conditions would be significant and unavoidable. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified, due to specific project components, physical attributes of the project site, or new information.

Consistency with Applicable Transportation Plans and Policies Establishing Effectiveness

The Supplemental EIR concluded that development facilitated by the rezoning of sites for residential development would be consistent with applicable transportation policies establishing effectiveness.

As discussed below, upon payment of fair-share fees consistent with General Plan Circulation Element Program 1.1, the project would not cause any study intersections to operate below an acceptable level of service (LOS). Furthermore, because the project is consistent with the Housing Element of the General Plan, it is also consistent with other applicable transportation related policies of the General Plan and would not introduce any new impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Level of Service Standards:

Intersection Operations

The Supplemental EIR concluded that development facilitated by rezonings would result in less than significant impacts to levels of service at the local study intersections under existing plus project conditions because all of the study intersections would continue to operate at LOS D or better during both peak periods evaluated.

As indicated in the Transportation Assessment and shown here in Table 12, the driveways and intersections that would provide access to the project site from the regional transportation system currently operate at LOS D or better during the morning and evening peak hours. With the addition of project traffic, intersections are expected to continue to operate at LOS D or better under all analysis scenarios.

A typical single-lane roundabout has a capacity of up to 2,000 vehicles per hour or 20,000 vehicles per day. Roundabouts operating below capacity have lower average delay and queue lengths than stop controlled and signalized intersections because all approaches are yield controlled. The yield control permits vehicles to advance through the intersection slowly, thereby allowing for a constant flow of vehicles through the intersection rather than requiring vehicles to come to a complete stop. Roundabouts require traffic on Valley Avenue to slow down approaching the intersection, improving access from the side street without requiring Valley Avenue traffic to come to a complete stop. Based on the peak hour traffic volume forecasts, the expected near-term and cumulative volumes would not exceed capacity of the roundabouts; therefore, the roundabouts are expected to operate at acceptable levels of service through the future as shown in Table12. Additionally, off-peak delay would be significantly less when conflicting traffic volumes are much lower and vehicles are not required to stop.

Table 12: Peak Hour Intersection Levels of Service

Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
I-680 Southbound Ramps at Bernal Avenue	Signal	AM PM	16 9	B A	17 19	B A	49 11	D B	50 11	D B	15 10	B D	15 10	B A
I-680 Northbound Ramps at Bernal Avenue	Signal	AM PM	17 12	B B	21 13	C B	30 15	C B	36 16	D B	24 10	C B	26 11	C B
Koll Center Drive at Bernal Avenue	Signal	AM PM	18 16	B B	18 17	B B	21 18	C B	21 19	C B	21 18	C B	21 18	C B
Valley Avenue at Bernal Avenue	Signal	AM PM	32 30	C C	34 32	C C	33 45	C D	36 50	D D	49 44	D D	53 47	D D
Valley Avenue at Gateway Right-in/Right-out Driveway	SSSC	AM PM	1 (10) 1(10)	A (A) A (A)	1 (10) 1 (11)	A (A) A (B)	1 (12) 1 (12)	A (B) A (B)	1 (12) 1 (14)	A (B) A (B)	1 (16) 1 (12)	A (C) A (B)	1 (17) 1 (14)	A (C) A (B)
Valley Avenue at Gateway Commons	Round-about	AM PM	2 1	A A	1 1	A A	1 2	A A	2 2	A A	2 2	A A	3 2	A A
Valley Avenue at Wild Rose Place (north intersection)	SSSC	AM PM	1 (11) 1 (10)	A (B) A (A)	1 (12) 1 (9)	A (B) A (A)	1 (12) 1 (13)	A (B) A (B)	1 (13) 1 (13)	A (B) A (B)	1 (15) 1 (13)	A (B) A (B)	1 (16) 1 (13)	A (C) A (B)
Valley Avenue at Wild Rose Place (south intersection)	SSSC	AM PM	0(0) 1(1)	A (A) A (A)	0 (0) 1 (1)	A (A) A (A)	1 (1) 1 (1)	A (A) A (A)	1 (1) 1 (1)	A (A) A (A)	1 (1) 1 (1)	A (A) A (A)	1 (1) 1 (1)	A (A) A (A)
Valley Avenue at East Gate Way	Round-about	AM PM	6 5	A A	6 5	A A	8 10	A A	9 11	A B	14 10	B A	16 11	C B
Valley Avenue at Whispering Oaks Way	SSSC	AM PM	1 (11) 1 (9)	A (B) A (A)	1 (11) 1 (9)	A (B) A (A)	1 (16) 1 (13)	A (C) A (B)	1 (16) 1 (13)	A (C) A (B)	1 (27) 1 (13)	A (D) A (B)	1 (28) 1 (13)	A (D) A (B)
Valley Avenue at Oak Vista Way	Round-about	AM PM	6 5	A A	6 5	A A	8 10	A A	9 10	A A	14 10	B A	15 11	C B
Valley Avenue at Case Avenue	Signal	AM PM	27 14	C B	27 14	C B	31 16	C B	31 16	C B	32 16	C B	33 17	C B

Table 12 (cont.): Peak Hour Intersection Levels of Service

Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]

Notes:
1. Signal = Signalized Intersection; SSSC = Side-street stop-controlled intersections, traffic from the major roadway does not stop; Roundabout = Roundabout control
2. Delay presented in seconds per vehicle; for side-street stop-controlled intersections, delay presented as intersection average (worst approach in parentheses)
3 LOS = Level of Service.

Source: Fehr & Peers, 2013.

The supplemental EIR concluded that development facilitated on the potential sites for rezoning would result in significant unavoidable impacts to the regional roadway network under both Year 2015 and Year 2025 scenarios. Specifically, the Supplemental EIR identified two roadway segments:

- Sunol Boulevard (First Street) roadway segment between Vineyard Avenue and Stanley Boulevard
- Hopyard Road roadway segment (Year 2025 only) between Owens Drive and I-580

At both these locations, development would worsen preexisting LOS F conditions and would increase the volume to capacity ratio by more than 0.03. As indicated in the Supplemental EIR, widening of these roadways is not feasible or desirable because of the surrounding built environment and improvements to nearby parallel corridors to create more attractive alternative routes and additional capacity is preferred. As such, the Supplemental EIR included Mitigation Measure 4.N-7 as follows:

Mitigation Measure 4.N-7: The City shall require developers on the potential sites for rezoning to contribute fair-share funds through the payment of the City of Pleasanton and Tri-Valley Regional traffic impact fees to help fund future improvements to local and regional roadways.

The project would result in a reduced contribution to the identified significant unavoidable impact because the project includes up to 93 fewer residential units (and therefore fewer traffic trips) than those anticipated by the Supplemental EIR. Nevertheless, the project would be required to pay any applicable fair-share funds as required by Mitigation Measure 4.N-7. In summary, the proposed project would not introduce any new impacts related to LOS not previously disclosed and would reduce the overall level of impact concluded by the Supplemental EIR.

Vehicle Queues

The average and 95th percentile vehicle queues were evaluated for vehicle movements where the project is expected to have an effect on traffic volumes, including intersections along Bernal Avenue and project driveway intersections on Valley Avenue at Gateway Commons, and Valley Avenue at East Gate Way.

As discussed below, the project would not result in a significant effect on queuing, and payment of fair share contributions payment of the City of Pleasanton and Tri-Valley Regional traffic impact fees (as required by Mitigation Measure 4.N-7 of the Supplemental EIR) would reduce any potential effect to a less than significant level. A detailed analysis of vehicle queues is provided in Appendix E.

Results of the queuing analysis indicate that vehicles traveling westbound on Bernal Avenue accessing northbound I-680 create queues through the Koll Center Driveway during both morning and evening peak hours. Vehicle queues also extend beyond the available storage at the I-680 southbound on-ramp from westbound Bernal Avenue. The project would add traffic to these movements but is not expected to increase vehicle queues by more than one vehicle. Payment of the City of Pleasanton and Tri-Valley Regional traffic impact fees would fund the planned

improvements at the I-680 and Bernal Avenue interchange. Such improvements would reduce queuing overages.

The queuing analysis also indicated that vehicle queues would periodically spillback from turn-pockets at the Bernal Avenue/Valley Avenue Intersection by approximately 5 to 10 vehicles in the existing and future conditions. The average queue is within the available storage for all scenarios with exception to the Future AM peak hour at the westbound left turn pocket. However, traffic from the project would not increase queues by more than one vehicle during either the AM or PM peak hour.

Vehicle queues spillback in the westbound direction of the Bernal Avenue at I-680 Southbound intersecton for existing and future conditions. The average queue for the westbound left turn movement exceeds the available storage length. However, traffic from the project would not increase queues by more than one vehicle during either the AM or PM peak hour. The intersection is anticipated to operate at acceptable levels so vehicle queues are expected to clear quickly.

Vehicle queues at the project intersection on Valley Avenue are projected to be minimal in the existing and near-term conditions with the addition of project traffic. In the cumulative condition with additional through traffic on Valley Avenue, northbound and southbound vehicle queues on Valley Avenue at the Gateway Commons intersection could extend to the adjacent right-in/right-out intersections. However, the southbound vehicle queue is not expected to extend to Bernal Avenue nor is the northbound queue expected to block aces sot the southern Wild Rose Place. As the intersection is projected to operate at acceptable levels, the vehicle queues are expected to clear quickly. In summary, with the implementation of Supplemental EIR Mitigation Measure 4.N-7 the project would not introduce any new impacts related to queuing not previously disclosed.

Air Traffic Patterns

As discussed in Section 8, Hazards and Hazardous Materials, of this document, the Supplemental EIR concluded that a conflict between the Livermore Municipal Airport Land Use Compatibility Plan (ALUCP) and potential rezoning sites for housing development was not anticipated. However, at the time the Supplemental EIR was written, the ALUCP was being revised and the Supplemental EIR included Mitigation Measure 4.G-5 requiring compliance with the revised ALUCP and verification of compliance with the FAA Part 77 air space.

Since the completion of the Supplemental EIR, a revised ALUCP for the Livermore Municipal Airport has been completed. The project site is located approximately 4.4 miles southwest of the Livermore Municipal Airport and is not located within Airport Protection Area, Airport Influence Area, or Federal Aviation Regulation (FAR) Part 77 height restriction space as indicated by the ALUCP. Furthermore, none of the proposed onsite buildings would exceed 200 feet in height. Therefore, verification of compliance with FAR Part 77 as required by Mitigation Measure HAZ-4.G-5 part c in the Supplemental EIR is not necessary and no impacts to air traffic patterns would occur. (Note that Mitigation Measure 4.G-5 parts a and b do not identify the project site and therefore do not apply.)

Traffic Safety Hazards

The Supplemental EIR concluded that impacts related to roadway hazards and traffic safety would be less than significant because each individual residential development would be required to adhere to design standards and traffic safety protocols outlined in the City's General Plan, Caltrans's Highway Design Manual, the California Manual of Uniform Traffic Control Devices, and the City Standard Specifications and Details.

Site Access

Vehicular access to the site would be provided via a new roadway (Street D) connecting to Valley Avenue/E. Gate Way roundabout, and by a connection from Bernal Avenue through the Pleasanton Gateway Shopping Center (via Street B). Both driveways would provide full access and are projected to operate acceptably during peak hours. The existing access point at the Valley Avenue/Whispering Oaks Way would be removed as part of the project. The Pleasanton Gateway Commons Shopping Center/Street B intersection would be an all-way stop-controlled intersection to ensure proper traffic flow and safety. Landscaping at the Valley Avenue/E. Gate Way/Street D roundabout's northwestern corner would be maintained to avoid sight distance conflicts. (Shrubs would not be higher than approximately 30 inches and tree canopies would be maintained at approximately 6 feet from the ground.)

Onsite Circulation

Streets providing the main connections through the site and limited driveway access are proposed to be 36 feet wide with parallel parking on both sides. Courts would provide garage access to most of the single-family homes with a width of 24 feet without parking, or 26 feet if perpendicular parking is provided on one side of the street.

Delivery Vehicle Access

Access to the site by moving trucks, furniture delivery, and trash collection vehicles are expected to occur on a regular basis. No designated loading areas are shown on the site plan. For the majority of single-family homes, delivery/moving vehicles would be able to park on the street, although for some homes on Courts J and K, internal access may be constrained. As noted in the project description, delivery vehicles would not be allowed to park on Valley Avenue or within Gateway Commons Shopping Center, and signs would be posted to ensure compliance.

Residents would be encouraged by onsite leasing staff to conduct move-in and move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Furthermore, moving trucks and delivery vehicles would be allowed to park in parallel parking stalls on the designated streets within the development to maintain two-way travel on internal roadways.

Trash collection areas would be located throughout the apartment home portion of the project site, and it is assumed that each single-family unit would have its own private trash containers to be set at the curb on designated collection days.

Summary

In summary, the project would not introduce any new impacts related to roadway hazards not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Emergency Access

The supplemental EIR concluded that impacts related to emergency access would be less than significant because development facilitated by the proposed Housing Element, such as the project, would not significantly alter or modify the circulation system in the Planning Area and therefore would not adversely affect travel times of emergency vehicles. Further, compliance with the City's Fire Code and Subdivision regulations would ensure adequate onsite emergency vehicle access.

A fire station is located on Bernal Avenue approximately 0.25 mile from the project site. The project's plans are subject to review by the City and the Fire Department as part of the standard building permit process to ensure consistency with the City's Fire Code and emergency vehicle access. As such, the project would not introduce any new impacts related to emergency access not previously disclosed. Impacts would continue to be less than significant.

Alternative Transportation

The Supplemental EIR concluded that residential development resulting from rezoned sites would not eliminate or modify existing or planned pedestrian or bicycle facilities. Further, transit ridership generated would be accommodated by existing services that have available capacity to accommodate future demand. Future residential development would be required to adhere to General Plan policies regarding alternative transportation. As such, the Supplemental EIR concluded that impacts to alternative transportation including policies in support of alternative transportation would be less than significant.

Pedestrian

The project is designed to encourage pedestrian use. Curb extensions and high visibility crosswalks at intersections would alert drivers to expect pedestrian traffic. Pedestrian paths and plazas would be constructed to facilitate walking throughout the site. Most internal roadways provide sidewalks on both sides of the street with exception to some of the court frontage. External roadways on Valley Avenue and Gateway Commons provide sidewalks along both sides of the street. The project would also use its best effort to provide a high-visibility crosswalk from the project to the Pleasanton Gateway Shopping Center on the east leg of Gateway Commons Road and Street B intersection to enhance pedestrian connectivity.

A pedestrian and bike trail would be located along the project's western boundary connecting the Gateway Commons Shopping Center to planned future trails on city property south of the project site. Based on the level of pedestrian enhancements proposed as part of the project, the project would build upon and enhance the pedestrian system in the vicinity of the site.

Bicycles

Class II bicycle facilities (bike lanes) are currently provided on Valley Avenue along the project frontage. The project would include a trail connection on the south-west side to the proposed City bike trail on the Bernal Park property to the south. The project would connect to the proposed trail from Street A and Street B. A pedestrian/bicycle crosswalk across Street A would be provided to connect the project to the trail entrances. Access gates would be provided between the open space, trail, and the project along Street A to encourage residences to use the trail and open space. As previously mentioned, the project includes construction of a pedestrian and bike trail along the project's western boundary, connecting the Gateway Commons Shopping Center to future trails on city property south of the project site. Onsite bicycle parking would also be provided. Based on the bicycle facilities existing in the project vicinity and proposed as part of the project, no significant impacts to bicycle facilities are expected.

Transit

The Wheels bus service currently serves the project area with stops along Valley Avenue, Bernal Avenue, and Case Avenue. No changes to the number of transit stops or level of transit service are proposed as part of the project. Additional transit facilities are located in the project area, such as the ACE and BART stations located approximately 1 mile and 5 miles away, respectively. The project would provide information to new residents regarding transit service provided in the area. Existing service would readily accommodate the project and no significant impacts to transit facilities would be expected.

Summary

As indicated in the Supplemental EIR, sufficient alternative transportation capacity and infrastructure exists to accommodate future demand. The project does not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. As such, the project would not introduce any new impacts related to alternative transportation not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Conclusion

The project would not introduce any new substantial or more severe transportation/traffic impacts than those considered in the Supplemental EIR. All impacts would continue to be less than significant with the implementation of mitigation proposed in the Supplemental EIR, as cited below.

Mitigation Measures

The following mitigation measure appears in the Supplemental EIR, and applies to the project:

Mitigation Measure 4.N-7: The City shall require developers on the potential sites for rezoning to contribute fair-share funds through the payment of the City of Pleasanton and Tri-Valley Regional traffic impact fees to help fund future improvements to local and regional roadways.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. 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?	☐	☐	☒	☐

Environmental Setting

Utilities and services including water, sewer, stormwater, and solid waste collection are provided to the project site by the City of Pleasanton. Existing water lines are located along the site's western boundary and a storm drain line is located along the western and southern boundaries. Water, sewer, and stormwater facilities are also located within the Valley Avenue right-of-way and within the retail center roadway directly north of the project site.

Findings

The Supplemental EIR concluded that the rezoning of the project site for eventual residential and development would require mitigation to reduce impacts related to water supply, but that impacts to wastewater treatment, stormwater, landfills, and solid waste regulations would be less than significant. As discussed below, the project would not result in any new impacts and would not exceed the level of impacts previously identified due to specific project components, physical attributes of the project site, or new information.

Wastewater Treatment Requirements of the RWQCB

The Supplemental EIR indicated that the rezonings would result in a less than significant impact regarding wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB).

The project would be served by the City of Pleasanton's sewer collection services, which directs wastewater to the Dublin-San Ramon Services District's Regional Wastewater Treatment Facility. The Treatment Facility treats and disposes of wastewater in accordance with applicable requirements of the RWQCB. As noted in the Supplemental EIR, the treatment facility has adequate capacity to serve the buildout demand associated with the rezonings. As such, impacts related to the exceedance of wastewater treatment requirements would be less than significant and no mitigation is necessary.

Construction or Expansion of Water or Wastewater Treatment Facilities

The Supplemental EIR indicated that development on rezoned sites would increase demand for water. The Supplemental EIR concluded that because the City of Pleasanton has planned for such residential growth by supporting Zone 7's capital improvement projects, impacts related to the construction or expansion of water treatment facilities would be less than significant. The Supplemental EIR also concluded that because sufficient wastewater treatment capacity is available now and in the future at the Dublin-San Ramon Services District Regional Wastewater Treatment Facility, impacts related to the construction or expansion of wastewater treatment facilities would be less than significant.

The project has been considered as part of the demand generated by the rezonings contemplated in the Supplemental EIR. As such, the project would not result in impacts related to the construction or expansion of water or wastewater treatment facilities not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Stormwater Drainage Facilities

The Supplemental EIR discussed stormwater drainage in Section 4.H, Hydrology and Water Quality. As indicated therein, development on rezoned sites would be required to abide by C.3 provisions of the ACCWP NPDES Permit requiring that there be no net increase in stormwater rates and runoff after project construction through preparation of a hydromodification and stormwater management plan. The City and/or the RWQCB would ensure compliance with the NPDES Permit through review

and approval of applicable permits and grading and drainage plans. As such, the Supplemental EIR concluded that impacts related to stormwater drainage facilities would be less than significant.

The project includes bioretention basins throughout the site that act as rainwater capture areas and would slow stormwater runoff to ensure no net increase in offsite stormwater flow in accordance with C.3 guidelines. Furthermore, the City has reviewed the project's grading and drainage plan for compliance with C.3 guidelines. As such, the project would not require or result in the construction of new offsite stormwater facilities or expansion of existing facilities. Impacts would continue to be less than significant and no mitigation is necessary.

Water Supply

The Supplemental EIR indicated that new development as facilitated on the potential sites for rezoning would increase demand for water and could require new water supply sources. However, because the City has already planned for this growth by supporting Zone 7's capital improvement projects to secure more water, and the residential development contemplated in the Supplemental EIR would not exceed Zone 7's allocation of contractual water supply, sufficient water supply exists and impacts would be less than significant. To further ensure supply is adequate, the City's 2011 Water Supply Assessment (WSA) includes a condition of approval for residential development on the potential sites for rezoning, including the project site. The WSA's condition of approval was included in the Supplemental EIR as Mitigation Measure 4.L-2 as follows:

Mitigation Measure 4.L-2: Prior to the recordation of a Final Map, the issuance of a grading permit, the issuance of a building permit, or utility extension approval to the site, whichever is sooner, the applicant shall submit written verification from Zone 7 Water Agency or the City of Pleasanton's Utility Planning Division that water is available for the project. To receive the verification, the applicant may need to offset the project's water demand. This approval does not guarantee the availability of sufficient water capacity to serve the project.

With the implementation of Mitigation Measure 4.L-2 and applicable water conserving programs included in the General Plan's Water Element, the Supplemental EIR concluded that impacts on water supply would be less than significant.

The project would include water saving features such as low-flow fixtures, high-efficiency irrigation systems, drought-tolerant native landscaping, and minimized turf areas. As such, impacts would continue to be less than significant with the implementation of Mitigation Measure 4.L-2.

Landfill Capacity

The Supplemental EIR indicated that development on rezoned sites would contribute to an increase in solid waste generation within the City of Pleasanton. The Supplemental EIR concluded that because waste would be diverted from landfills pursuant to AB 939, sufficient space remains at the Vasco Landfill for waste that cannot be diverted, and residential projects are required to implement a

Waste Diversion Plan consistent with General Plan Program 26.18, impacts related to landfill capacity would be less than significant.

Solid waste from the project would be disposed of at the Vasco Road Landfill via the Pleasanton Garbage Service. The project would implement a Waste Diversion Plan consistent with General Plan Program 26.18, which would include onsite disposal, composting and recycling facilities, as well as construction debris and disposal recycling. This plan will be reviewed and approved by the City as part of the land entitlement process. The Supplemental EIR considered the construction of up to 400 residential units at the project site; therefore, the construction of 307 residential units would produce less solid waste than previously considered and could be readily accommodated at the Vasco Landfill. As such, the project would not introduce any new impacts related to landfill capacity not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Solid Waste Regulations

The Supplemental EIR concluded that impacts related to solid waste regulations would be less than significant because of the City's compliance with AB 939 and the General Plan's Program 26.18 requiring Waste Diversion Plans to be implemented by residential development. The project would not introduce any new solid waste regulation impacts not previously disclosed. Impacts would continue to be less than significant and no mitigation is necessary.

Conclusion

The project would not introduce any new substantial or more severe impacts to utility and service systems than those considered in the Supplemental EIR. All impacts would continue to be less than significant with the implementation of mitigation proposed in the Supplemental EIR, as cited below.

Mitigation Measures

The following mitigation measure appears in the Supplemental EIR, and applies to the project:

Mitigation Measure 4.L-2: Prior to the recordation of a Final Map, the issuance of a grading permit, the issuance of a building permit, or utility extension approval to the site, whichever is sooner, the applicant shall submit written verification from Zone 7 Water Agency or the City of Pleasanton's Utility Planning Division that water is available for the project. To receive the verification, the applicant may need to offset the project's water demand. This approval does not guarantee the availability of sufficient water capacity to serve the project.

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

Environmental Setting

The project site is located in an urban area surrounded by commercial and residential development. The project proposes the construction of 307 residential units with associated amenities in a mixture of multi-family and single-family units.

Findings

The Supplemental EIR concluded that rezoning of the project site for eventual residential development would require mitigation associated with adverse effects on human beings that would be reduced to less than significant with the implementation of mitigation. The Supplemental EIR also concluded that cumulatively considerable and unavoidable impacts would result that are related to regional transportation and historic resources. As discussed below, the project would not result in any new substantial impacts and would not exceed the level of impacts previously identified, due to project modifications, physical changes on the property, or new information or changed circumstances that would result in any new significant impact or increase the severity of any previously identified impact.

Impacts to the Environment, Animals, Plants, or Historic/Prehistoric Resources

The Supplemental EIR concluded that the development of the sites considered for rezoning would result in less than significant impacts regarding the potential to significantly degrade the quality of the environment, including effects on animals or plants, or the elimination of prehistoric resources. The Supplemental EIR also concluded that development of the sites considered for rezoning would result in significant unavoidable impacts to historical resources.

As discussed in the preceding sections, the project would not contribute to the significant unavoidable impact related to historical resources because none of the identified resources are located onsite. With the implementation of mitigation measures from the Supplemental EIR, the project does not have the potential to significantly degrade the quality of the environment, including effects on animals or plants, or to eliminate historic or prehistoric resources.

Cumulatively Considerable Impacts

The Supplemental EIR concluded that implementation of the proposed project in combination with potential development in the surrounding areas would result in significant and unavoidable impacts under cumulative conditions related to transportation. As indicated in the Supplemental EIR, transportation impacts are considered significant and unavoidable on regional roadways under the buildout of the General Plan. The project's generation of traffic on regional roadways was considered as part of the Buildout Scenario in the Supplemental EIR, and was therefore identified as a contributor to this significant and unavoidable cumulative impact. The project as currently proposed is consistent with the level of impact already identified, and would not result in a greater effect that has already been disclosed and evaluated as part of the Supplemental EIR.

Adverse Effects on Human Beings

The Supplemental EIR concluded that the project would have less than significant impacts related to direct or indirect adverse effects on human beings, after the implementation of mitigation.

The project would result in similar impacts that may affect human beings including air quality emissions and noise. Implementation of mitigation measures included in the Supplemental EIR as included herein would ensure impacts to human beings remain less than significant.

Conclusion

The proposed project would not introduce any new substantial or more severe impacts than those considered in the Supplemental EIR. Implementation of the applicable mitigation measures contained in the Supplemental EIR as outlined herein and in the conditions of approval as defined by the City, as well as consistency with applicable General Plan policies and project plans, would ensure that impacts related to mandatory findings of significant would be less than significant with the exception of cumulatively considerable impacts related to regional transportation impacts.

Mitigation Measures

Refer to mitigation measures throughout this document.

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Appendix A: City of Pleasanton Resolution No. 12-493: Certification of the Final EIR for the Housing Element and Climate Action Plan

RESOLUTION NO. 12-493

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PLEASANTON, CERTIFYING AS ADEQUATE AND COMPLETE THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE HOUSING ELEMENT (AND ASSOCIATED LAND USE CHANGES) AND THE CLIMATE ACTION PLAN

WHEREAS, the City of Pleasanton has prepared a Draft Housing Element (and associated land use changes identified in the City Council Agenda Report for the January 4, 2012 City Council meeting) and a Climate Action Plan ("Project") and is considering their adoption; and

WHEREAS, the City, acting as lead agency under the California Environmental Quality Act ("CEQA"), determined that a Supplemental Environmental Impact Report ("SEIR") was required for the Project (to supplement the City of Pleasanton's 2005-2025 General Plan EIR, which was certified in 2009). The NOP was distributed to all affected/interested agencies, organizations, and persons for a 30-day comment period beginning on August 22, 2011; and

WHEREAS, the City retained ESA to prepare a SEIR pursuant to CEQA for the proposed Project; and

WHEREAS, the City conducted an environmental scoping meeting on September 14, 2011 for members of the public to provide comments on items to be addressed in the EIR; and

WHEREAS, the City completed the Draft SEIR on September 26, 2011 and circulated it to affected public agencies and interested members of the public for the required 45-day public comment period, from September 27, 2011 to November 14, 2011; and

WHEREAS, the Planning Commission held a noticed public hearings on October 26, 2011, during the 45-day public comment period to receive comments on the Draft SEIR; and

WHEREAS, the City has also accepted and responded to comments received during the public comment period regarding the Draft SEIR from public agencies having jurisdiction by law, persons having special expertise with respect to any environmental impacts involved, and other persons and organizations having an interest in the Project; and

WHEREAS, on December 2, 2011, the City published the Final SEIR for the Project consisting of: the Draft SEIR, responses to comments received on the Draft EIR, and the revisions to the EIR considered by the Planning Commission on December 14, 2011; and

WHEREAS, at its noticed public hearing of December 14, 2011, the Planning Commission recommended that the City Council certify the Final EIR as adequate and complete; and

WHEREAS, Section 21000, et. seq., of the Public Resources Code and Section 15000, et. seq., of Title 14 of the California Code of Regulations (the "CEQA Guidelines"), which govern the preparation, content, and processing of environmental impact reports, have been fully implemented in the preparation of the SEIR; and

WHEREAS, on January 4, 2012, the City Council held a public hearing at which time interested persons had an opportunity to testify either in support or opposition to the Final SEIR.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF PLEASANTON DOES RESOLVE, DECLARE, DETERMINE, AND ORDER THE FOLLOWING:

SECTION 1. The City Council has independently reviewed, analyzed and considered the Final SEIR and all written documentation and public comments prior to making recommendations on the proposed Project, including the City's CEQA Findings and Statement of Overriding considerations, which document is incorporated by reference herein.

SECTION 2. The Final SEIR was prepared, publicized, circulated, and reviewed in compliance with the provisions of CEQA and the CEQA Guidelines.

SECTION 3. That the Final SEIR constitutes an adequate, accurate, objective, and complete EIR in compliance with all legal standards.

SECTION 4. The information and analysis contained in the Final SEIR reflects the City's independent judgment as to the environmental consequences of the proposed Project.

SECTION 5. The documents and other materials, including without limitation staff reports, memoranda, maps, letters and minutes of all relevant meetings, which constitute the administrative record of proceedings upon which the Council's resolution is based are located at the City of Pleasanton, Community Development Department, 200 Old Bernal Avenue, Pleasanton, CA 94566, and the custodian of the record documents is the Planning Manager.

SECTION 6. The City Council certifies the SEIR attached as Exhibit A, and directs the filing of a Notice of Determination.

SECTION 7. This resolution shall become effective immediately upon its passage and adoption.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of Pleasanton at a regular meeting held on January 4, 2012.

I, Karen Diaz, City Clerk of the City of Pleasanton, California, certify that the foregoing resolution was adopted by the City Council at a regular meeting held on the 4th day of January 2012 by the following vote:

Ayes: Councilmembers Cook-Kallio, McGovern, Sullivan, Thorne, Mayor Hosterman
Noes: None
Absent: None
Abstain: None

Karen Diaz, City Clerk

APPROVED AS TO FORM:

Jonathan P. Lowell, City Attorney

Appendix B:
Air Quality and Greenhouse Gas Information

B.1 - Health Risk Assessment

Health Risk Assessment
The Commons at Gateway Project
Pleasanton, California

Prepared for:
Pleasanton Gateway LLC
Campbell, California

Prepared by:
ENVIRON International Corporation
San Francisco, California

Date:
June 2013

Project Number:
03-27891A

ENVIRON

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Acronyms and Abbreviations

ACS	American Cancer Society
AAQ	Ambient Air Quality
ASF	Age Sensitivity Factor
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
BAAQMD	Bay Area Air Quality Management District
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
Cal/EPA	California Environmental Protection Agency
CBSC	California Building Standards Commission
CEQA	California Environmental Quality Act
CF	Conversion Factor
CPF	Cancer Potency Factor
CRAF	Cancer Risk Adjustment Factor
cREL	Chronic Non-Cancer Reference Exposure Level
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
ENVIRON	ENVIRON International Corporation
ESA	Environmental Science Associates
GDF	Gasoline Dispensing Facility
HI	Hazard Index
HQ	Hazard Quotient
HRA	Health Risk Assessment
HRSA	Health Risk Screening Analysis
I-680	Interstate 680
IARC	International Agency for Research on Cancer
IF_{inh}	Intake Factor for Inhalation
ISCST3	Industrial Source Complex-Short Term
MERV	Minimum Efficiency Reporting Value
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NRC	National Research Council
NSR	New Source Review
OEHHA	Office of Environmental Health Hazard Assessment
PM	Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
RAAC	Risk Assessment Advisory Committee
REL	Reference Exposure Levels
TAC	Toxic Air Contaminant
TOG	Total Organic Gas
TSD	Technical Support Document
USEPA	United States Environmental Protection Agency
WHO	World Health Organization

List of Units

kg	Kilogram
m	Meter
m^3	Cubic Meter
mg	Milligram
s	Second
μg	Microgram

1 Introduction

At the request of Pleasanton Gateway LLC, ENVIRON International Corporation (ENVIRON) conducted a health risk assessment (HRA) at a proposed residential development called The Commons at Gateway, in Pleasanton, California (herein referred to as the "Project" or the "Site"). Scheduled for occupancy as early as 2015, the Project will comprise approximately 14 acres with single-family detached homes; 7 acres with multifamily homes (approximately 30 units per acre) and 5.4-acres of common open space.

The purpose of this report is to present the results of the ambient air quality (AAQ) HRA of projected emissions from nearby sources, which is a requirement of the City of Pleasanton Final Supplemental Environmental Impact Report, Housing Element and Climate Action Plan (ESA 2012). ENVIRON followed methods recommended by the Bay Area Air Quality Management District (BAAQMD or District) in the May 2012 California Environmental Quality Act (CEQA) Guidelines (BAAQMD 2012a) to determine whether the Project would be below thresholds of significance as determined by the City of Pleasanton. A project's impact on air quality is considered significant if it exceeds the significance thresholds.

1.1 Objectives and Methodology

The purpose of this health risk evaluation is to estimate the potential health impacts that may result from exposure to all local off-site sources, including (1) nearby BAAQMD permitted stationary sources; and (2) nearby high-volume roadways. The methodology for estimating cancer and non-cancer health effects is based on guidelines for assessing risks from the January 2010 Air Toxics New Source Review (NSR) Program HRSA Guidelines, prepared by the BAAQMD (2010).

Cancer risks, chronic non-cancer hazard indices (HIs) and fine particulate matter, also known as $PM_{2.5}$, are evaluated at the new receptor locations using residential exposure assumptions that are consistent with the District's HRSA Guidelines. The chemical concentrations at these receptor locations from the nearby stationary sources are estimated using a BAAQMD-recommended model, the US Environmental Protection Agency's (USEPA) Industrial Source Complex Short Term (ISCST3), with representative meteorological data collected and distributed by the BAAQMD for such analyses. This report presents an evaluation of the ISCST3 results based on BAAQMD provided data, which is discussed further in the sections below. The chemical concentrations at the receptor locations from the nearby surface streets and highway are estimated using CAL3QHCR, the USEPA's and BAAQMD's recommended model for evaluating impacts from roadways. Based on the modeling results, ENVIRON then developed quantitative estimates of cancer risks and non-cancer HIs associated with residential exposure to the pollutants that may be emitted from the nearby sources.

The effects of two mitigation strategies (a landscaped set-back area and filtration) were also analyzed. Additional information about the methods used in these analyses, as well as detailed tables summarizing the analyses, can be found in the attached Tables and Appendix B.

1.2 Report Organization

This report is divided into nine sections as follows:

Section 1.0 – Introduction: describes the purpose and scope of the AAQ HRA and outlines the report organization.

Section 2.0 – Site Description and Regulatory Background: presents a description of the proposed project and provides a review of the regulatory background for the HRA.

Section 3.0 – Chemical Selection: describes the selection of chemicals to be evaluated in the HRA.

Section 4.0 – Risk Characterization Methods: discusses the exposure pathways that may exist and the methods used to estimate potential cancer risks and chronic non-cancer HIs related to emissions from off-site sources.

Section 5.0 – Estimated Chemical Concentrations in Air: describes the methodology for the estimation of ambient air concentrations of pollutants emitted from the nearby stationary and mobile sources.

Section 6.0 – Results for Project Analysis: presents the results of the HRA in relation to significance thresholds.

Section 7.0 – Uncertainties: summarizes some of the uncertainties resulting from various assumptions used in the air dispersion evaluation as well as from those used in the emission inventory development.

Section 8.0 – Conclusions: summarizes the results of the HRA.

Section 9.0 – References: includes all references cited in this report.

The appendices include supporting information as follows:

Appendix A – Traffic Modeling: presents technical details of the traffic modeling.

Appendix B – Filtration Calculation: includes the technical details of the filtration calculations.

Appendix C – Stationary Source Inquiry Data: includes all data received from BAAQMD.

2 Site Description and Regulatory Background

The purpose of this section is to describe the proposed Project and provide a review of the regulatory background for the HRA.

2.1 Site Description

The proposed Pleasanton Gateway development is a residential housing project located in the City of Pleasanton, situated between Interstate 680 (I-680) and Valley Avenue to the West and East, respectively. Immediately north-northwest of the Site is a shopping center developed with a Safeway grocery store, beyond which is Bernal Avenue further north. The land to the south-southeast of the Site is undeveloped. The Project location is depicted in Figure 1.

Scheduled for occupancy as early as 2015, the Project will comprise approximately 14 acres with single-family detached homes; 7 acres with multifamily homes (approximately 30 units per acre) and 5.4-acres of common open space. Landscaping, including approximately 375 planted trees, will be present along the western Site boundary. In the southwestern corner of the Site, a combination landscaped berm and soundwall of approximately 14 to 16 feet in height will be surrounded by a grove of approximately 90 trees. All residential and common area buildings will be equipped with Minimum Efficiency Reporting Value (MERV) 13 filtration on the heating and cooling systems.

2.2 Regulatory Background

The City of Pleasanton certified an Environmental Impact Report (EIR) in early 2012 for certain General Plan Amendments and Rezonings, including the rezoning of the Pleasanton Gateway site. Mitigation Measure 4.B-4 requires that projects on sites where “screening thresholds are exceeded” shall prepare an HRA to assess exposure to toxic air contaminants (TAC) and shall implement mitigation measures recommended by the HRA necessary to reduce exposure to TACs to below “BAAQMD’s threshold of significance at the time of project approval.” However, BAAQMD currently has no adopted threshold and states that lead agencies should determine the appropriate threshold for themselves. The City of Pleasanton has not yet adopted thresholds of significance for the risks and hazards evaluated in this report; however, the United States Environmental Protection Agency (USEPA), BAAQMD, and other local agencies have provided guidance on acceptable limits.

The USEPA has long found 100 in a million to be an “acceptable” level of cancer risk for conducting air toxic analyses and making risk management decisions at the facility and community-scale level (BAAQMD 2009a). As described by the BAAQMD, the USEPA considers a cancer risk of 100 per million to be within the “acceptable” range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (1989), the USEPA states that it “…strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years.” Subsequent to the rulemaking, Congress endorsed this risk level as being acceptable when it codified this

portion of the benzene rulemaking in Section 112(f) of the Clean Air Act. 42 U.S.C. §7412(f)(2)(B). EPA continues to cite to this preamble language and the 100 in a million standard as presenting an acceptable level of risk when it conducts rulemakings in the air quality context. The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling (BAAQMD 2009a). Additionally, the City of San Francisco now uses a total cancer risk of 100 in a million from all off-site sources on all development projects. Thus, there is substantial evidence to utilize the 100 in a million threshold for cancer risk to evaluate the total potential impact from local off-site sources on the new on-site sensitive receptors.

Additionally, BAAQMD-recommended thresholds of 10 for chronic HI and 0.8 $\mu g/m^3$ for $PM_{2.5}$ were also used (BAAQMD 2012a), as shown in Table 6 (discussed later in this report). In accordance with CEQA guidelines, this report evaluates impacts from potential off-site sources (stationary and mobile sources within 1,000 feet of a project boundary) on new on-site sensitive receptors (here, future residents of the Project).

Both the stationary sources and roadway source evaluations required air dispersion modeling, and are discussed separately below and in Appendix A.

3 Chemical Selection

The purpose of this section is to identify the chemicals for quantitative evaluation in the HRA. The off-site sources considered in this HRA include: (1) two gasoline dispensing facilities (GDF); (2) a diesel-fueled emergency generator; and (3) high-volume roadways, which in this case is comprised of three surface streets and one freeway. The GDF emissions were broken up into tank emissions and use emissions. Based on BAAQMD's approach, chemicals modeled to account for these emissions include benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as hexane. For the off-site emergency generator, the BAAQMD recommends using diesel particulate matter (DPM) as a surrogate for all TAC emissions from diesel-fueled compression-ignition internal combustion engines, according to Footnote 6 of Table 2-5-1 of Regulation 2-5.

For on-road traffic, exhaust and evaporative TOGs from gasoline-fueled vehicles were evaluated based on the speciation profiles presented in the BAAQMD Recommended Method for Screening and Modeling Local Risk and Hazards (BAAQMD 2011b). These chemicals are identified in Appendix A (Table A.8), and include BTEX as well as DPM which is a surrogate for exposure to exhaust from diesel-fueled vehicles. Diesel exhaust, a complex mixture that includes hundreds of individual constituents (Cal/EPA 1998), is identified by the State of California as a known carcinogen (Cal/EPA 2011). Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole (Cal/EPA 2011). Cal/EPA and other proponents of using the surrogate approach to quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach. A component-based approach involves estimating risks for each of the individual components of a mixture. Critics of the component-based approach believe it will underestimate the risks associated with diesel as a whole mixture because the identity of all chemicals in the mixture may not be known and/or exposure and health effects information for all chemicals identified within the mixture may not be available. Furthermore, Cal/EPA has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components" (Cal/EPA 2003).

4 Risk Characterization Methods

The following sections discuss in detail the various components required to conduct the HRA. Cancer risk and chronic HI at the Project were calculated from ambient annual and hourly concentrations using intake factors, cancer potency factors, and chronic reference exposure levels calculated consistent with Office of Environmental Health Hazard Assessment (OEHHA, Cal/EPA 2003) and BAAQMD guidance (2010).

4.1 Exposure Assessment

Potentially Exposed Populations: The on-site receptor populations included in this evaluation represent a lifetime exposure for a resident who moves to the Site at first date of occupancy (assumed to be early 2015) while her/his mother enters her third trimester of pregnancy, is born three months later and lives on site in the same location until s/he reaches 70-years of age. This is a very conservative assumption consistent with BAAQMD guidelines. As discussed further in Section 7, the USEPA has estimated that 50% of the population lives in the same residence for only 9 years, while only 10% remain in the same house for 26 years (USEPA 2011). Adults, moreover, spend about 66% of their total daily time at home (USEPA 2011), rather than the 100% assumed here.

Exposure Assumptions: The exposure parameters used to estimate excess lifetime cancer risks and chronic non-cancer HIs for all potentially exposed populations were obtained using risk assessment guidelines from BAAQMD (2010) and are presented in the attached Table 3.

Calculation of Intake: The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The inhalation intake factor for the potentially exposed resident is shown in Table 3. The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in OEHHA Hot Spots guidance (Cal/EPA 2003).

4.2 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories, cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment. Toxicity values for the chemicals evaluated in this analysis are summarized in Table 4.

4.3 Cancer Risk Adjustment Factors

The estimated excess lifetime cancer risks for a resident were adjusted using the cancer risk adjustment factors (CRAFs) recommended by BAAQMD (2010) based on the age sensitivity factors (ASFs) recommended in the Cal/EPA OEHHA Technical Support Document (TSD, Cal/EPA 2009a). This approach accounts for an “anticipated special sensitivity to carcinogens” of infants and children. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for

exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 to 70 years. As described in Appendix A, annual emissions for each year were adjusted by the ASF assuming an infant was in the third trimester of pregnancy at the start of the project; the average CRAF is shown in Table 5.

4.4 Risk Characterization

Cancer risk and chronic HI were calculated using an approach that is consistent with OEHHA and BAAQMD guidance using annual ambient air concentrations, intake factors, cancer potency factors, and chronic reference exposure levels..

4.4.1 Estimation of Cancer Risks

Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF).

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Risk_{inh} = C_i \times CF \times IF_{inh} \times CPF \times CRAF$$

Where:

$Risk_{inh}$ = Cancer Risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)

C_i = Annual Average Air Concentration for $Chemical_i$ ($\mu g/m^3$)

CF = Conversion Factor (mg/µg)

IF_{inh} = Intake Factor for Inhalation (m^3/kg-day)

CPF_I = Cancer Potency Factor for $Chemical_i$ (mg chemical/kg body weight-day)$^{-1}$

CRAF= Cancer Risk Adjustment Factor (unitless)

4.4.2 Estimation of Chronic Non-cancer Hazard Quotients/Indices

The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the chemical-specific non-cancer chronic reference exposure levels (RELs). When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic non-cancer health effects from

simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a hazard index or HI.

The equations used to calculate the chemical-specific HQs and the overall HI are:

$$\text{Chronic } HQ_i = C_i / cREL_i$$

$$\text{Chronic HI} = \Sigma HQ_i$$

Where:

Chronic HQ_i	=	Chronic Hazard Quotient for $Chemical_i$ (unitless)
Chronic HI	=	Hazard Index (unitless)
C_i	=	Annual Average Air Concentration for $Chemical_i$ ($\mu g/m^3$)
$cREL_i$	=	Chronic Non-cancer Reference Exposure Level for $Chemical_i$ ($\mu g/m^3$)

5 Estimated Chemical Concentrations in Air

This section describes the estimation of chemical concentrations in the air at on-site locations.

5.1 Modeled Sources

5.1.1 Stationary Sources

BAAQMD has developed a Stationary Source and Risk Analysis Tool ("BAAQMD Risk Analysis Tool") for permitted sources within the District to identify off-site stationary sources of TACs. ENVIRON utilized the BAAQMD Risk Analysis Tool to compile a list of potential stationary sources to be evaluated within 1,000 feet of the Project boundary (see Table 1 for the list of stationary sources evaluated).

The cancer risk and chronic HI from each of these stationary sources was modeled using the ISCST3 (USEPA 1995a and USEPA 1995b) in accordance with BAAQMD recommendations. These concentrations are used to assess the potential human health risks as described in Section 6.

Two GDFs were identified within 1,000 feet of the Project, Chevron Gas (also called, "Bernal Corners") and Safeway. Chevron Gas, located at 1875 Valley Avenue, is approximately 350 feet northeast of the Project. The quantity of dispensing stations, allowable annual throughput, and benzene emissions per million gallons of gasoline throughput were provided in the risk screening memo provided by BAAQMD (2003), as shown in Appendix C.1. Emissions of other air toxics were calculated by scaling the individual compound's evaporative losses by the evaporative losses of benzene as provided for Total Organic Gas (TOG) (BAAQMD 2012b). The Safeway GDF at 6782 Bernal Avenue is located in the adjacent parcel to the north-northwest of the Project, approximately 430 feet across a Safeway parking lot. At the time of modeling, BAAQMD had no risk estimations for the GDF; instead, BAAQMD provided ENVIRON with the Authority to Construct for the GDF, which states that the maximum gasoline throughput for any consecutive 12-month period at the Safeway GDF is limited to 13.6 million gallons of gasoline (BAAQMD 2012c), as shown in Appendix C.2. Emissions from the Safeway GDF were estimated by scaling the emissions estimated for the Chevron Gas GDF by the annual throughput. Other source release parameters necessary for modeling of both GDFs were identified from BAAQMD guidance (BAAQMD 2011a).

The City of Pleasanton owns and operates a diesel generator at the fire station at 1600 Oak Vista Way, which is within 1,000 feet of the Project boundary. In order to evaluate this generator, emissions and stack dimensions were provided in a memo from BAAQMD (2005), as shown in Appendix C.3. BAAQMD guidance was followed to estimate other release parameters.[7]

One dry cleaner was found within 1,000 feet of the Project boundary, but it has a risk of zero in one million in the BAAQMD Risk Analysis Tool, so it does not contribute to total local risk at the Project.

5.1.2 Roadways

BAAQMD CEQA Guidelines recommend performing a health risk assessment of all high volume roadways within 1,000 feet of the Project, which are defined as roadways with over 10,000 vehicles per day or 1,000 trucks per day. For the Project, I-680, Bernal Avenue, Valley Avenue, and four I-680 ramps fall into this category, as shown in Table 2 and Figure 1. Concentrations of TACs were estimated using CAL3QHCR, the USEPA's and BAAQMD's recommended model for evaluating impacts from roadways. CAL3QHCR reports concentrations at identified individual locations, called receptors.

5.2 Receptor Locations

Receptors were placed in a grid with 25-meter spacing across the Project. The height of the receptors is 1.8 meters, the breathing height recommended in BAAQMD CEQA Guidelines. The technical approach used to estimate air concentrations is described in Appendix A.

6 HRA Results

In this Section, the HRA results are compared to the risk thresholds.

6.1 Summary of Unmitigated Impacts on New Receptors from All Local Off-Site Sources

Results of the HRA, including cancer risks, chronic HI, and $PM_{2.5}$ concentrations, are summarized in Table 6. These results are compared to the thresholds described in Section 2 above. Excess cancer risk and chronic HI do not exceed the threshold; however, the total $PM_{2.5}$ concentration is slightly above the threshold. Results of the unmitigated scenario for cancer risk are shown in Figure 2.

6.2 Mitigation Analysis

As discussed in the previous section, the conservative analysis of the impact of all roadways and stationary sources shows that the lifetime cancer risk for an outdoor concentration with unobstructed air flows from the roadways is below the total risk threshold of 100 in a million. However, the $PM_{2.5}$ concentration exceeds the threshold.

This conservative, unmitigated, analysis would not necessarily be characteristic of actual impacts on residents of the proposed Project as actual impacts would be reduced by vegetation, such as trees, obstructing air flow and filtering out particulate matter and MERV-13 filtration on air intakes and recirculation, which also filter out particulate matter. Further, actual impacts are likely much lower due to the conservative nature of the analysis. For example, most residents will not live in the proposed Project for 70 years and when they are living at the Project, will spend time away from home.

6.2.1 Landscaped Set-Back Area

ENVIRON evaluated the potential particulate matter removal and risk reduction that may be achieved by the presence of a vegetative barrier to mitigate the impacts of the I-680 highway. Recent scientific literature has detailed investigations conducted at the University of California at Davis on the effect of vegetative barriers in reducing air pollutant concentrations from roadway traffic exhaust. Fujii et al. (2008) evaluated the efficacy of three tree species (deoder, redwood and live oak, where deodars and redwoods are evergreens, and live oaks are deciduous) in removal of fine particulate matter at a variety of wind speeds. In general, deoder (a type of cedar) and redwood were the most effective over a range of wind speeds, with removal efficiencies of up to 50% at wind speeds in the 1 to 2 meters per second (m/s) range, decreasing to virtually zero removal at a wind speed of 3.5 m/s.

According to project landscaping plans (Smith+Smith 2013a), a total of approximately 375 redwood trees, planted approximately five to 10 feet apart, will be planted along the western perimeter of the Project. Additionally, in the southwestern corner of the Site where cancer risk was found to be the highest during preliminary modeling, a combination landscaped berm and soundwall of approximately 14 to 16 feet in height will be surrounded by a grove of approximately 90 trees. According to the project landscape architect, Jason Milam of Smith+Smith Landscape Architects, the redwood trees are evergreens and are expected to be approximately eight feet tall and three-and-a-half to four feet wide at the time of planting. At

maturity, redwood trees can measure up to approximately 100 feet high, with dense, heavy foliage. Redwood trees are considered fast-growing tree species and can grow at a rate of about three feet per year (Smith+Smith 2013b). The trees will be interspersed to mimic a natural forest, with approximately three to four rows of trees along the freeway. The trees will be planted in a naturalistic arrangement and are expected to grow in a way that will fill in all gaps between them so that the project is not visible from the highway. According to Smith+Smith, the trees will form a significant barrier in approximately five to ten years after planting. Shrubs are also planned along the southern and eastern perimeters (Smith+Smith 2013a). The combination of foliage will to provide a continuous buffer from ground level upward.

To estimate the pollutant concentration and risk reduction from this vegetative barrier, ENVIRON assumed a mature tree height of 30 feet along the entire western boundary of the project site adjacent to the roadway. Thus emissions passing through the barrier from the I-680 highway only would be mitigated. To estimate the reduction in concentration and risk, the average concentration for each hour was modeled using CAL3QHCR, as discussed in previous sections. These hourly concentrations were adjusted based on the corresponding hourly wind speed at the BAAQMD's Pleasanton meteorological station for the year 2005.

Based on this approach, ENVIRON conservatively estimates that a 26 percent particle removal efficiency and risk reduction could be achieved by implementing a vegetative barrier along the western perimeter of the Site. The estimated lifetime cancer risk from all local off-site sources after this mitigation strategy has been applied is depicted in Figure 3.

The trees will exceed the 30-foot height assumed in this analysis after a period of approximately seven to eight years. It is important to note that residential cancer risk is based on a 70-year exposure period, the large majority of which would occur after the trees reach these heights. Though the proposed species may have canopy densities on the lower end of species analyzed in Fujii et al. (2008) when initially planted, it is reasonable to conclude that the three and four rows of trees proposed for the western edge of the Site will be similar to, if not more effective than, the single barrier of trees evaluated in Fujii et al. (2008).

6.2.2 Building Air Filtration

Further, the change in impacts after adding filtration to the air intake and the recirculation mechanical systems was evaluated. Additional information on this analysis (including input parameters) is presented in Appendix B. It is important to note that the required filtration efficiency necessary to reduce $PM_{2.5}$ impacts below thresholds will depend on the final building design (e.g. ventilation and recirculation system) and individual residence design (e.g. size, location within the building). The air filtration analysis presented here was based on preliminary information provided by Pleasanton Gateway LLC on location and dimensions of residential buildings and ventilation and recirculation rates consistent with ASHRAE 62.2-2010 (ASHRAE 2010) which is required under the 2010 California Green Building Standards Code (also known as CALGreen, CBSC 2010).

The impact of the filtration on the cancer risk from DPM depends on the flows of air in and out of the building. These flows were identified as the flow of air through the forced ventilation, through recirculation, through open windows and doors, and through infiltration through cracks and

permeable surfaces facing outdoors. The impacts of the filtration were quantified assuming the residence is a completely-mixed volume (i.e., concentrations inside the home are the same regardless of location). Excess cancer risk from roadways is mostly attributable to DPM. The DPM can be filtered out of air traveling through the ventilation and recirculation using particulate filters; hence, a resident's cancer risk is reduced when inside their residence compared to their risk outdoors. However, unfiltered air can still enter the building through open windows or doors and through infiltration.

The analysis was based on conservative assumptions regarding resident behavior. Because window operation is controlled by the user and windows are not always open, the flows are not continuous throughout the day. Therefore, for this analysis the impact of the filtration was evaluated in hourly increments and an annual average risk was calculated. Residents are not always indoors, so their exposure when outside at the proposed site must be considered. The time spent outside by age group was obtained from EPA's Exposure Factor Handbook and weighted by years in each age bin and the age sensitivity factor. This equates to approximately three hours outside per day, which is conservative as all this time will not be spent at the proposed site. The risk during this outdoor time is assumed be equivalent to spending three hours in the outdoor "Commons" area located in the central portion of the Project complex. In other words, this analysis assumes that an individual will spend 21 hours per day inside their residence and three hours in the Commons, such that the individual is on the Site all day. The analysis also assumes that the individual is on the site for 350 days per year for 70 years.

This analysis assumes that MERV-13 or equivalent filters capable of at least 90% filtration efficiency for DPM/$PM_{2.5}$ are installed on both the air intake and recirculation for the residences located at the Site, and that the filters operate at least during periods of heating and cooling. The estimated total lifetime cancer risk after this mitigation strategy has been applied is depicted in Figure 4.

6.3 Summary of Mitigated Impacts on New Receptors from All Local Off-Site Sources

The maximum estimated total cancer risk for new residents due to off-site stationary sources (including the modeling results for stationary sources within the 1,000-foot boundary) and highways and surface streets within 1,000 feet of the Project boundary, after mitigation, is 17 in a million, and does not exceed the significance threshold of 100 in a million (see Table 6 and Figure 5). Similarly, the estimated chronic HI and the annual average $PM_{2.5}$ concentrations fall below the corresponding significance thresholds.

7 Uncertainties

Understanding the degree of uncertainty associated with each component of a risk assessment is critical to interpreting the results of the risk assessment. As recommended by the National Research Council ([NRC] 1994), [a risk assessment should include] "a full and open discussion of uncertainties in the body of each EPA risk assessment, including prominent display of critical uncertainties in the risk characterization." The NRC (1994) further states that "when EPA reports estimates of risk to decision-makers and the public, it should present not only point estimates of risk, but also the sources and magnitude of uncertainty associated with these estimates." Similarly, recommendations to Cal/EPA on risk assessment practices and uncertainty analysis from the Risk Assessment Advisory Committee (RAAC) were adapted from NRC recommendations (RAAC 1996). Thus, to ensure an objective and balanced characterization of risk and to place the risk assessment results in the proper perspective, the results of a risk assessment should always be accompanied by a description of the uncertainties and critical assumptions that influence the key findings of the risk assessment.

In accordance with the recommendations described above, ENVIRON has evaluated the uncertainties associated with this HRA, including emissions estimation, air dispersion modeling, and risk estimation. The following sections summarize the critical uncertainties associated with the emissions estimation, air dispersion modeling and risk estimation components of the risk assessment.

7.1 Estimation of Emissions

There are a number of uncertainties associated with the estimation of emissions from the sources evaluated that may affect the subsequent estimation of exposure concentrations and risk characterization. Emission factors were estimated based on the vehicle fleets of Alameda County, which may differ than the vehicle mix along the thoroughfares evaluated. Though EMFAC2011 presents emissions estimates through 2035, the database contains uncertainties related to future advances in vehicle technology, especially considering the emissions for 2035 were assumed to be constant over a 50 year period.

7.2 Estimation of Exposure Concentrations

There are a number of uncertainties associated with the estimation of exposure concentrations from air dispersion modeling of potential emissions from the Facility. This section briefly describes some of the uncertainties that may influence the exposure concentrations used in the risk characterization.

7.2.1 Estimates from Air Dispersion Models

As discussed in Section 5.2, the dispersion model ISCST3 was used to estimate average offsite DPM exposure concentrations at the various offsite receptor locations. This model uses the Gaussian plume equation to calculate ambient air concentrations from emission sources. For this model, the magnitude of error for the maximum concentration is estimated to range from 10 to 40% (USEPA 2005). Therefore, offsite exposure concentrations used in this assessment represent approximate offsite exposure concentrations.

7.2.2 Source Representation

The source parameters (*i.e.*, release velocity and release temperature) used to model emission points are sources of uncertainty. Source parameters were derived from information provided through the BAAQMD Stationary Source Inquiry, described above, for the stationary source modeling. The source parameters used to model emission sources add uncertainty. For all emission sources, ENVIRON used source parameters which were either recommended as defaults or expected to produce more conservative results. As there might be discrepancies in actual emissions characteristics of a source and its representation in the model, exposure concentrations used in this assessment represent approximate exposure concentrations.

7.2.3 Meteorological Data Selection

Uncertainty also exists in the meteorological data used in the ISCST3 and CAL3QHCR air dispersion models. On-site meteorological data were not available for the Facility and as such, ENVIRON used meteorological data from the Pleasanton meteorological station (approximately 3 miles North of the Site), as provided by BAAQMD, for air dispersion modeling. The uncertainties due to the use of offsite meteorological data resulted in approximate exposure concentrations.

7.3 Risk Characterization

7.3.1 Exposure Assumption Uncertainties

Consistent with BAAQMD guidance (BAAQMD 2010), risks were estimated assuming that hypothetical residents at the receptor points spend 70 years at one location. However, the USEPA has estimated that 50% of the population lives in the same residence for only 9 years, while only 10% remain in the same house for 26 years (USEPA 2011). Adults, moreover, spend about 66% of their total daily time at home (USEPA 2011), rather than the 100% assumed here. Accordingly, the actual risks to hypothetical residents at the modeled receptor locations are likely lower than those calculated in this assessment.

7.3.2 Toxicity Assessment Uncertainties

The Cal/EPA CPF for DPM was used to estimate cancer risks associated with exposure to DPM from the off-site generator. However, the CPF derived by Cal/EPA for DPM is highly uncertain in both the estimation of response and dose. In the past, due to inadequate animal test data and epidemiology data on diesel exhaust, the International Agency for Research on Cancer (IARC), a branch of the World Health Organization (WHO), had classified DPM as Probably Carcinogenic to Humans (Group 2); the USEPA had also concluded that the existing data did not provide an adequate basis for quantitative risk assessment (USEPA 2002). However, based on two recent scientific studies (Attfield 2012 and Silverman 2012), IARC recently re-classified DPM as Carcinogenic to Humans to Group 1 (IARC 2012), which means that the agency has determined that there is “sufficient evidence of carcinogenicity” of a substance in humans and represents the strongest weight-of-evidence rating in IARC’s carcinogen classification scheme. This determination by the IARC may provide additional impetus for the US EPA to identify a quantitative dose-response relationship between exposure to DPM and cancer.

7.3.3 Risk Calculation

The USEPA (1989a) notes that the conservative assumptions used in a risk assessment are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent actual risks experienced by populations at or near a site. By using standardized conservative assumptions in a risk assessment, USEPA (1989b) further states that:

> *"These values [risk estimates] are upper-bound estimates of excess cancer risk potentially arising from lifetime exposure to the chemical in question. A number of assumptions have been made in the derivation of these values, many of which are likely to overestimate exposure and toxicity. The actual incidence of cancer is likely to be lower than these estimates and may be zero."*

The estimated risks in this risk assessment are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. Although it is difficult to quantify the uncertainties associated with all the assumptions made in this risk assessment, the use of conservative assumptions is likely to result in substantial overestimates of exposure, and hence, risk. BAAQMD acknowledges this uncertainty by stating: "the methods used [to estimate risk] are conservative, meaning that the real risks from the source may be lower than the calculations, but it is unlikely that they will be higher" (BAAQMD 2013).

8 Conclusions

The Project consists of new residential receptors which are subject to environmental impacts from stationary sources and nearby highways and surface streets. The conservative analysis described herein indicates that the proposed Project does not exceed the thresholds of significance for cancer risk and chronic HI effects, but is over the threshold for $PM_{2.5}$. With project design features such as setback from I-680, planting and maintenance of a vegetative tree barrier and filtration mitigations described above impacts are reduced by over 90% in all residential areas of the Project, as shown in Figure 6. The estimated annual average $PM_{2.5}$ concentration exceeds the significance threshold prior to mitigation; however, after mitigations are implemented, the annual average $PM_{2.5}$ concentration at the proposed Project is reduced to below the significance thresholds.

To provide perspective for the results of a risk assessment, the California Environmental Protection Agency (Cal/EPA) OEHHA indicates that the estimated cancer risks can be "compared to the overall risk of cancer in the general U.S. population" or "to the risk posed by all harmful chemicals in a particular medium, such as air. Based on recent ambient air monitoring data for the top 10 TACs that generally pose the greatest known ambient risk in California, the statewide number of excess cancer cases per million people over a 70-year, lifetime exposure is 680 for the year 2007 (Cal/EPA 2009b). More local to the Project, BAAQMD conducted a study of background risk in the nine counties that compose the District and found the risks in the greater Pleasanton area to be in the range of 400 to 800 in a million (BAAQMD 2009). Furthermore, the American Cancer Society (ACS) reports that nearly one in every two Californians will be diagnosed with cancer during their lifetime, corresponding to a background cancer risk of 500,000 in one million (ACS 2013).

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Tables

Table 1
Stationary Source Emissions
The Commons at Gateway
Pleasanton, CA

Source Number[1]	Facility Name	Street Address	Source Type	Emissions (g/s)[2,3]
N/A	Safeway Gas	Bernal Ave	GDF	1.3E-02
G10915	Bernal Corners/Chevron Gas	1875 Valley Ave	GDF	6.6E-03
16937	City of Pleasanton	1600 Oak Vista Way	Diesel Generator	4.0E-05
5315	Bernal Cleaners	6654 Koll Center Pkwy	Dry Cleaner	0

Notes:

1. All facilities within 1,000 feet of the proposed project as identified in the BAAQMD Stationary Source Screening Analysis Tool consistent with BAAQMD guidance. If a source was just further than 1,000 feet, and the address associated with the source is within 1,000 feet, the source was conservatively included here.

2. Emissions from the GDFs are presented as total air toxic emissions. Benzene emissions from Bernal Corners GDF are as provided in the risk screening memo for the Bernal Corners GDF from BAAQMD (March 27, 2003). Emissions of other air toxics were calculated relative to the benzene concentration as provided by BAAQMD in the Recommended Methods for Screening and Modeling Local Risks and Hazards (table of speciated Total Organic Gases from evaporative sources). Emissions from the Safeway GDF were calculated by scaling the emissions from the Bernal Corners GDF by the expected annual gasoline throughput.

3. Emissions from the City of Pleasanton Diesel Generator are as presented in the risk screening memo for the City of Pleasanton as provided by BAAQMD.

Abbreviations:

GDF - gasoline dispensing facility
g/s - grams per second
N/A - not applicable

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Table 2
Modeled Roadways
The Commons at Gateway
Pleasanton, CA

Roadway[1]	ADT[2]
	vpd
I-680	125,719
I-680 - Northbound Offramp	3,981
I-680 - Northbound Onramp	11,629
I-680 - Southbound Offramp	11,943
I-680 - Southbound Onramp	4,400
Bernal Avenue - West of I-680	21,482
Bernal Avenue - East of I-680	27,501
Valley Avenue - North of Bernal Avenue	4,878
Valley Avenue - South of Bernal Avenue	13,284

Notes:
1. All roadways within 1,000 feet of the Project.
2. ADT calculated as described in Appendix A.

Abbreviations:
I-680 - Interstate 680
ADT - average daily traffic
vpd - vehicles per day

References:
-California Department of Transportation's Traffic Data Branch. 2011. Available online: http://traffic-counts.dot.ca.gov/
-City of Pleasanton. Traffic Counts Map. Available online: http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html

Table 3
Exposure Parameters
The Commons at Gateway
Pleasanton, CA

Exposure Parameter	Units	Resident	
		Lifetime	Child
Daily Breathing Rate (DBR) [1]	[L/kg-day]	302	581
Exposure Time (ET) [2]	[hours/24 hours]	24	24
Exposure Frequency (EF) [3]	[days/year]	350	350
Exposure Duration (ED) [4]	[years]	70	9
Averaging Time (AT)	[days]	25550	25550
Intake Factor, Inhalation (IF_{inh})	[m^3/kg-day]	0.29	0.072

Notes:
1. Daily breathing rates for residents reflect default breathing rates from BAAQMD 2010.
2. Exposure time for residents reflect default exposure time from BAAQMD 2010.
3. Exposure frequency for residents reflect default exposure frequency from BAAQMD 2010.
4. The exposure duration for residents reflect default exposure duration from BAAQMD 2010.

Calculation:
Resident Adult and Child:
IF_{inh} = DBR * ET * EF * ED * CF / AT
CF = 0.001 (m^3/L)

Abbreviations:
BAAQMD - Bay Area Air Quality Management District
L - liter
kg - kilogram
m^3 - cubic meter

References:
Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January.

Table 4
Toxicity Values
The Commons at Gateway
Pleasanton, CA

Chemical	CAS Number	Cancer Potency Factor	Chronic Reference Exposure Level	Acute Reference Exposure Level
		$[mg/kg\text{-}day]^{-1}$	$\mu g/m^3$	$\mu g/m^3$
Diesel PM	9-90-1	1.1	5	
Acetaldehyde	75-07-0	0.01	140	470
Acrolein	107-02-8		0.35	2.5
Benzene	71-43-2	0.1	60	1300
1,3-Butadiene	106-99-0	0.6	20	
Ethylbenzene	100-41-4	0.0087	2000	
Formaldehyde	50-00-0	0.021	9	55
Hexane	110-54-3		7000	
Methanol	67-56-1		4000	28000
Methyl Ethyl Ketone	78-93-3			13000
Naphthalene	91-20-3	0.12	9	
Propylene	115-07-1		3000	
Styrene	100-42-5		900	21000
Toluene	108-88-3		300	37000
Xylenes	10-60-5		700	22000

Notes:
1. All fractions are from USEPA Speciation Profile 4674 for Medium Duty Trucks.
2. All fractions are provided by BAAQMD (BAAQMD 2012).

Abbreviation:
BAAQMD - Bay Area Air Quality Management District
TOG - total organic gas
USEPA - United States Environmental Protection Agency

Reference:
BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Table 5
Cancer Risk Adjustment Factor[1]
The Commons at Gateway
Pleasanton, CA

Receptor	Cancer Risk Adjustment Factor (CRAF)
Lifetime Resident[2]	1.7

Notes:
1.CRAF based on ASF recommendations by the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) 2009 and BAAQMD 2010.
2. Based on BAAQMD 2010.

Abbreviations:
ASF - Age Sensitivity Factor
BAAQMD - Bay Area Air Quality Management District
Cal/EPA - California Environmental Protection Agency
CRAF - Cancer Risk Adjustment Factor
OEHHA - Office of Environmental Health Hazard Assessment

References:
Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR
Program Health Risk Screening Analysis (HRSA) Guidelines. January.
Office of Environmental Health Hazard Assessment (OEHHA). 2009. Technical
Support Document for Cancer Potency Factors: Methodologies for derivation,
listing of available values, and adjustments to allow for early life stage exposures.
May.

Table 6
Summary of Risk and Hazard Analyses for Maximally Impacted New On-Site Receptor
The Commons at Gateway
Pleasanton, CA

Source Type	Source	Cancer Risk (in a million)		Chronic Hazard Index (-)	$PM_{2.5}$ ($\mu g/m^3$)	
		Unmitigated	Mitigated[2]		Unmitigated	Mitigated[3]
Stationary Sources (Modeled)	Safeway Gas	3		0.002	N/A	
	Bernal Corners/Chevron Gas	1		0.04	N/A	
	City of Pleasanton[1]	0.01		2E-04	2.4E-05	
	Bernal Cleaners	0		0	0	
Highways & Surface Streets	Interstate 680	73	16	0.06	0.8	0.2
	Interstate 680 Ramps	3	0.7	0.002	0.03	0.01
	Bernal Avenue	2	0.5	0.002	0.03	0.006
	Valley Avenue	2	0.4	0.002	0.03	0.007
Total Risk from All Local Sources[4]		**75**	**17**	**0.1**	**0.83**	**0.24**
Threshold		100		10	0.8	
Exceeds Threshold?		**No**	**No**	**No**	**Yes**	**No**

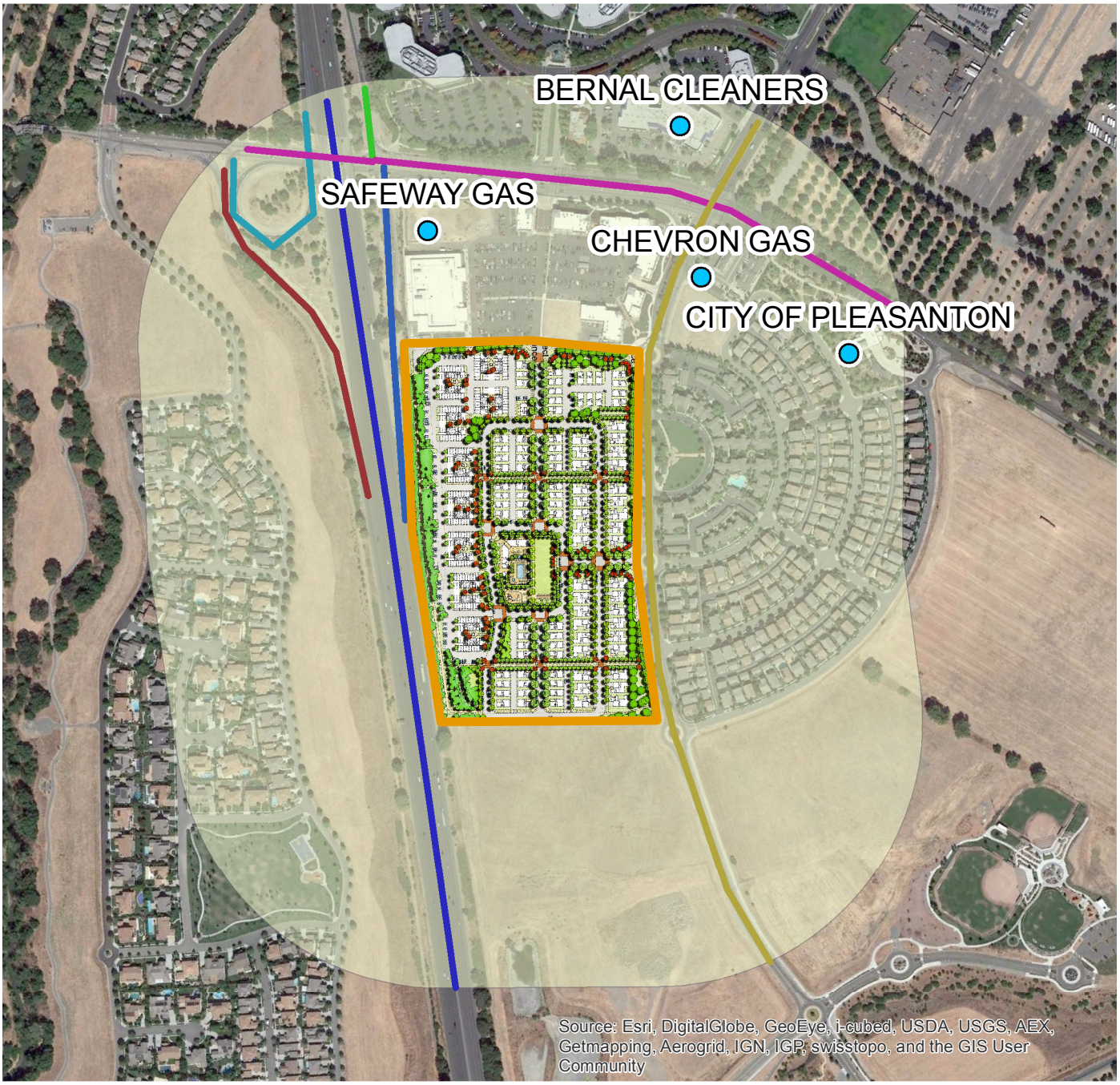
Notes:

1. Diesel PM from the City of Pleasanton generator is conservatively assumed to be comprised only of $PM_{2.5}$.
2. Cancer risks for the mitigated scenario assume residential building filtration consisting of MERV 13 filters installed on heating and cooling systems. For this analysis of overall risk reduction due to air filtration, receptors are assumed to spend 3 hours/day outdoors in the Commons Area and have at least one residential window open when the temperature is between 65 and 80 degrees Fahrenheit, which equates to approximately 5.5 hours/day.
3. Mitigation scenario for $PM_{2.5}$ uses the average reduction from cancer risk by source as a surrogate for reductions in $PM_{2.5}$.
4. The maximum values for different sources may not occur at the same receptor location. Thus, the value at the maximally impacted new on-site receptor presented here is less than the sum of values from each source type.

Abbreviations:

m: meter
MERV: Minimum Efficiency Reporting Value
µg: microgram
N/A: not applicable
PM: particulate matter

Figures



Legend

- Project Boundary
- 1,000ft Zone of Influence
- Stationary Source Locations

Roadways Modeled

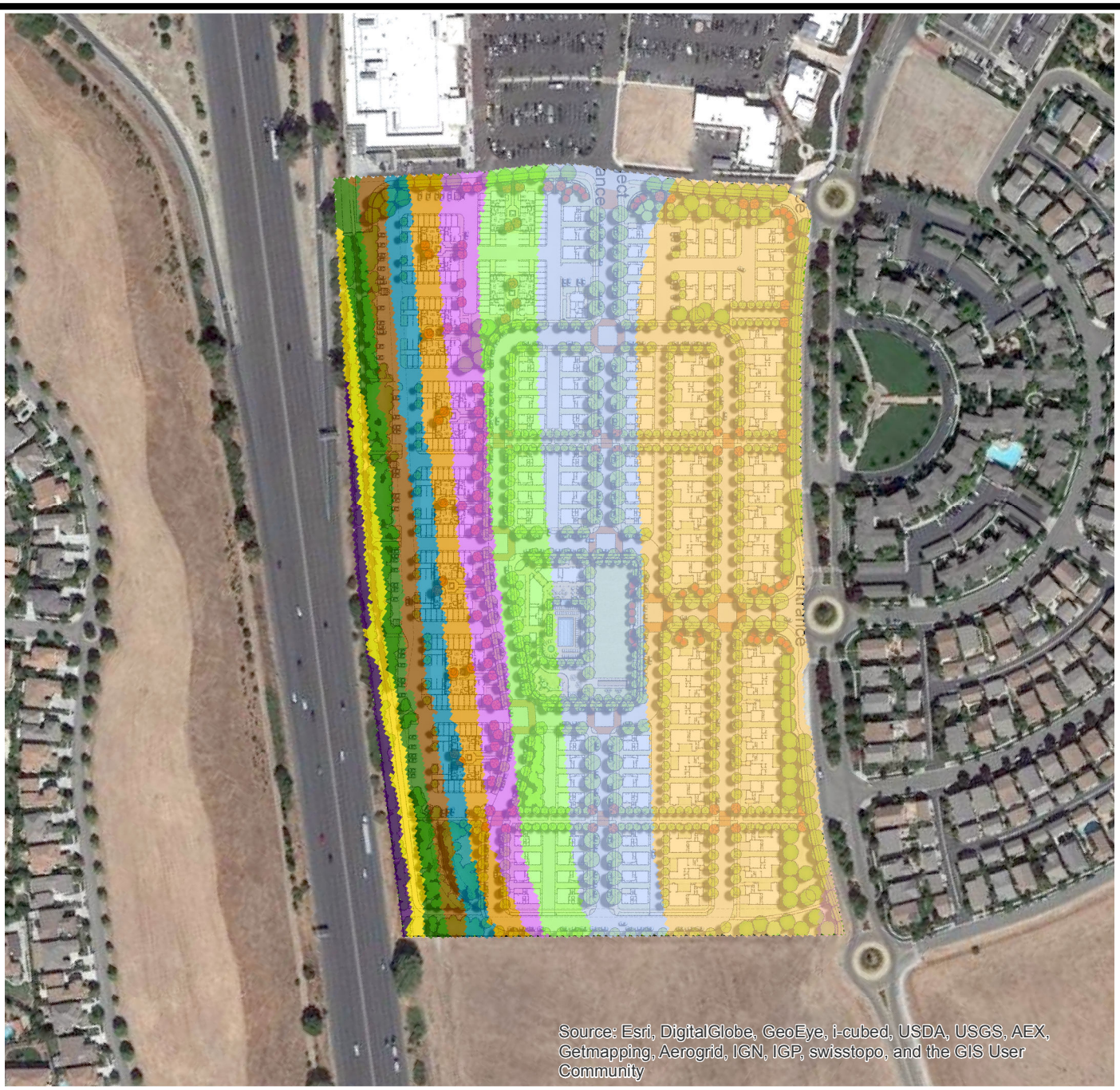
- Bernal Avenue
- I-680
- I-680 Northbound Offramp
- I-680 Northbound Onramp
- I-680 Southbound Offramp
- I-680 Southbound Onramp
- Valley Avenue

N

0 250 500 1,000 Feet

Figure 1
Project Location
and Off-Site Sources
The Commons at Gateway
Pleasanton, CA

ENVIRON



Legend

Cancer Risks (in a million)

- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80
- 80 - 90
- 90 - 100
- 100 - 110
- 110 - 120

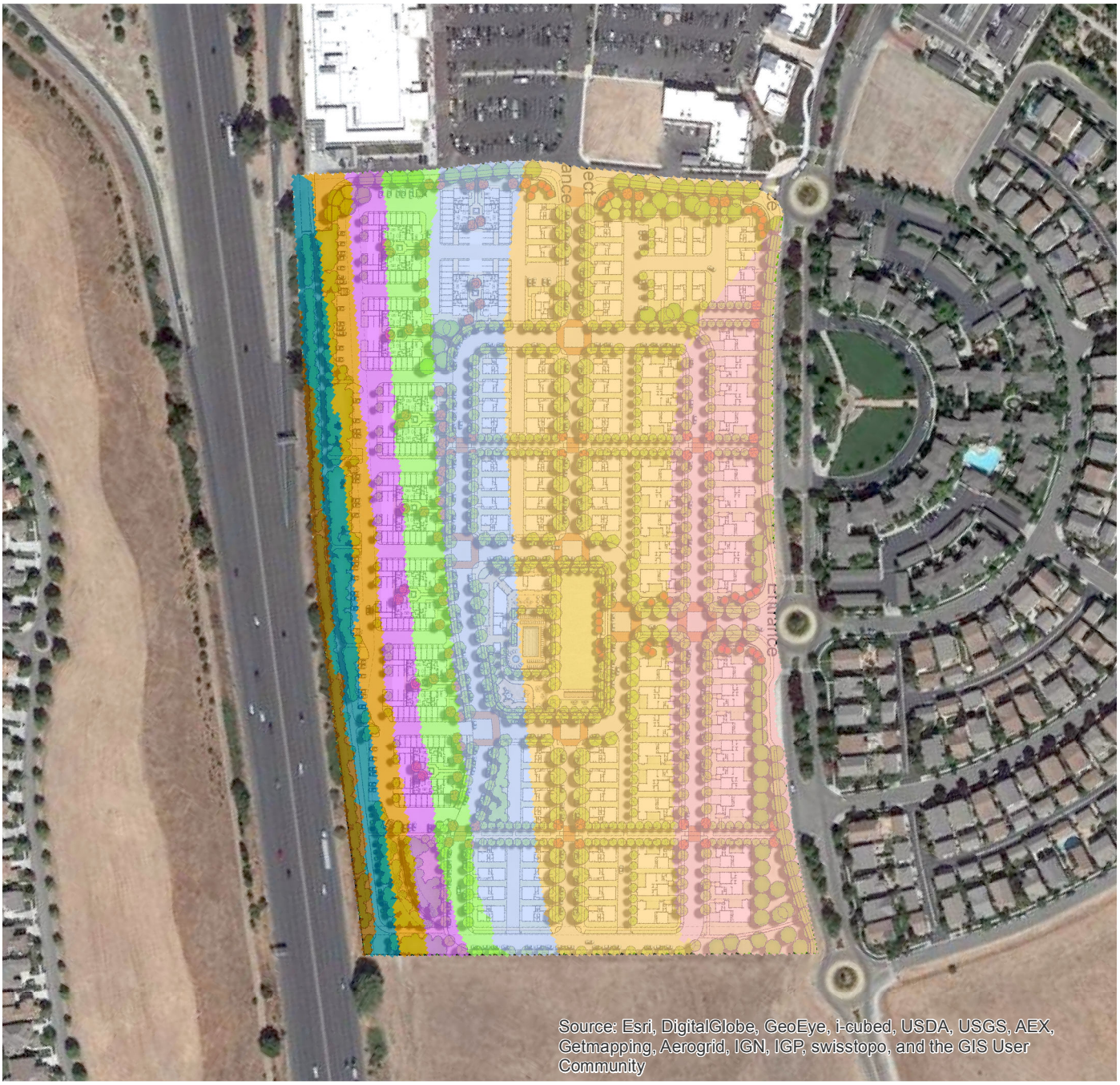
Sources: All
Mitigations: None

0 250 500 1,000 Feet

N

Figure 2
Total Cancer Risk
(Unmitigated)
The Commons at Gateway
Pleasanton, CA

ENVIRON



Legend

Cancer Risk (in a million)

- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80
- 80 - 90

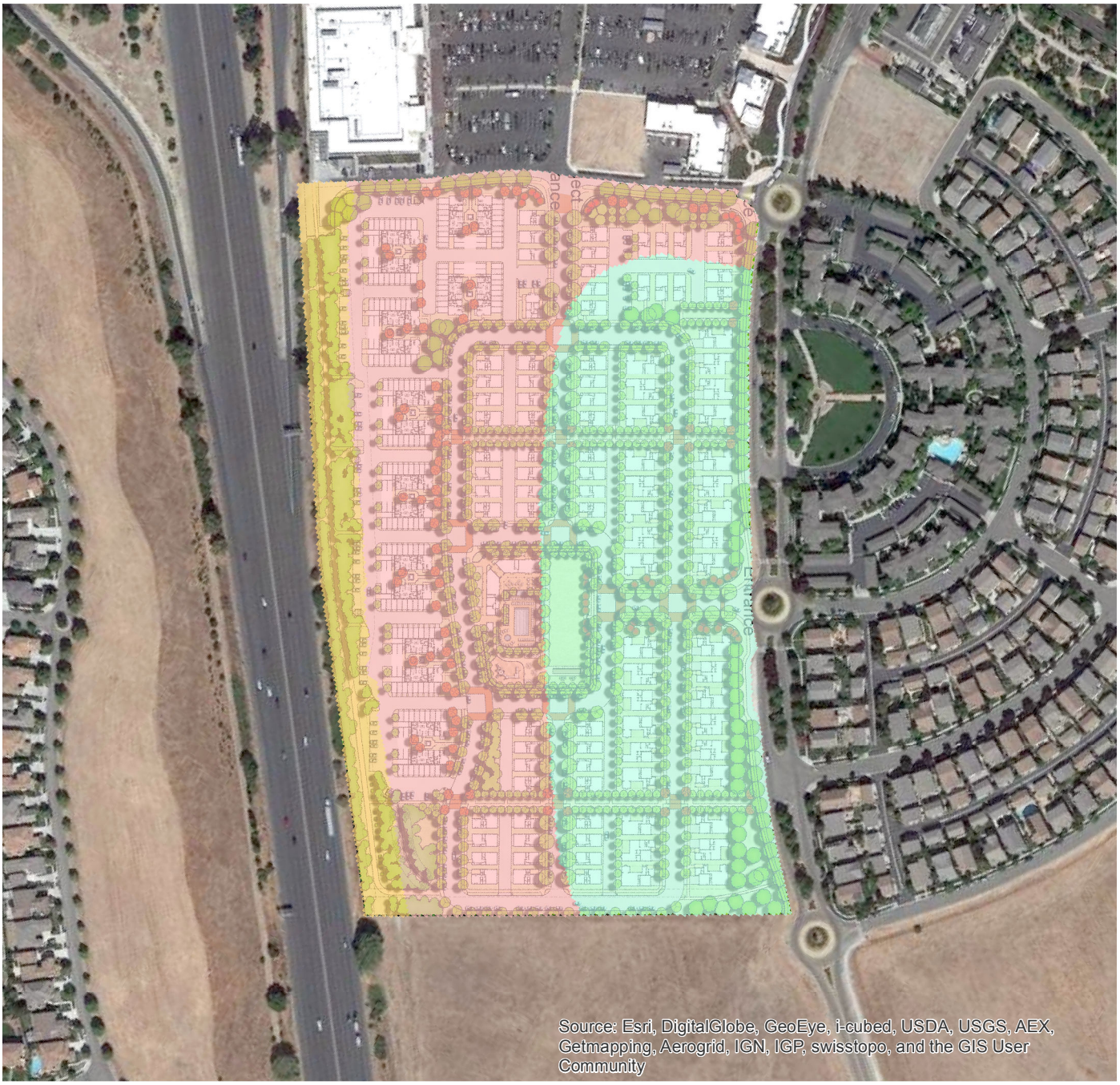
N

Sources: All
Mitigations: Landscaped Set-Back Area (Trees and Other Vegetation)

0 250 500 1,000 Feet

Figure 3
Total Cancer Risk (Mitigated)
The Commons at Gateway
Pleasanton, CA

ENVIRON



Legend

Cancer Risk (in a million)

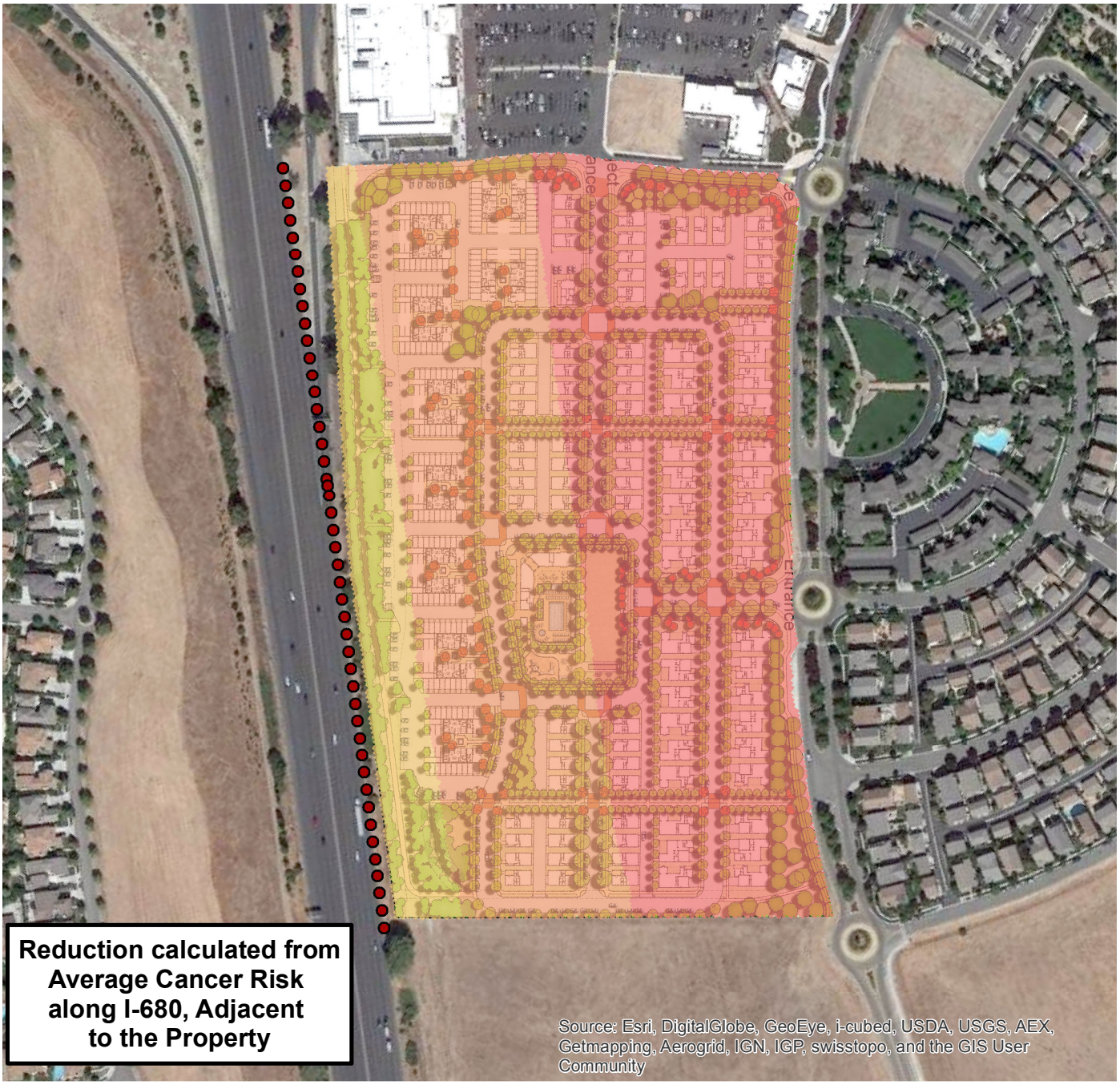
- 5 - 10
- 10 - 20
- 20 - 30

Sources: All
Mitigations: Landscaped Set-Back Area (Trees and Other Vegetation)
Filtration

0 250 500 1,000 Feet

Figure 4
Total Cancer Risk
(Mitigated)
The Commons at Gateway
Pleasanton, CA

ENVIRON



Legend

I-680 Risk Reduction

(percent)

- 85% - 90%
- 90% - 95%
- 95%+

Sources: All

Mitigations: Set-Back
Landscaped Area (Trees and Other Vegetation)
Filtration

0 250 500 1,000 Feet

Figure 5
I-680 Cancer Risk Reduction from Mitigation Measures
The Commons at Gateway
Pleasanton, CA

ENVIRON

Appendix A

Traffic Modeling Technical Appendix

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Appendix Table A.6 Age Sensitivity Factors
Appendix Table A.7 Emissions Scaling Factors
Appendix Table A.8 Speciation Profiles

Acronyms and Abbreviations

ADT	Average Daily Traffic
ARB	Air Resources Board
ASF	Age Sensitivity Factor
BAAQMD	Bay Area Air Quality Management District
CALTRANS	California Department of Transportation
CEQA	California Environmental Quality Act
CM	Centimeters
DPM	Diesel Particulate Matter
EMFAC	EMission FACtor Model
ENVIRON	ENVIRON International Corporation
HRA	Health Risk Assessment
I-680	Interstate 680
OEHHA	Office of Environmental Health Hazard Assessment, State of California
$PM_{2.5}$	Fine Particulate Matter Less than 2.5 Micrometer in Diameter
TAC	Toxic Air Contaminant
TOG	Total Organic Gases
USEPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled

A.1 Introduction

As discussed in the body of this report, ENVIRON International Corporation (ENVIRON) prepared a Health Risk Assessment (HRA) for Pleasanton Gateway LLC for The Commons at Gateway Project in Pleasanton, California ("Project"). As part of this HRA, the health risk from nearby roadways were evaluated using methods consistent with the Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act (CEQA) Guidelines[1] and Recommended Methods for Screening and Modeling Local Risks and Hazards.[2] This appendix discusses the methodology used in the HRA for risk from roadways near the Project. Consistent with BAAQMD guidance, all roadways within 1,000 feet of the project with over 10,000 average daily traffic (ADT) were modeled using CAL3QHCR.

A.2 Technical Approach

Fine particulate matter Less than 2.5 Micrometer in Diameter ($PM_{2.5}$) and toxic air contaminant (TAC) concentrations from Project and background traffic on major roadways at existing sensitive receptors were estimated using CAL3QHCR, United States Environmental Protection Agency (USEPA's) and BAAQMD's preferred model for determining air pollutant concentrations from traffic. CAL3QHCR incorporates hourly emission factors and traffic volumes with a full year of hourly meteorological data to estimate air concentrations for inert pollutants including particulate matter, such as diesel particulate matter (DPM) and gaseous TACs. For the HRA, the following TACs associated with traffic were evaluated:

- DPM from diesel-fueled vehicles;
- Total organic gas (TOG) from the exhaust of diesel-fueled vehicles;
- TOG from the exhaust of gasoline-fueled vehicles;
- Evaporative TOG from gasoline-fueled vehicles;
- $PM_{2.5}$ from the exhaust of all vehicles; and
- $PM_{2.5}$ from the brake and tire wear of all vehicles.

Air dispersion models, such as CAL3QHCR, require a variety of inputs, such as source geometry (e.g., configuration of roadways), hourly traffic volumes, hourly emission factors, meteorological parameters, topography information, and receptor parameters. When site-specific information is unknown, default parameter sets were used that are designed to produce conservative (i.e., overestimates of) air concentrations.

As mentioned above, BAAQMD CEQA Guidelines recommend performing a health risk assessment of all roadways within 1,000 feet of the Project with over 10,000 vehicles per day or 1,000 trucks per day. For the Project, Interstate 680 (I-680), Bernal Avenue, Valley Avenue, and two I-680 ramps fall into this category. To be conservative, all four ramps within 1,000 feet of the Project were included in the analysis.

[1] BAAQMD. 2012. California Environmental Quality Act Air Quality Guidelines. May.

[2] BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Occupancy of the Project is expected to begin as early as 2015. Therefore, the roadway health risk assessment incorporates emission factors and traffic volumes starting in 2015.

A.2.1Emission Factors

Emission factors were estimated for the pollutants bulleted above using California Air Resources Board (ARB's) most recent on-road emission estimator model, EMFAC2011.[3] EMFAC2011 is composed of a series of models that estimate emissions by certain area designations. To estimate emissions, the SG and LDV modules were used for Alameda County.

Total county emissions (in units of tons/year) and total daily Vehicle Miles Traveled (VMT) (in units of miles/year) for each vehicle class, fuel type, and TAC were obtained from the SG Module of EMFAC2011. The SG Module incorporates emission reductions from ARB's On-Road Heavy-Duty Diesel Vehicles Regulation. These total emissions were converted to emission factors (in units of grams/mile) using the total VMT.

CAL3QHCR requires one emission factor for a pollutant for each hour. Therefore, an emission factor that is the weighted average of vehicle class specific emission factors was calculated using the percentage of each vehicle class for each hour. The vehicle classes considered for estimating concentrations of each TAC are shown in Appendix Table A.1. Percentage of VMT is used as a surrogate for actual fleet mix of vehicles on the road. For non-diesel heavy duty vehicles, the hourly percentage of each vehicle class was calculated using hourly VMT reported in "Burden Mode" of the LDV Module of EMFAC2011. Information on diesel heavy duty vehicles is not estimated in the LDV Module, nor is hourly VMT for these vehicles reported in any EMFAC2011 Module. Therefore, the hourly percentage of total VMT for each diesel heavy duty vehicle was obtained directly from ARB[4] and is shown in Appendix Table A.2.

EMFAC VMT data for all of Alameda County incorporates the total Alameda County truck percentage. Truck percentages can vary greatly from road to road or highway to surface street, and trucks tend to have higher emission factors per mile than other vehicles. Therefore, actual truck percentages on individual roadways are important. California Department of Transportation (Caltrans) estimates truck counts on California Highways.[5] For I-680, a truck percentage of 6.5%, the percentage at the junction with I-580, was used. For surface streets where specific truck counts are not known, the BAAQMD recommended default percent for surface streets in Alameda County, 4.09%, was used. Default daily percentages of VMT obtained from EMission FACtor Model (EMFAC) were adjusted to be consistent with these estimates.

Hourly weighted emission factors are shown in Appendix Table A.3.

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[3] Available online: http://www.arb.ca.gov/msei/modeling.htm

[4] Personal Communication between Jennie Louie (ENVIRON) and Kathy Jaw (ARB). October 13, 2011.

[5] California Department of Transportation's Traffic Data Branch. 2011. Truck Traffic 2010. Available online: http://traffic-counts.dot.ca.gov/

A.2.2Hourly Traffic Volumes

Average daily traffic volumes along each roadway were obtained from Caltrans's Traffic Data Branch[6,7] and the City of Pleasanton.[8] As shown in Appendix Table A.4, traffic volumes were projected from the base year to the expected 2015 traffic volumes using the increase in total VMT for the County as estimated in EMFAC2011.

Daily traffic volumes were converted to hourly traffic volumes using an assumed percentage of traffic for each hour. Hourly VMT calculated for emissions was used to estimate percentage of traffic for each hour, which is shown in Appendix Table A.5.

A.2.3Hourly Percent of Vehicle Fuel Type

Because the emissions of some TACs depend on the fuel burned in combustion, the hourly traffic volumes must be broken down into diesel and gasoline fueled traffic volumes. The hourly percentage of diesel and gasoline fueled vehicles is calculated using the fraction of VMT at each hour that are diesel or gasoline fueled, similar to the method used for fleet mix of vehicles. Hourly VMT calculated for emissions was used to estimate the percentage of diesel and gasoline fueled vehicles reported in Appendix Table A.5.

A.2.4Roadway Source Geometry

The roadway geometry used in the model was determined using an aerial map of the Project area. Consistent with CAL3QHCR guidance, each roadway was broken into a series of straight segments, or "links", which have constant emission factors and traffic volumes. The width of the link includes all travel lanes and, consistent with CAL3QHCR guidance, an additional three meters on each side to account for the turbulent mixing of air behind the moving vehicles. Figure X of the report shows the modeled roadways.

A.2.5Meteorological Data

To characterize the transport and dispersion of pollutants in the atmosphere, CAL3QHCR requires hourly meteorological data in the same format as the data required by the Industrial Source Complex Short Term Model (ISCST3), another EPA air dispersion model. BAAQMD provides meteorological data in this format from stations around the Bay Area. For this analysis, meteorological data from 2005 from the Pleasanton Station (Site ID 1905) with a mixing height of 300 meters was used. This site is approximately 3 miles North of the Project.

An important consideration in an air dispersion modeling analysis is the selection of rural or urban dispersion coefficients. As discussed in the AERMOD model section, the rural designation was chosen, which results in the use of the rural mixing height found in the meteorological data and rural dispersion parameters. An analysis of the surface roughness of the area was completed and 57 centimeters (cm) was determined to be the most appropriate roughness based on the land uses in the area.

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6 California Department of Transportation's Traffic Data Branch. 2011. Traffic Volumes 2010. Available online: http://traffic-counts.dot.ca.gov/

7 California Department of Transportation's Traffic Data Branch. 2011. Ramp Volumes 2010. Available online: http://traffic-counts.dot.ca.gov/

8 City of Pleasanton. Traffic Counts Map. Available online: http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html

A.2.6Scaling Factors

Excess lifetime cancer risks are calculated assuming a 70 year exposure. Vehicular emission factors are expected to decrease with time due to the improvement of engines and increasingly stringent engine control regulations. Additionally, due to physiological and developmental differences as compared to adults, infants and children are anticipated to have special sensitivity to carcinogens.[9] Hence, impacts from roadways would be expected to be greater in earlier years. To take into account the decreasing emission factors and toxicity with time, BAAQMD recommends multiplying emission factors calculated for the occupancy year by 70-year age sensitivity weighted average scaling factors. These scaling factors are calculated using the following method, consistent with BAAQMD guidance.

Average daily emission factors are estimated for each TAC for each year following occupancy until 2035, the final year EMFAC2011 estimates emissions. These emission factors are calculated using the same methodology described above, but are estimated using total daily vehicle class percentages instead of hourly percentages. These yearly emission factors are combined with BAAQMD's recommended Age Sensitivity Factors (ASF) to estimate the 70 year ASF-weighted average emission factors, as shown in Appendix Table A.6. The scaling factor is the difference between the weighted emission factor and the emission factor for the first year of occupancy and is shown in Appendix Table A.7.

A.2.7Speciation

The cancer risk and chronic non-cancer indices are based on DPM concentrations from diesel vehicles and TOG concentrations from gasoline vehicles. The maximum modeled annual concentration for DPM, $PM_{2.5}$, hourly concentration for diesel exhaust TOG, and annual and hourly concentrations for gasoline exhaust TOG and gasoline non-exhaust TOG onsite is estimated by CAL3QHCR. To estimate cancer risk and noncancer hazard indices, specific chemical concentrations must be calculated. Diesel exhaust, a complex mixture that includes hundreds of individual constituents,[10] is identified by the State of California as a known carcinogen.[11] Under California regulatory guidelines, diesel particulate matter is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole.[12] Cal/EPA and other proponents of using the surrogate approach to quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach. A component-based approach involves estimating risks for each of the individual components of a mixture. Critics of the component-based approach believe it will underestimate the risks associated with diesel as a whole mixture because the identity of all chemicals in the mixture may not be known and/or exposure and health effects information for all chemicals identified within the mixture may not be available. Furthermore, Cal/EPA has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated

[9] Cal/EPA. 2009. Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures. May.

[10] Cal/EPA, OEHHA. 1998a. Findings of the Scientific Review Panel on The Report on Diesel Exhaust, as adopted at the Panel's April 22, 1998, meeting.

[11] Cal/EPA. 2011. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. February 14. http://www.arb.ca.gov/toxics/healthval/contable.pdf. Accessed July 2011.

[12] Ibid.

components."[13] Because a surrogate approach has not been recommended for effects from gasoline fueled equipment at the time of this report, the component-based approach was used to estimate the effects from the gasoline equipment. To speciate TOG, BAAQMD recommended speciation profiles were used, as shown in Appendix Table A.8.

[13] Cal/EPA. OEHHA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. August.

Appendix Tables

Appendix Table A.1
Vehicle Classes Considered in Emission Estimation
The Commons at Gateway
Pleasanton, California

Vehicle Class[1]	Fuel	Considered Heavy Duty Truck[2]	Included in Emission Estimation					
			$PM_{2.5}$		DPM[4]	TOG		
			Exhaust[3]	Brake and Tire Ware[3]		Diesel Exhaust[4]	Gasoline Exhaust[5]	Gasoline Evaporative[5]
All Other Buses	Diesel	--	X	X	X	X	--	--
LDA	Gasoline	--	X	X	--	--	X	X
LDA	Diesel	--	X	X	X	X	--	--
LDT1	Gasoline	--	X	X	--	--	X	X
LDT1	Diesel	--	X	X	X	X	--	--
LDT2	Gasoline	--	X	X	--	--	X	X
LDT2	Diesel	--	X	X	X	X	--	--
LHD1	Gasoline	X	X	X	--	--	X	X
LHD1	Diesel	X	X	X	X	X	--	--
LHD2	Gasoline	X	X	X	--	--	X	X
LHD2	Diesel	X	X	X	X	X	--	--
MCY	Gasoline	--	X	X	--	--	X	X
MDV	Gasoline	--	X	X	--	--	X	X
MDV	Diesel	--	X	X	X	X	--	--
MH	Gasoline	--	X	X	--	--	X	X
MH	Diesel	--	X	X	X	X	--	--
Motor Coach	Diesel	--	X	X	X	X	--	--
OBUS	Gasoline	--	X	X	--	--	X	X
PTO	Diesel	X	X	X	X	X	--	--
SBUS	Gasoline	--	X	X	--	--	X	X
SBUS	Diesel	--	X	X	X	X	--	--
T6 Ag	Diesel	X	X	X	X	X	--	--
T6 CAIRP heavy	Diesel	X	X	X	X	X	--	--
T6 CAIRP small	Diesel	X	X	X	X	X	--	--
T6 instate construction heavy	Diesel	X	X	X	X	X	--	--
T6 instate construction small	Diesel	X	X	X	X	X	--	--
T6 instate heavy	Diesel	X	X	X	X	X	--	--
T6 instate small	Diesel	X	X	X	X	X	--	--
T6 OOS heavy	Diesel	X	X	X	X	X	--	--
T6 OOS small	Diesel	X	X	X	X	X	--	--
T6 Public	Diesel	X	X	X	X	X	--	--
T6 utility	Diesel	X	X	X	X	X	--	--
T6TS	Gasoline	X	X	X	--	--	X	X
T7 Ag	Diesel	X	X	X	X	X	--	--
T7 CAIRP	Diesel	X	X	X	X	X	--	--
T7 CAIRP construction	Diesel	X	X	X	X	X	--	--
T7 NNOOS	Diesel	X	X	X	X	X	--	--
T7 NOOS	Diesel	X	X	X	X	X	--	--
T7 other port	Diesel	X	X	X	X	X	--	--
T7 POAK	Diesel	X	X	X	X	X	--	--
T7 POLA	Diesel	X	X	X	X	X	--	--
T7 Public	Diesel	X	X	X	X	X	--	--
T7 Single	Diesel	X	X	X	X	X	--	--
T7 single construction	Diesel	X	X	X	X	X	--	--
T7 SWCV	Diesel	X	X	X	X	X	--	--
T7 tractor	Diesel	X	X	X	X	X	--	--
T7 tractor construction	Diesel	X	X	X	X	X	--	--
T7 utility	Diesel	X	X	X	X	X	--	--
T7IS	Gasoline	X	X	X	--	--	X	X
UBUS	Gasoline	--	X	X	--	--	X	X
UBUS	Diesel	--	X	X	X	X	--	--

Notes:
1. All vehicle classes reported in the SG Module of EMFAC2011.
2. The EMFAC default fleet mix of Heavy Duty Trucks are adjusted for the actual truck percentages on the road.
3. All vehicles considered in $PM_{2.5}$ emissions.
4. Only diesel fueled vehicles are considered when estimating DPM and TOG from diesel emissions.
5. Only gasoline fueled vehicles are considered when estimating TOG from gasoline emissions.

Abbreviations:
DPM - Diesel Particulate Matter
PM - Particulate Matter
TOG - Total Organic Gases

Appendix Table A.2
ARB Truck Temporal Profile
The Commons at Gateway
Pleasanton, California

EMFAC Vehicle Category[1]	Fuel Type	Hour																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
All Other Buses	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
Motor Coach	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
PTO	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
SBUS	Diesel	0	0	0	0	0	0	16.66%	16.67%	16.67%	0	0	0	0	0	0	16.66%	16.67%	16.67%	0	0	0	0	0	0
T6 Ag	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 CAIRP heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 CAIRP small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate construction heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate construction small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 OOS heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 OOS small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 Public	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 utility	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T7 Ag	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 CAIRP	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 CAIRP construction	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 NNOOS	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 NOOS	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 other port	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 POAK	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 POLA	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 Public	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 Single	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 single construction	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 SWCV	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 tractor	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 tractor construction	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 utility	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%

Notes:
1. Percentage of daily VMT for each hour of the day for each vehicle class in HD Module of EMFAC2011, as provided by ARB.

Abbreviations:
ARB - California Air Resources Board
VMT - vehicle miles travelled

Reference:
Personal Communication between Jennie Louie (ENVIRON) and Kathy Jaw (ARB). October 13, 2011.

Appendix Table A.3
Hourly Emission Factors
The Commons at Gateway
Pleasanton, California

Hour	Highway						Surface Streets					
	$PM_{2.5}$		DPM	TOG			$PM_{2.5}$		DPM	TOG		
	Exhaust	Brake and Tire Ware		Diesel Exhaust	Gasoline Exhaust	Gasoline Evaporative	Exhaust	Brake and Tire Ware		Diesel Exhaust	Gasoline Exhaust	Gasoline Evaporative
	g/mile											
1	0.0188	0.0229	0.1062	0.3039	0.0909	0.0865	0.0136	0.0217	0.1082	0.3068	0.0903	0.0859
2	0.0264	0.0269	0.0919	0.2913	0.0938	0.0883	0.0199	0.0251	0.0949	0.2962	0.0924	0.0870
3	0.0292	0.0259	0.0877	0.3031	0.1362	0.1264	0.0236	0.0249	0.0896	0.3065	0.1223	0.1135
4	0.0633	0.0306	0.1140	0.3282	0.1025	0.0955	0.0524	0.0294	0.1152	0.3307	0.0984	0.0916
5	0.0262	0.0244	0.1077	0.3239	0.0989	0.0933	0.0195	0.0234	0.1105	0.3289	0.0955	0.0902
6	0.0238	0.0236	0.1199	0.3244	0.1034	0.0950	0.0174	0.0225	0.1223	0.3286	0.0992	0.0914
7	0.0111	0.0206	0.1207	0.3182	0.0909	0.0860	0.0082	0.0200	0.1232	0.3215	0.0904	0.0856
8	0.0058	0.0193	0.1198	0.3234	0.0901	0.0859	0.0047	0.0191	0.1236	0.3271	0.0898	0.0855
9	0.0067	0.0197	0.1138	0.3052	0.0951	0.0892	0.0053	0.0193	0.1174	0.3095	0.0933	0.0877
10	0.0107	0.0210	0.1155	0.3050	0.0964	0.0902	0.0081	0.0203	0.1189	0.3104	0.0941	0.0883
11	0.0096	0.0207	0.1159	0.3130	0.0946	0.0894	0.0073	0.0201	0.1200	0.3195	0.0927	0.0878
12	0.0085	0.0204	0.1168	0.3098	0.0937	0.0883	0.0066	0.0199	0.1209	0.3162	0.0923	0.0871
13	0.0078	0.0202	0.1202	0.3130	0.0916	0.0871	0.0061	0.0198	0.1249	0.3207	0.0907	0.0863
14	0.0079	0.0203	0.1195	0.3148	0.0928	0.0880	0.0062	0.0199	0.1244	0.3228	0.0915	0.0868
15	0.0064	0.0198	0.1234	0.3152	0.0915	0.0869	0.0052	0.0196	0.1289	0.3244	0.0907	0.0862
16	0.0051	0.0195	0.1238	0.3196	0.0926	0.0876	0.0043	0.0193	0.1305	0.3301	0.0914	0.0866
17	0.0061	0.0198	0.1236	0.3128	0.0949	0.0899	0.0050	0.0195	0.1292	0.3223	0.0929	0.0881
18	0.0043	0.0192	0.1144	0.3175	0.0928	0.0876	0.0038	0.0191	0.1230	0.3286	0.0916	0.0866
19	0.0050	0.0195	0.1177	0.3318	0.0912	0.0865	0.0043	0.0193	0.1259	0.3426	0.0905	0.0859
20	0.0041	0.0192	0.1297	0.3487	0.0915	0.0866	0.0037	0.0192	0.1389	0.3603	0.0907	0.0860
21	0.0076	0.0200	0.1142	0.3158	0.0901	0.0859	0.0059	0.0197	0.1188	0.3224	0.0897	0.0855
22	0.0086	0.0204	0.1183	0.3042	0.0898	0.0857	0.0066	0.0199	0.1222	0.3104	0.0895	0.0854
23	0.0072	0.0204	0.1130	0.3025	0.0906	0.0863	0.0058	0.0199	0.1191	0.3125	0.0900	0.0858
24	0.0058	0.0198	0.1195	0.3408	0.0918	0.0874	0.0049	0.0197	0.1280	0.3532	0.0908	0.0865

Notes:
1. Hourly emission factors estimated using EMFAC2011 as described in the report. Highway emission factors assume 6.5% of vehicles are trucks, while surface street emission factors assume 4.09% of vehicles are trucks.

Abbreviations:
DPM - Diesel Particulate Matter
g - gram
PM - Particulate Matter
TOG - Total Organic Gases

Appendix Table A.4
Traffic Volume Scaling
The Commons at Gateway
Pleasanton, California

Year	EMFAC Total County VMT[1]
2010	39,510,078
2011	39,885,875
2015	41,393,129

Roadway[2]	ADT[3]	Year of Traffic Data[4]	Increase in Traffic in 2015[5]	ADT Modeled[6]
I-680	120,000	2010	104.8%	125,719
I-680 - Northbound Offramp	3,800	2010	104.8%	3,981
I-680 - Northbound Onramp	11,100	2010	104.8%	11,629
I-680 - Southbound Offramp	11,400	2010	104.8%	11,943
I-680 - Southbound Onramp	4,200	2010	104.8%	4,400
Bernal Avenue - West of I-680	20,700	2011	103.8%	21,482
Bernal Avenue - East of I-680	26,500	2011	103.8%	27,501
Valley Avenue - North of Bernal Avenue	4,700	2011	103.8%	4,878
Valley Avenue - South of Bernal Avenue	12,800	2011	103.8%	13,284

Notes:
1. Daily VMT estimated by SG Module of EMFAC2011.
2. All roadways within 1,000 feet of the Project.
3. ADT from highway and ramps obtained from Caltrans and ADT from surface streets obtained from the City of Pleasanton.
4. Year of Traffic Data is the year for which the traffic data is estimated.
5. Increase in Traffic in 2015 is the ratio between 2015 VMT and VMT from the year of traffic data as shown above.
6. Modeled ADT is the 2015 ADT, calculated using the following formula:

[Modeled ADT] = [ADT in year of traffic data] x [Increase in traffic in 2015]

Abbreviations:
I-680 - Interstate 680
ADT - average daily traffic
VMT - vehicle miles travelled

References:
California Department of Transportation's Traffic Data Branch. 2011. Available online: http://traffic-counts.dot.ca.gov/
City of Pleasanton. Traffic Counts Map. Available online: http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html

Appendix Table A.5
Temporal Profile of Traffic
The Commons at Gateway
Pleasanton, California

Hour	Highway[1]			Surface Streets[1]		
	Percent of Total Traffic[2]	Percent of Hourly Traffic[3]		Percent of Total Traffic[2]	Percent of Hourly Traffic[3]	
		Diesel Fueled	Gasoline Fueled		Diesel Fueled	Gasoline Fueled
1	1.20%	17.6%	82.4%	1.15%	11.8%	88.2%
2	0.46%	29.6%	70.4%	0.42%	21.0%	79.0%
3	0.51%	34.3%	65.7%	0.42%	26.7%	73.3%
4	0.37%	59.6%	40.4%	0.29%	48.4%	51.6%
5	0.56%	24.8%	75.2%	0.51%	17.5%	82.5%
6	0.98%	20.1%	79.9%	0.91%	13.9%	86.1%
7	3.82%	8.3%	91.7%	3.79%	5.5%	94.5%
8	7.70%	3.5%	96.5%	7.79%	2.4%	97.6%
9	7.08%	4.6%	95.4%	7.08%	3.1%	96.9%
10	4.43%	8.3%	91.7%	4.35%	5.6%	94.4%
11	4.71%	7.2%	92.8%	4.66%	4.9%	95.1%
12	5.89%	6.1%	93.9%	5.87%	4.1%	95.9%
13	6.14%	5.3%	94.7%	6.15%	3.6%	96.4%
14	6.04%	5.4%	94.6%	6.03%	3.7%	96.3%
15	6.95%	3.9%	96.1%	7.01%	2.7%	97.3%
16	7.05%	2.7%	97.3%	7.13%	2.0%	98.0%
17	7.36%	3.6%	96.4%	7.37%	2.5%	97.5%
18	8.06%	2.2%	97.8%	8.17%	1.6%	98.4%
19	5.64%	2.8%	97.2%	5.72%	2.0%	98.0%
20	4.21%	1.8%	98.2%	4.29%	1.4%	98.6%
21	3.25%	5.4%	94.6%	3.27%	3.6%	96.4%
22	3.28%	6.2%	93.8%	3.29%	4.1%	95.9%
23	2.44%	5.1%	94.9%	2.46%	3.5%	96.5%
24	1.87%	3.5%	96.5%	1.88%	2.5%	97.5%

Notes:
1. Highway values assume 6.5% of vehicles are trucks (EMFAC2011), while surface street values assume 4.09% (BAAQMD 2012) of vehicles are trucks.
2. Percent of total traffic used to convert ADT to hourly traffic volumes. The percent is calculated using VMT reported in EMFAC2011 and provided by ARB as described in the report.
3. Percent of hourly traffic is used to separate total traffic into diesel and gasoline fueled vehicles. Ratios of VMT are also used to calculate this percent.

Abbreviations:
ADT - average daily traffic
ARB - California Air Resources Board
VMT - vehicle miles travelled

Sources:
BAAQMD. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards.* May.

Appendix Table A.6
Age Sensitivity Factors
The Commons at Gateway
Pleasanton, California

Year	ASF	Period	Weighting
2015	10	1	0.14
2016	10	1	0.14
2017	4.75	1	0.068
2018	3	1	0.043
2019	3	1	0.043
2020	3	1	0.043
2021	3	1	0.043
2022	3	1	0.043
2023	3	1	0.043
2024	3	1	0.043
2025	3	1	0.043
2026	3	1	0.043
2027	3	1	0.043
2028	3	1	0.043
2029	3	1	0.043
2030	3	1	0.043
2031	1.5	1	0.021
2032	1	1	0.014
2033	1	1	0.014
2034	1	1	0.014
2035-2084	1	50.25	0.72

Notes:
1. All years between first year of occupancy and the last year for which EMFAC2011 reports information.
2. ASF profile with time, as recommended by BAAQMD. ASFs assume an infant was in the third trimester of pregnancy at first occupancy of the Project. Fraction values take into account the change in ASF in the middle of the year.
3. 2035 information is assumed to represent the remaining years into the 70 year exposure.
4. Weighting is the product of the ASF and period and represents the weighting of each year's emission factor.

Abbreviations:
ASF - Age Sensitivity Factor
BAAQMD - Bay Area Air Quality Management District

Reference:
BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Appendix Table A.7
Emissions Scaling Factors
The Commons at Gateway
Pleasanton, California

Pollutant[2]		Highway[1]	Surface Streets[1]
DPM		1.064	1.069
TOG	Gasoline Exhaust	0.944	0.951
	Gasoline Evaporative	1.131	1.130

Notes:
1. Highway values assume 6.5% of vehicles are trucks, while surface street values assume 4.09% of vehicles are trucks.
2. Scaling factors for all pollutants considered in cancer risk calculation. These factors were calculated using methodologies described in the report.

Abbreviations:
DPM - Diesel Particulate Matter
TOG - Total Organic Gases

Appendix Table A.8
Speciation Profiles
The Commons at Gateway
Pleasanton, California

Chemical	CAS Number	Fraction of TOG		
		Diesel Exhaust[1]	Gasoline Exhaust[2]	Gasoline Evaporative[2]
1,3-Butadiene	106990	--	0.0055	--
Acetaldehyde	75070	0.15942	0.0028	--
Acrolein	107028	0.01297	0.0013	--
Benzene	71432	0.01045	0.0247	0.0036
Ethylbenzene	100414	--	0.0105	0.0012
Formaldehyde	50000	0.08505	0.0158	--
Hexane	110543	--	0.016	0.0154
Methanol	67561	--	0.0012	--
Methyl Ethyl Ketone	78933	--	0.0002	--
Naphthalene	91203	--	0.0005	--
Propylene	115071	--	0.0306	--
Styrene	100425	--	0.0012	--
Toluene	108883	--	0.0576	0.017
Xylenes	10605	--	0.048	0.00578

Notes:
1. All fractions are from USEPA Speciation Profile 4674 for Medium Duty Trucks.
2. All fractions are provided by BAAQMD (BAAQMD 2012).

Abbreviation:
BAAQMD - Bay Area Air Quality Management District
TOG - total organic gas
USEPA - United States Environmental Protection Agency

Reference:
BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Appendix B

Filtration Technical Appendix

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Appendix Table B.1 Air Filtration Parameters

Acronyms and Abbreviations

ACH	Air Changes Per Hour
ARB	California Air Resources Board
ASF	Age Sensitivity Factor
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
BAAQMD	Bay Area Air Quality Management District
DPM	Diesel Particulate Matter
ENVIRON	ENVIRON International Corporation
HRA	Health Risk Assessment
HVAC	Heating, Ventilation And Air-Conditioning
MERV	Minimum Efficiency Reporting Value
OEHHA	Office of Environmental Health Hazard Assessment, State of California
$PM_{2.5}$	Fine Particulate Matter Less than 2.5 Micrometer in Diameter
USEPA	United States Environmental Protection Agency

B.1. Introduction

As discussed in the body of this report, ENVIRON International Corporation (ENVIRON) prepared a Health Risk Assessment (HRA) for Pleasanton Gateway LLC for The Commons at Gateway Project in Pleasanton, California ("Project"). As part of the HRA, ENVIRON quantified the effect of filtration on the mechanical system of the buildings as mitigation. This appendix discusses the methodology for the quantification of the effect of the filtration.

B.2. Background

Consistent with Bay Area Air Quality Management District (BAAQMD) guidance, the HRA for roadways conservatively quantifies the lifetime excess cancer risk for residents assuming a 70-year *outdoor* exposure. In other words, the resident is assumed to breathe outdoor air at the residence for 70 years, 350 days per year, 24 hours per day.[1] However, when home, residents spend a majority of their time indoors.[2] Typically, the majority of the estimated excess lifetime cancer risk from living near roadways is caused by diesel particulate matter (DPM), which is considered a carcinogen by the state of California.[3] Additionally, fine particulate matter Less than 2.5 Micrometer in Diameter ($PM_{2.5}$), has been shown to cause health problems and is also regulated through state and federal ambient air quality standards. Filtration on the residence's heating, ventilation and air-conditioning (HVAC) system can help reduce the concentration of DPM and $PM_{2.5}$ indoors; reducing a resident's exposure to them and thereby reduce the health impacts from living near roadways.

Regulations guide the design of new residences. For example, those built in California must comply with the California Green Buildings Standards Code, also known as CalGreen,[4] along with other sections of California's Energy Efficiency Standards for Residential and Nonresidential Buildings, also known as Title 24.[5] Residences are currently built to reduce the leakage of outside air in through cracks and holes in the building envelope, in order to conserve energy required for heating and cooling. However, regulations also mandate that fresh air be brought into residences to maintain healthy indoor air quality.[6] Therefore, fresh air is typically brought in through a mechanical ventilation system. Filtration of air flowing through the HVAC system can help reduce concentrations of particulates (such as DPM and $PM_{2.5}$) indoors. The estimated reduction of particulates that can be achieved by a filtration system is influenced by a variety of factors, which requires quantifying unfiltered air entering the building through windows or cracks in the building envelope, evaluating occupant behavior, such as window operations, and understanding the forced ventilation and recirculation flow rates.

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1 California Environmental Protection Agency and California Office of Environmental Health Hazard Assessment. Air Toxics Hot Spots Program Risk Assessment Guidelines: *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. 2003.

2 United States Environmental Protection Agency. *Exposure Factors Handbook 2011 Edition* (Final). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/052F, 2011.

3 California Air Resources Board. Consol*idated Table of OEHHA/ARB Approved Risk Assessment Health Values*. 2011.

4 California Building Standards Commission. *2010 California Green Building Standards Code: CalGreen. 2010*. California Code of Federal Regulations, Title 24, Part 11.

5 California Energy Commission. *2008 Building Energy Efficiency Standards*. 2008. CEC-400-2008-001-CMF.

6 ASHRAE. *ANSI/ASHRAE Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*. Atlanta, GA: ASHRAE, 2010. ISSN 1041-2336.

This appendix describes the method used to quantitatively assess the reduction of particualte concentration indoors due to filtration on the air intake and recirculation systems and the conservative assumptions used when specific information was unknown.

B.3. General Information

In a simple model, indoor air concentrations could be calculated by applying the filter efficiency to the outdoor particulate concentration. However, this method assumes that all air that enters the building will be filtered. Unfiltered air flows into a building through open windows and doors and through cracks and openings in walls. Also, to accurately represent a resident's exposure to particulates, their exposure during time spent outdoors should be considered. A resident's exposure concentration combines the indoor and outdoor concentrations with assumptions about time spent indoors versus outdoors. To more accurately estimate health impacts indoors, the air flow in and out of a building and window operations, in addition to the filtration of particulates, should be taken into account. For particulates that are not removed via filtration, indoor concentrations can be assumed equal to outdoor concentrations. The approach described here combines hourly outdoor concentrations of particulates estimated through air dispersion modeling, filtration efficiencies, HVAC system characteristics, building characteristics, occupancy behavior, and box model methodologies.

There is a large body of literature published related to filtration of pollutants from air entering the indoor environment from the outdoors. Also, many standards relate to designing a space to reduce the concentration of pollutants indoors. For example, the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) sets standards with supporting documentation for filtration efficiencies and other HVAC design parameters. These include ASHRAE 52.2-2007,[7] which defines classes of filters and their corresponding filtration limit, and ASHRAE 62.2-2010,[8] which defines the necessary ventilation flow rates into a building. Other articles[9] assert that a box model that accounts for operable windows closely represents the actual concentration flows in an indoor environment. Other literature discusses the mathematical theory used to estimate unsteady state concentrations using box models.[10] There are studies which suggest average time windows are open in residences[11] and standards for temperature control.[12] This approach combines information from the literature to estimate exposure concentrations as a function of hourly outdoor concentration. The outdoor concentration of particulates from roadways was estimated using CAL3QHCR, as described in Appendix A.

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[7] ASHRAE. *ANSI/ASHRAE Standard 52.2-2007 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta. 2008. ISSN 1041-2336.

[8] ASHRAE. *ANSI/ASHRAE Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*. Atlanta, GA: ASHRAE, 2010. ISSN 1041-2336.

[9] Hayes, S. R. *Use of an Indoor Air Quality Model to Estimate Indoor Ozone Levels*. AWMA, 1991, Vols. 41:161-170. ISSN 1047-3289.

[10] Nazaroff, William W and Alvarez-Cohen, Lisa. *Environmental Engineering Science*. New York: Jogn Whiley & Sons, 2001. ISBN 0-471-1-14494-0.

[11] Price, Phillip P. and Sherman, Max and Lee, Robert H. and Piazza, Thomas. *Study of Ventilation Practices, and Household Characteristics in New California Home*. California Energy Commission, PIER Program. CEC-500-2007-033. Final Report ARB Contract 03-326.

[12] Western Regional Climate Center. Period of Record General Climate Summary - Heating Degree Days. Available online at: http://www.wrcc.dri.edu/index.html

B.4. Technical Approach

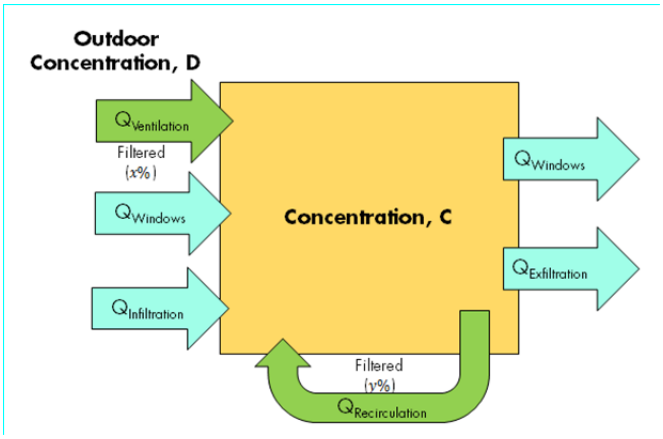
B.4.1. Box Model

The approach used in this analysis to estimate exposure concentrations incorporates an transient (unsteady state) box model. A box model is a steady state or transient mathematical model that can be used to predict concentrations in a specific space. The air flow through a residential unit is a complex system, but this approach assumes instantaneous complete mixing for each hour in order to yield a tractable model and predict reasonable airborne concentrations within the space.[13]

The space considered in this analysis is the indoor environment of the residential unit. While an indoor environment often has different rooms with air that will likely not be completely mixed between the rooms, inhabitants will spend time in different rooms and in different locations in those rooms. Therefore, assuming indoor air is completely mixed allows for reasonable predictions of the overall average concentrations of contaminants to which an inhabitant would be exposed.

The flows into the building that are considered in this model include flows through windows, forced intake of outdoor air through mechanical ventilation, and infiltration through cracks and openings. To balance the system, the flows out of the building must also be considered, which are flows through windows and cracks. Forced air recirculation is also considered. The outdoor air intake and forced recirculation of the mechanical ventilation system is assumed to be filtered, while all other flows are assumed to be unfiltered. Figure 1 shows the air flows through the residence that are considered in the model. Reactions or deposition producing or removing the particlate indoors are not considered in this analysis.

Figure 1. Air Flows Considered in Model.



In this box model, the flows in and out of the space are balanced to avoid assuming the buildup of or reduction in air pressure. Mass balance principles are used to form a first order differential equation to estimate a rate of change of the particulate concentration. This differential equation

[13] Hayes, S. R. *Use of an Indoor Air Quality Model to Estimate Indoor Ozone Levels*. AWMA, 1991, Vols. 41:161-170. ISSN 1047-3289.

is solved to produce an equation of concentration with time based on the flows of air through the space.

A mass balance with time of this system is represented by:

$$\frac{dCV}{dt} = Q_{in}C_{in} - Q_{out}C \qquad \textbf{(Eq. 1)}$$

Where:

Q_{in}	= Flow of air into the space [volume/time]
Q_{out}	= Flow of air out of the space [volume/time]
C_{in}	= Concentration of particulate in the air entering the space [mass/volume]
C	= Concentration of particulates in the space [mass/volume]
V	= Volume of space [volume]

The mass balance of the air flows through the area in question yields the following:

$$\frac{dCV}{dt} = C_{in}\left(Q_{Ventilation}(1-x) + Q_{Windows} + Q_{Infiltration}\right) - C\left(Q_{Windows} + Q_{Exfiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y)\right) \qquad \textbf{(Eq. 2)}$$

Where:

C	= Indoor concentration of pollutant [mass/volume]
$Q_{Windows}$	= Flow rate through open windows [volume/time]
$Q_{Infiltration}$	= Flow rate through infiltration [volume/time]
$Q_{Exfiltration}$	= Flow rate through exfiltration [volume/time]
$Q_{Recirculation}$	= Flow rate through recirculation [volume/time]
$Q_{Ventilation}$	= Flow rate through forced ventilation of outdoor air [volume/time]
t	= Time [time]
V	= Volume of unit [volume]
x	= Fractional removal of particulates through filter on ventilation
y	= Fractional removal of particulates through filter on recirculation

The solution to differential equation for the concentration C at time t is:

$$C(t) = C_o \exp\left[-\frac{\left(Q_{Windows} + Q_{Infiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y)\right)}{\mathrm{V}} * (\mathrm{t} - t_o)\right] + \frac{C_{in}\left(Q_{Ventilation}(1-x) + Q_{Windows} + Q_{Infiltration}\right)}{\left(Q_{Windows} + Q_{Exfiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y)\right)} * (1 - \exp[-\left(Q_{Windows} + Q_{Exfiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y)\right)/V * (t - t_o)]) \qquad \textbf{(Eq. 3)}$$

Where:

Co	= Concentration of particulates at t_0 [mass/volume]
t	= Time elapsed since t_0 [time]
t_0	= Initial time [time]

B.4.2. Hourly Calculations

To account for the hourly fluctuations of each parameter when calculating yearly average concentrations, the concentration equation is solved for every hour of the year, with the initial indoor concentration for each hour being equal to that at the end of the previous hour. The outdoor concentration of a pollutant varies with time based on meteorological conditions and emission rates. Flows through the residential unit can also change based on meteorological conditions or occupancy behavior, such as window openings. This hourly calculation allows for the pairing of the changes in different parameters with time to estimate a more accurate annual average concentration.

This approach also allows for an assumption that residents will be outside for a certain number of hours of the day, and hence would be exposed to outdoor concentrations during this time. In addition, this approach allows for the consideration of unfiltered particulates. The time spent outside by age group was obtained from United States Environmental Protection Agency (USEPA's) Exposure Factor Handbook[14] and weighted by years in each age bin and the age sensitivity factor. This equates to approximately 3 hours outside per day, which is conservative as all this time will not be spent at the proposed site. These three hours were chosen at random between 8AM and 8PM.

B.4.3. Flow Assumptions

The flow rate through windows can vary based on whether windows are open and the hourly wind characteristics. The approach described in this study assumes residents will open windows when temperature falls within a specific range, as shown in Appendix Table B.1. The flow of air through open windows in a building varies greatly with wind speed, direction of windows with respect to the wind, and the size of the windows.[15] Because the information about window design is not always known, assumptions were made for an average flow rate through the windows. For this analysis, flows through open windows was conservatively assumed to be 0.5 air changes per hour (ACH), which is greater than the 50th percentile flow through windows for buildings in the west region from USEPA's Exposure Handbook.[16]

The flow rates of recirculation and ventilation could vary based on how the HVAC system is designed and operated. For this analysis, the flow rate of ventilation is calculated assuming compliance with Section 4.1 of the ASHRAE 62.2 Standard, as described in Appendix Table B.1. Air is assumed to flow through the recirculation system and filter when the resident is heating or cooling the unit, which is assumed to be when the temperature falls within a specific range, as shown in Appendix Table B.1. The recirculation flow rate was assumed based on likely recirculation rates provided in conversation with HVAC engineers.

The flow rate through infiltration can be determined using knowledge of air leakage areas of the building,[17] energy efficiency standards,[18] or tests of building infiltration. Because the buildings

[14] USEPA. 2011. Exposure Factors Handbook. EPA/600/R-09/052F. September.
[15] ASHRAE. *1997 ASHRAE Handbook Fundamentals*. Atlanta, GA: ASHRAE, 1997.
[16] USEPA. 2011. Exposure Factors Handbook. EPA/600/R-09/052F. September.
[17] ASHRAE. *1997 ASHRAE Handbook Fundamentals*. Atlanta, GA: ASHRAE, 1997.
[18] California Energy Commission. *2008 Building Energy Efficiency Standards*. 2008. CEC-400-2008-001-CMF.

are not constructed yet, the air permeability requirement mentioned in the ASHRAE 62.1 User's Guide[19] was assumed to be characteristic of the buildings, as described in Appendix Table B.1.

The filtration efficiency is dependent on the type of filtration technology used. To filter particulates, the Minimum Efficiency Reporting Value (MERV) rating can be used. The MERV rating is a scale that describes the effectiveness of air filters. The MERV rating ranges from 1 to 16, with a higher rating corresponding to a smaller minimum particle size captured by the filter.[20] For this analysis, MERV 13 filters were assumed to be installed on the recirculation and ventilation flows into all of the building.

It is important to note that the required filtration efficiency necessary to reduce impacts will depend on the final building design (e.g. ventilation and recirculation system) and individual residence design (e.g. size, location within the building). The air filtration analysis presented here was based on preliminary information provided by Pleasanton Gateway LLC on location and dimensions of residential buildings and ventilation and recirculation rates consistent with ASHRAE 62.2-2010[21] which is required under the 2010 California Green Building Standards Code (also known as CALGreen).[22]

B.5. Summary

The annual average filtered particulate concentration over all hours of the year would be used to estimate excess lifetime cancer risks and compared to thresholds. This risk takes into account residents' time outside and hourly changes in meteorology, window openings, and heating and cooling recirculation.

[19] ASHRAE. 2011 62.1 User's Manual. ANSI/AHSRAE Standard 62.1-2010. *Ventilation for Acceptable Indoor Air Quality*.

[20] ASHRAE. *ANSI/ASHRAE Standard 52.2-2007 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta. 2008. ISSN 1041-2336.

[21] American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE). 2010. ANSI/ASHRAE Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. Atlanta, GA: ISSN 1041-2336.

[22] California Building Standards Commission (CBSC). 2010. 2010 California Green Building Standards Code (CALGreen). California Code of Regulations, Title 24, Part 11. June.

Appendix Tables

Appendix Table B.1
Air Filtration Parameters
The Commons at Gateway
Pleasanton, California

Mechanical System Considerations:

Flow	Air Origin	Percent of DPM Filtered[5]	Flow Rate m^3/hr
Ventilation[1], $Q_{ventilation}$	Outdoors	90%	59
Windows[2], $Q_{windows}$	Outdoors	--	153
Infiltration[3], $Q_{infiltration}$	Outdoors	--	8
Recirculation[4], $Q_{recirculation}$	Indoors	90%	1020

Site Information:

Parameter	Value	Units
Height of Ceiling[6]	9	ft
Time Outdoors	3	hrs/day
Minimum Temperature Windows Open[8]	65	F
Minimum Temperature Windows Open[8]	80	F
High Temperature for Heating[9]	55	F
Low Temperature for AC[9]	80	F

Ventilation Assumptions:

Parameter	Value	Units
Vented Flow Rate	80	cfm
Home size	1200	ft^2
Bedrooms	2	
Time Venting	26	min/hr
Flow Rate of Ventilation	59	m^3/hour

Outdoor Time:

Age bin	Time outdoors minutes/day	ASF	Time years
Birth to <1 month	0	10	0.08
1 to <3 months	8	10	0.17
3 to <6 months	26	10	0.25
6 to <12 months	139	10	0.5
1 to <2 years	36	10	1
2 to <3 years	76	3	1
3 to <6 years	107	3	3
6 to <11 years	132	3	5
11 to <16 years	100	3	5
16 to <21 years	102	1	5
18 to <65 years	281	1	47
>= 65 years	298	1	5
Time weighted average		177	minutes/day
Approximate Average Daily Outdoors Time		3	hours/day

Notes:

1. Ventilation flow rate found using Ventilation Assumptions. The flow rate of ventilation is calculated assuming compliance with ASHRAE 62.2 Standard. Section 4.1 of ASHRAE 62.2 states that the flow rate of outdoor air at each hour must be no less than the rate specified in the equation below. The flow rate per minute is fixed, so the ventilation only operates for part of the hour to achieve compliance with this standard, as shown in the Ventilation Assumptions. The flow rate per minute is based on the design of the ducts.

$$Q_{Ventilation} = 0.01A_{floor} + 7.5(N_{br} + 1)$$

Where:

A_{floor} = floor area, ft^2

N_{br} = number of bedrooms

2. Flow rate through windows is found assuming an air exchange rate through windows of 0.5 air changes per hour, which is greater than the 50th percentile air exchange rate for buildings in the west region from EPA's Exposure Handbook.

3. Infiltration rate is based on an infiltration rate of 0.4 cfm/ft^2 of occupiable area, as mentioned in ASHRAE 62.1 User's Manual as the permeability of most energy efficiency codes.

4. Recirculation rate assumes the same flow rate per minute as the ventilation flow rate. This calculation assumes recirculation occurs when ventilation does not.

5. Filtration percentages consistent with minimum removal of DPM with a MERV-13 rated filter.

6. Approximate height of residential ceilings.

7. Time spent outdoors calculated by weighing time spent outdoors by age bin found in EPA's Exposure Factors Handbook by the time in that age bin and the age sensitivity factor associated with each age bin as shown in the Outdoor Time section. The hours the resident spends outside each day is assigned randomly between 8AM and 8PM each day. During these hours, the resident is assumed to be exposed to concentrations of air toxics predicted for the courtyard area of the Project.

8. Residents are assumed to open their windows whenever the outdoor temperature is between the minimum and maximum temperature shown here.

Appendix C

Stationary Source Inquiry Data

Appendix C.1

Bernal Corners/Chevron Gas GDF Information Provided by BAAQMD

MEMO
3/27/03

TO : MR.MADHAV PATIL, TOXICS

FROM : MR.HARI S. DOSS VIA MR.BRIAN BATEMAN, MANAGER, AIR TOXICS SECTION

SUBJECT: Risk screening for BERNAL CORNERS GDF; GDF# 10915;Application# 7133;

BACKGROUND:

The permit application is for an increase in throughput. The operation results in the emission of Benzene. Risk screen was performed using ISCST-3 to determine the maximum ground level concentration with emissions based on 1 million gallon per year throughput. The Unloading and Breathing losses were analyzed as point sources and Refueling and Spillage losses were analyzed as volume source with release heights of 1 meter and 0 meters respectively. Pleasanton met data is utilized to in the model

EMISSION DATA:

The following emission rate for 1 million gallon of reformulated gasoline is used to determine the maximally exposed receptor.

BALANCED SYSTEM WITH 95 % CONTROL BENZENE EMISSIONS:

UNLOADING LOSS:	=	3.63 E-6 GMS/SEC
BREATHING LOSS:	=	1.08 E-6 GMS/SEC
POINT SOURCE TOTAL	=	4.71 E-6 GMS/SEC
REFUELING LOSS:	=	3.21 E-5 GMS/SEC
SPILLAGE LOSS:	=	6.05 E-5 GMS/SEC

CONCLUSION:

The increased risk to the maximally exposed Residential receptor is 1.8 in a million for 1 million gallon per year throughput Thus in accordance with the Toxic Section Risk Management Policy the screen passes for 1 million gallon throughput. The throughput corresponding to the passing risk of 10 in a million is calculated and presented below.

ALLOWABLE THROUGHPUT:

Allowable throughput of reformulated gasoline is:
5.711 gallons per year

MM-gal/yr.

Appendix C.2

Safeway GDF Information Provided by BAAQMD

ALAMEDA COUNTY
Tom Bates
Scott Haggerty
Jennifer Hosterman
Nate Miley
(Secretary)

CONTRA COSTA COUNTY
John Gioia
(Chairperson)
David Hudson
Mary Piepho
Mark Ross

MARIN COUNTY
Katie Rice

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
John Avalos
Edwin M. Lee
Eric Mar

SAN MATEO COUNTY
Carole Groom
Carol Klatt

SANTA CLARA COUNTY
Susan Garner
Ash Kalra
(Vice-Chair)
Liz Kniss
Ken Yeager

SOLANO COUNTY
James Spering

SONOMA COUNTY
Susan Gorin
Shirlee Zane

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

December 11, 2012

LHB & Associates, Ltd.
867 Pacific Street, Ste. 120
San Luis Obispo, CA 93401

Attention: JR (Robert) Beard

For Facility ID: 200004
Safeway Fuel Center #2856
6782 Bernal Avenue
Pleasanton, CA 94566

Authority to Construct for Permit Application No. 401137, Facility No. 200004

Approved Devices

This is your Authority to Construct (A/C) the following project:

Build new site with Phase I OPW EVR and Phase II VST with Carbon Canister and Veeder-Root ISD EVR. Install new underground storage tanks as described below. No other modifications are authorized. This A/C will supercede A/C #203845.

The BAAQMD has granted this Authority to Construct for the following Device(s):

S1; GDF; Gasoline Dispensing Operation

Nozzle Information:

Nozzle Product Type:	Quantity
Gasoline – Triple Product	18
Diesel	18

Tank and Vapor Recovery Information:

Tank Volume (Gallons)	Phase I Type	Phase II Type	Material
30,000	OPW EVR (VR-102)	VST with Carbon Canister and Veeder Root ISD EVR (VR-204)	Gasoline
12,000	OPW EVR (VR-102)	VST with Carbon Canister and Veeder Root ISD EVR (VR-204)	Gasoline
10,000	OPW EVR (VR-102)	VST with Carbon Canister and Veeder Root ISD EVR (VR-204)	Gasoline
8,000	None-Exempt Material	None-Exempt Material	Diesel

Contact Information

If you have any questions, please contact your assigned Permit Engineer:

Mark Tang, Air Quality Permit Technician II

Tel: (415) 749-4905 **Fax:** (415) 749-4949 **Email:** mtang@baaqmd.gov

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Authority to Construct Conditions

1. The Phase I equipment shall be installed in accordance with the applicable California Air Resources Board (CARB) Executive Order: VR-101 (Phil-Tite EVR Phase I systems), VR-102 (OPW EVR Phase I systems), VR-103 (EBW EVR Phase I systems) or VR-104 (CNI EVR Phase I systems).
2. The VST EVR Phase II Vapor Recovery System with ISD shall be installed, operated, and maintained in accordance with the System Operating Manual approved by CARB.

Start-up Testing Requirements

These are required prior to issuing a Permit to Operate:

The following performance tests shall be successfully conducted at least ten (10) days, but no more than thirty (30) days after start-up. For the purpose of compliance with this Condition, all tests shall be conducted after back-filling, paving, and installation of all required Phase I and Phase II components:

1. **Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3 at least once in each 36-month period.**
2. **One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:**
    1. **Stations equipped with drop tube overfill prevention devices (""flapper valves""): a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.**
    2. **All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.**
3. **Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3 at least once in each 36-month period.**
4. **One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:**
5. **Stations equipped with drop tube overfill prevention devices (""flapper valves""): a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.**
6. **All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB**

Executive Order.**Static Pressure Performance Test using CARB Test Procedure TP-201.3 (3/17/99) in accordance with E.O. VR-203, Ex. 4. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.**

7. **Dynamic Back Pressure Test using CARB Test Procedure TP-201.4 (7/3/02) in accordance with the condition listed in item 1 of the Vapor Collection Section of E.O. VR-204, Exhibit 2. The dynamic back pressure shall not exceed 0.35" WC @ 60 CFH and 0.62" WC @ 80 CFH.**
8. **Liquid Removal Test using E.O. VR-204, Exhibit 5.**
9. **Vapor Pressure Sensor Verification Test using E.O. VR-204, Exhibit 8**
10. **Nozzle Bag Test on all nozzles in accordance with E.O. VR-204, Exhibit 10.**
11. **Veeder-Root Vapor Polisher Operability Test in accordance with E.O. VR-204, Exhibit 11.**
12. **Veeder-Root Vapor Polisher Emissions Test in accordance with E.O. VR-204, Exhibit 12.**
13. **ISD Vapor Flow Meter Operability test in accordance with E.O. VR-204, Ex. 13**

Operating Conditions

These Conditions will be made a part of the Permit to Operate:

1. The amount of fuel dispensed at this source shall not exceed the following limits during any consecutive 12-month period:
   - 13.6 million Gallons of Gasoline - unleaded

2. The owner/operator of the source shall complete source testing per the applicable Executive Order. The owner/operator shall notify BAAQMD Source Test Division and submit source test results.

3. The Phase I OPW EVR shall be installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-102.

4. The Phase II VST with Carbon Canister & ISD EVR shall be installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-204.

5. The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted in a District-approved format within thirty days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter ""Annual"" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-

3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109).

6. The owner/operator shall conduct and pass the following tests at the indicated intervals:
    - A Static Pressure Performance Test, in accordance with CARB procedure TP-201.3 or the applicable equivalent District test procedure (ST-30) at least once in each 12-month period. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.
    - Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3 at least once in each 36-month period.
    - One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:
        i. Stations equipped with drop tube overfill prevention devices (""flapper valves""): a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.
        ii. All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.

7. The VST EVR Phase II system with the Veeder-Root Vapor Polisher and ISD shall be capable of demonstrating on-going compliance with the vapor integrity requirements of CARB Executive Order E.O. VR-204. The owner or operator shall conduct and pass the following tests at least once in each consecutive 12-month period following successful completion of start-up testing. Tests shall be conducted and evaluated using the below referenced test methods and standards:
    - Dynamic Back Pressure Test - TP-201.4 (7/3/02) in accordance with the condition listed in item 1 of the Vapor Collection Section of E.O. VR-204, Exhibit 2. The dynamic back pressure shall not exceed 0.35"" WC @ 60 CFH and 0.62"" WC @ 80 CFH
    - Liquid Removal Test in accordance with E.O. VR-204, Option 1 (Only test hoses containing more than 25 ml liquid)
    - Vapor Pressure Sensor Verification Test in accordance with E.O. VR-204
    - Veeder-Root Vapor Polisher Operability Test. in accordance with E.O. VR-204
    - Veeder-Root Vapor Polisher Emissions Test in accordance with E.O. VR-204
    - ISD Vapor Flow Meter Operability Test in accordance with E.O. VR-204

8. The owner/operator shall maintain the following monthly records in a District-approved log for at least 24 months from the date of entry (60

months if the facility has been issued a Title V or Synthetic Minor Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.

- Daily hours of operation.
- Daily consumption of fuel (in gallons or scf).
- Hours and amount of fuel in parts a) and b) shall be totaled on a rolling consecutive 12-month basis.

Start-up Requirements

This Authority to Construct is not a Permit to Operate**. The Authority to Construct requires that you do the following:**

1. Complete a Start-up Notification Form for each approved device.
2. Send the Start-up Notification Form(s) to the assigned Permit Engineer via e-mail, fax or mail **at least seven days** prior to operating your equipment.
3. Fulfill any Start-up Conditions (such as Start-up Source Test Requirements) required for any of the approved devices.

A Permit to Operate will not be issued without completeing these steps.

Authorization of Limited Use

The Authority to Construct authorizes operation during the start-up period from the date of initial operation indicated in your Start-up Notification until the Permit to Operate is issued, up to a maximum of 90 days. All conditions included in this Authority to Construct will be in effect during the start-up period.

Right of Access

In accordance with Regulation 1-440, BAAQMD shall be granted the right of access to any premises on which an air pollution source(s) located for the purposes of:

a) The inspection of the source,

b) The sampling of materials used at the source,

c) The conduct of an emission source test, and

d) The inspection of any records required by BAAQMD rule or permit condition.

Compliance with BAAQMD, State and Federal Rules and Regulations

This Authority to Construct does not authorize violations of the rules and regulations of BAAQMD (these may be viewed at www.baaqmd.gov), California or Federal law. Compliance with conditions in this permit does not mean that the permit holder is currently in compliance with BAAQMD Rules and Regulations. It is the responsibility of the permit holder to have knowledge of and be in compliance with all applicable rules and regulations.

Authority to Construct

This Authority to Construct expires two years from the issuance date unless the Authority to Construct has been renewed in accordance with Regulation 2-1-407.

Period

***Note**: This Authority to Construct does not modify or extend deadlines to comply with applicable BAAQMD, State or Federal requirements.*

Instructions for AC Renewal

To renew your Authority to Construct send a detailed request letter stating how you meet the requirements of 2-1-407 to the Permit Engineer.

Public Records Notice

Unless you have already designated specifically identified materials in your permit application as trade secret, or confidential under the California Public Record Act, all data in your permit application, the permit itself, and all permit conditions will be considered a matter of public record and may be disclosed to a third party.

Jack P. Broadbent
Executive Officer/APCO

By Engineering Division

Appendix C.3

City of Pleasanton Generator Information Provided by BAAQMD

INTEROFFICE MEMO

DATE: **April 21, 2005**

TO: **Raymond Salalila**

THRU: **Scott Lutz**

THRU: **Daphne Chong**

FROM: **Catherine Fortney**

SUBJ: **Application #12285; CITY OF PLEASANTON**

P#16937, City of Pleasanton, has made an application for a standby generator, to be located adjacent to its new firestation #4 in Pleasanton. The engine has been certified by the California Air Resources Board under Executive Order U-R-014-0072, as a member of the EPA/CARB family 4VPXL07.3ACB. For calculating emissions from this engine, ISO 8178 D2 cycle weighted emission factors for all criteria pollutants except SO2 were provided by the engine manufacturer. The engine has PM emissions of 0.079 g/bhp-hr, and NOx emissions of 3.53 g/bhp-hr and thus meet the District's BACT/TBACT standards for large compression ignition internal combustion engines.

The District uses PM emissions as a proxy for toxic emission exposure to surrounding residential and industrial populations. A PM emissions level of 0.64 lbs/year automatically triggers a health risk assessment according to the District Risk Management Policy. At a maximum 50 hours per year permitted operation of this engine, this application exceeds a PM emission level of 0.64 lbs/year and so requires that a health risk assessment be performed.

Source 1 is a Kohler Model 200REOZD generator with a Volvo Model TAD741GE engine, rated at 316 BHP at standby. At 0.079 g/bhp-hr and 316 bhp, the annualized maximum total PM emissions for 50 hours per year operation are

316 bhp*0.079 g/bhp-hr* 50 hr/yr / 365.25 days/yr /24 hr/day /3600 sec/hr = 3.955 E^{-5} g/sec

The emissions will exit through a 8" stack, located 9 feet above ground. The stack is vertical with a raincap.

Because no representative meteorological data was available for this site, an ISCST3 model for PM10 exposure was used to estimate maximum 1-hour average ambient PM10 concentrations. Annual average concentrations were estimated to be equal to ten percent of the predicted maximum 1-hour maximum average concentration at each receptor. Distance and directionality were used as the primary considerations to determine sites of maximum exposure. Residential risk is based on a continuous 70-year exposure to annual average pollutant concentrations. Off-site worker risk is based on a worker exposed for 5 days per week, 8 hours per day, 48 weeks per year for 46 years out of a 70-year lifetime.

The immediate vicinity is mostly residential and industrial, with the closest residential receptor approximately 132 feet from the source. A full screen model was used to estimate average ground level concentrations of PM in the immediate vicinity of the facility.

At 50 hr/year operation, the generator would result in an annual maximum residential GLC of 0.0304 μg/m3, resulting in a carcinogenic risk of approximately 9.12 in a million, with an associated health hazard index significantly less than 1.0. These numbers are consistent with the District's Risk Management Policy. I recommend that the generator be approved for construction as proposed.

B.2 - CalEEMod Outputs

21480008 Commons at Gateway

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	210	Dwelling Unit
Single Family Housing	97	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	63		

1.3 User Entered Comments

Project Characteristics -

Land Use - Total residences include 210 apartments, 62 three story single family homes, and 35 two story single family homes.

Construction Phase - Default construction schedule assumed beginning August 2013.

Off-road Equipment - ARB Offroad App D Load Factors
Vechicle Emission Factors - VPRA Residential Fleet Mix

Woodstoves - Altered the amount of woodburning stoves and fireplaces.

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					
2013	9.56	2.85	2.45	0.00	0.34	0.16	0.50	0.11	0.16	0.27	0.00	385.38	385.38	0.04	0.00	386.13
2014	0.58	3.27	3.60	0.01	0.26	0.20	0.45	0.01	0.20	0.21	0.00	570.95	570.95	0.05	0.00	571.93
Total	**10.14**	**6.12**	**6.05**	**0.01**	**0.60**	**0.36**	**0.95**	**0.12**	**0.36**	**0.48**	**0.00**	**956.33**	**956.33**	**0.09**	**0.00**	**958.06**

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	3.41	0.05	3.55	0.00		0.00	0.21		0.00	0.21	25.96	111.98	137.95	0.13	0.00	141.24
Energy	0.03	0.28	0.12	0.00		0.00	0.02		0.00	0.02	0.00	726.10	726.10	0.02	0.01	730.60
Mobile	2.01	2.49	19.32	0.02	2.48	0.10	2.58	0.10	0.10	0.20	0.00	2,171.47	2,171.47	0.11	0.00	2,173.76
Waste						0.00	0.00		0.00	0.00	43.22	0.00	43.22	2.55	0.00	96.87
Water						0.00	0.00		0.00	0.00	0.00	44.55	44.55	0.61	0.02	62.34
Total	**5.45**	**2.82**	**22.99**	**0.02**	**2.48**	**0.10**	**2.81**	**0.10**	**0.10**	**0.43**	**69.18**	**3,054.10**	**3,123.29**	**3.42**	**0.03**	**3,204.81**

3.0 Construction Detail

3.2 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.44	0.24	0.00		0.02	0.02		0.02	0.02	0.00	39.10	39.10	0.00	0.00	39.19
Total	**0.05**	**0.44**	**0.24**	**0.00**	**0.09**	**0.02**	**0.11**	**0.05**	**0.02**	**0.07**	**0.00**	**39.10**	**39.10**	**0.00**	**0.00**	**39.19**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90	0.00	0.00	0.90
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.90**	**0.90**	**0.00**	**0.00**	**0.90**

3.3 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.13	0.00	0.13	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.11	0.88	0.50	0.00		0.04	0.04		0.04	0.04	0.00	85.75	85.75	0.01	0.00	85.93
Total	**0.11**	**0.88**	**0.50**	**0.00**	**0.13**	**0.04**	**0.17**	**0.05**	**0.04**	**0.09**	**0.00**	**85.75**	**85.75**	**0.01**	**0.00**	**85.93**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	3.00
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.99**	**2.99**	**0.00**	**0.00**	**3.00**

3.4 Building Construction - 2013

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	0.18	1.18	0.84	0.00		0.08	0.08		0.08	0.08	0.00	126.26	126.26	0.01	0.00	126.57
Total	**0.18**	**1.18**	**0.84**	**0.00**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**126.26**	**126.26**	**0.01**	**0.00**	**126.57**

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	0.00	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
Vendor	0.02	0.25	0.15	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	37.96	37.96	0.00	0.00	37.98
Worker	0.07	0.07	0.66	0.00	0.10	0.00	0.11	0.00	0.00	0.01	0.00	86.34	86.34	0.01	0.00	86.46
Total	**0.09**	**0.32**	**0.81**	**0.00**	**0.11**	**0.01**	**0.13**	**0.00**	**0.01**	**0.02**	**0.00**	**124.30**	**124.30**	**0.01**	**0.00**	**124.44**

3.4 Building Construction - 2014

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	0.37	2.44	1.84	0.00		0.16	0.16		0.16	0.16	0.00	281.03	281.03	0.03	0.00	281.66
Total	**0.37**	**2.44**	**1.84**	**0.00**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**281.03**	**281.03**	**0.03**	**0.00**	**281.66**

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	0.00	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
Vendor	0.04	0.51	0.30	0.00	0.03	0.02	0.04	0.00	0.02	0.02	0.00	84.57	84.57	0.00	0.00	84.61
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02	0.00	188.15	188.15	0.01	0.00	188.39
Total	**0.17**	**0.65**	**1.62**	**0.00**	**0.26**	**0.03**	**0.28**	**0.01**	**0.03**	**0.04**	**0.00**	**272.72**	**272.72**	**0.01**	**0.00**	**273.00**

3.5 Architectural Coating - 2013

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	9.12					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.39	2.39	0.00	0.00	2.40
Total	**9.12**	**0.03**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.39**	**2.39**	**0.00**	**0.00**	**2.40**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69	3.69	0.00	0.00	3.70
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.69**	**3.69**	**0.00**	**0.00**	**3.70**

3.6 Paving - 2014

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	0.03	0.19	0.12	0.00		0.02	0.02		0.02	0.02	0.00	15.75	15.75	0.00	0.00	15.80
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.19**	**0.12**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**15.75**	**15.75**	**0.00**	**0.00**	**15.80**

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	0.00	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
Vendor	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
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.47	0.00	0.00	1.47
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.47**	**1.47**	**0.00**	**0.00**	**1.47**

4.0 Mobile Detail

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,383.90	1,503.60	1274.70	3,092,720	3,092,720
Single Family Housing	928.29	977.76	850.69	2,063,312	2,063,312
Total	2,312.19	2,481.36	2,125.39	5,156,032	5,156,032

4.3 Trip Type Information

	Miles			Trip %		
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
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80

Appendix C:
Phase I Environmental Site Assessment

geologica

Report
Phase I Environmental Site Assessment

Pleasanton Gateway Redevelopment Property

APN 947-8-33
1500-1800 Valley Avenue
Pleasanton, California

Submitted to:

Pleasanton Gateway LLC
December 21, 2012

Prepared by:

Geologica Inc.

5 Third Street, Suite 224
San Francisco, California 94103
Phone: (415) 597-7883
Fax: (415) 597-7880

geologica

Innovative Strategies for Managing Environmental Liability

December 21, 2012

Pleasanton Gateway LLC
1600 Dell Avenue
Campbell, CA 95008

Attention: Mr. Scott Trobbe

Subject:

Report
Phase I Environmental Site Assessment
Pleasanton Gateway Redevelopment Property
APN 947-8-33
1500-1800 Valley Ave
Pleasanton, CA

Dear Mr. Trobbe,

GEOLOGICA INC. (GEOLOGICA) is pleased to present this Phase I Environmental Site Assessment (ESA) report for the above-referenced property. The purpose of this ESA was to evaluate the site for indications of recognized environmental conditions that have the potential to impact soil and groundwater beneath the subject property.

We have enjoyed working with you on this project and appreciate the opportunity to be of service. Should you have any questions, please do not hesitate to contact us at (415) 596-7883.

Very truly yours,

GEOLOGICA, INC.

Greg Romero
Project Geologist

Brian F. Aubry, R.G., C.E.G., C.Hg
Principal

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Report
Phase I Environmental Site Assessment

Pleasanton Gateway Redevelopment Property

APN 947-8-33
1500-1800 Valley Avenue
Pleasanton, California

Prepared for:

Pleasanton Gateway LLC

Prepared by:

GEOLOGICA INC.

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San Francisco, California 94103
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December 21, 2012

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REPORT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
PLEASANTON GATEWAY REDEVELOPMENT PROPERTY
APN 947-8-33
1500-1800 VALLEY AVENUE
PLEASANTON, CA

EXECUTIVE SUMMARY

Purpose This Phase I Environmental Site Assessment (ESA) was prepared by GEOLOGICA, INC. (GEOLOGICA) to identify Recognized Environmental Conditions (RECs) at or near the above-identified Site or Subject Property. This ESA was performed in conjunction with the contemplated development of the site.

Guidance Protocol Work was performed in general conformance with the limitations of ASTM Designation E1527-05.

Scope This assessment was accomplished through, and limited to, the following tasks:

- Interviews with knowledgeable personnel;
- Site walk-through and windshield survey of subject property vicinity;
- Review of records reasonably available at local and regional public agencies through agency visits, telephone contacts, and environmental database search;
- Investigation of site history through interviews and review of readily available historic documentation such as: a) Aerial photos; b) Topographic maps; c) Sanborn Fire Insurance Maps; d) Historic city directories; e) Agency files; and f) Previous site investigation documents; and,
- Review of readily available relevant documentation available through standard resources regarding environmental, physiographic, hydrologic, geologic, and hydrogeologic conditions.

Site Location and Surrounding Properties The subject site comprises 26-acres of undeveloped vacant land and is located in a commercial and residential area of Pleasanton, CA. The site is bounded by Highway 680 to the west, Bernal Avenue to the north, Valley Avenue to the east and vacant undeveloped land to the south. The site is identified as Assessor Parcel Number (APN) 947-8-33 and anticipated to be addressed 1500 through 1800 Valley Avenue.

Site Reconnaissance The 26-acre subject property is undeveloped and currently vacant consisting of grass and tilled soil on open land. The vacant property is designated to be changed from commercial use to a residential development. No evidence of onsite dumping or illegal disposal was observed onsite.

Physical Setting The ground surface in the site vicinity is generally flat with a slight downward gradient to the west. The site elevation is approximately 320 ft above mean sea level and a seasonal, north-trending stream, Arroyo de la Laguna is located on the west side of Highway 680. The site is located near the center of the Coast Range geomorphic province, a northwesterly trending complex of subparallel ridges and valleys which extends several hundred miles to the north and south. The ridges in the region are typically composed of resistant sandstones or marine volcanics, and the valley areas are composed of relatively deep alluvial deposits with mean soil particles decreasing with increasing distance from the upland source. The depth to bedrock is estimated at 100 to 150 feet below ground surface (bgs). The soil profile is typical of in-situ weathering of uplifted marine sedimentary and volcanic bedrock sources which consist of

unconsolidated, moderately sorted, permeable, and fine to medium-grained colluvium. The upper portion of the soil profile was formed when bedrock was uplifted to its present configuration, and ranges in depths from 10 to 50 feet. According to the City of Pleasanton Water Department, there are several perennial aquifers in the area. The near-surface aquifer is inferred to be unconfined and encountered between 20 and 60 feet below ground surface (bgs). Groundwater beneath the site likely flows west towards Arroyo de Laguna (LFR, 2000).

Hazardous Materials and Other Environmental Issues

The site is currently undeveloped and vacant. No evidence of hazardous material storage, disposal, dumping or other environmental issues was observed.

Site History

According to historical sources, the subject area was previously used for agricultural purposes, and has always been vacant, and mainly used for hay production in the past. Review of topographic maps and aerial photographs dating to 1906 and 1939, respectively indicated no evidence of historic buildings or structures in the immediate area. The 26-acre subject property was part of a larger 39-acre property, and in 2010, approximately 12 of the 39-acres was developed into the Pleasanton Gateway Shopping Center with Safeway grocery store. The remaining 26-acres south of the shopping center remain vacant and undeveloped and are now planned for a residential development.

Previous Investigations

Report Phase I Environmental Site Assessment for Pleasanton Gateway Vacant Land, APN 947-0008-017, Pleasanton, CA (Geologica, 2009)

GEOLOGICA conducted a Phase I Environmental Site Assessment in December 2009 for Comerica Bank, for 39-acres of undeveloped vacant land, designated to be used for commercial and office uses. GEOLOGICA reviewed previous Phase Is and soil investigations and determined that no organochlorine pesticides or metals were detected in soil samples at the site above the residential PGRs or regional background levels, and is not likely to represent a significant threat to human health of the environment. Furthermore, no adjacent properties pose a significant risk to the subject property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation and that no additional Phase II work was recommended.

Report Phase I Environmental Site Assessment for Redevelopment Acreage, Corner of Hwy 680 and Bernal Ave Pleasanton, CA (Geologica, 2008)

GEOLOGICA conducted a Phase I Environmental Site Assessment in March 2008 for Pleasanton Gateway LLC, for 12.5-acres of vacant land located on the northwest corner of the larger 39-acre undeveloped property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation. No additional Phase II work was recommended.

Phase I Environmental Site Assessment Bernal Property Bernal Property Bernal Ave at Highway 680 Pleasanton, CA (LFR, 2000)

The Phase I Environmental Site Assessment for the Bernal Property was performed by Levine-Fricke (LFR) in July 2000. The Assessment was done for a larger 500-acre property located south of Bernal Avenue and on the east and west sides of Highway 680 in Pleasanton, CA. The 39-acre subject property is part of the greater 500-acre undeveloped property and is located on the east side of Highway 680. The west side of Highway 680 has since been developed into a residential community and park, however, from 1910 to 1980 this parcel of land was used for a wastewater treatment plant that included an effluent holding and aeration reservoir ("Lake Monaco"), and 12 sludge drying beds. LFR concluded that there was no evidence of adverse environmental conditions associated with the site. However, LFR did recommend that further environmental investigation be conducted due to the historical uses of the site for agricultural production, disposal of treated sanitary sewer effluent, radionuclides and chemicals of concern. The investigation subsequently confirms that historical on-site use consisted primarily of hay

production. The 39-acre subject property is not reportedly related to the adjacent sanitary sewer effluent area.

Follow-up Phase II Soil Investigations by LFR (2000b) and Cehn (2000).

Soil Investigations were conducted at the 500-acre Bernal Property by LFR (2000b) on both the east and west sides of Highway 680 in Pleasanton, CA. The purpose of the investigations was to assess the presence of organochlorine pesticides and metals in soil potentially associated with previous agricultural activities at the site and potential soil impacts related to the past uses, in specific areas of the 500-acre site for wastewater treatment and sludge disposal. Samples were collected from 58 borings from three areas: the agricultural area (of which the 39-acre subject property is a part); the former Lake Monaco area (not part of the 39-acre site); and the former sludge drying bed area (also not part of the 39-acre site).

Sampling results from within the Subject Property:

- LFR (2000b) collected a total of 48 samples in the agricultural areas for testing for organochlorine pesticides and metals from depths of 0 to 6-in and 12 to 18 in below grade including approximately 8 to 10 soil samples on the subject property and the rest (44 samples) were from off-site locations. Analytical results indicated from all the samples indicated that no concentrations of organochlorine pesticides at the site exceeded the residential PRGs and that concentrations of metals were within the published background ranges for the western United States.

Sampling results from areas outside the Subject Property:

- LFR (2000) collected 11 samples (Lake Monaco area) and 12 samples (sludge drying bed area) for testing for pesticides, PCBs, VOCs, TPH, and metals from depths of 0 to 3 ft and 6 to 9 ft. The analytical results indicated that PCBs and VOCs were not present above the analytical detection limits at the site and low concentrations of metals and organochlorine pesticides detected were well below the residential PRGs. Furthermore, low TPH as diesel concentrations detected were considered unlikely to be a significant threat to human health or the environment.
- Cehn (2000) conducted a Radiological Testing, Sampling and Analysis Program to investigate sub-surface soils for possible radiological impacts at the 500-acre Bernal property. Samples were collected from the "sludge drying area" and the "Lake Monaco" area which are both off-site from the subject property on the other side of Highway 680. Cehn (2000) concluded that the only radioactive elements detected at the site were naturally occurring radioactive potassium, radium, and thorium, and man-made radioactive cesium and plutonium-238. Cehn further concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability expected in measurements made over wide areas. Therefore, no further analysis of the site with respect to radiological conditions was recommended.

Offsite Properties There is no direct evidence that contamination from other off-site properties in the area have impacted the property.

Conclusions We have performed a Phase I Environmental Site Assessment in conformance with the ASTM 1527-05 Scope of Work for a Phase I Environmental Site Assessment of the Pleasanton Gateway Redevelopment Property in Pleasanton, CA. No Recognized Environmental Conditions (RECs) were noted during this investigation. This assessment noted the following:

On-Site

- Results of a previous Phase I Environmental Site Assessments and a Soil Investigation by GEOLOGICA (2008, 2009) and LFR (2000, 2000b) concluded that there was no evidence of adverse environmental conditions associated with the property. No organochlorine pesticides or metals were detected in soil samples at the site above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.

Off-Site Impacts to Subject Property

- No VOCs, PCBs, TPH, organochlorine pesticides, or metals were detected in adjacent properties that were above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.
- Radiological testing was also conducted at an adjacent property to the southwest in a report by Joel I. Cehn (2000). It was concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability found and expected in measurements made over wide areas. Cehn recommended that no further radiological analysis be conducted at the site.

Recommendations No additional work is recommended at this time.

1 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) prepared for the Pleasanton Gateway Redevelopment Property ("subject property or site") located in Pleasanton, CA, as shown in **Figure 1 – Site Location Map**. The anticipated property address for the redevelopment property is 1500-1800 Valley Avenue with APN 947-8-33. Currently, the subject property comprises 26-acres of vacant land.

1.1 PURPOSE

The purpose of this Phase I ESA was to review past and present land use practices and activities at and near the subject property for evidence of Recognized Environmental Conditions (RECs) that could result in impacts to soil, surface water, and/or groundwater at, beneath, or originating from, the subject property. The result of this Phase I ESA is a listing of identified Recognized Environmental Conditions, defined by ASTM as "*... the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.*"

This ESA was performed in conjunction with the contemplated redevelopment of the site from commercial to residential.

1.2 GUIDANCE PROTOCOL

Work was conducted in general conformance with the scope and limitations of the American Society for Testing Materials (ASTM) *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (Standard Designation E1527-05).*

1.3 SCOPE OF SERVICES

This assessment was accomplished through, and limited to, the following tasks:

- Interviews with knowledgeable personnel;
- Site walk-through and windshield survey of subject property vicinity;
- Review of records reasonably available at local and regional public agencies through agency visits, telephone contacts, and environmental database search;
- Investigation of site history through interviews and review of readily available historic documentation such as: a) Aerial photos; b) Topographic maps; c) Sanborn Fire Insurance Maps; d) Historic city directories; e) Agency files; and f) Previous site investigation documents; and.

- Review of readily available relevant documentation available through standard resources regarding environmental, physiographic, hydrologic, geologic, and hydrogeologic conditions.

1.4 EXCLUSIONS

The collection of air, soil, groundwater, surface water, drinking water, asbestos survey, or lead-based paint, or performance of analytical laboratory testing for hydrocarbons, lead, radon, or other compounds, was not included as a part of our scope of services, nor is the sampling and testing of these materials within the normal scope of a Phase I ESA. This work did not constitute comprehensive regulatory compliance, endangered species, wetlands, indoor air quality, or high voltage power line audits.

1.5 CREDENTIALS

This report has been prepared under the professional supervision of the principal(s) whose signature(s) appear herein. Resumes for those individuals are included in **Attachment 1**. The information contained in this report has received appropriate technical review and approval. The conclusions represent professional judgments and are founded upon the findings of the investigations identified in the report and the interpretation of such data based on our experience and expertise according to the existing standards of care for work of this kind.

2 SITE DESCRIPTION

This section describes the site location and physical characteristics based on: a site visit by GEOLOGICA Project Geologist Greg Romero; information and data obtained from topographic maps and physical environment information provided by Environmental Data Resources (EDR); and, office-based research.

2.1 SITE LOCATION

The site is located in Pleasanton, California as shown in **Figure 1 – Site Location Map**. The subject site comprises 26-acres of undeveloped vacant land and is located in a commercial and residential area of Pleasanton. The site is bounded by Highway 680 to the west, Bernal Avenue to the north, Valley Avenue to the east and vacant undeveloped land to the south. A **Site Layout Map** is provided as **Figure 2.** The site is identified as Assessor Parcel Number (APN) 947-8-33 and anticipated to be addressed 1500 through 1800 Valley Avenue. Selected photographs of the property and vicinity are reproduced in **Appendix A**.

2.2 SURROUNDING PROPERTIES

The subject property is located in a mixed commercial and residential area of Pleasanton. Adjacent and nearby properties observed during the December 13, 2012 site observation visit included:

- North – Pleasanton Gateway Shopping Center with Safeway, beyond which is Bernal Avenue.
- East – Valley Avenue, beyond which are residential apartments.
- South – Undeveloped land, beyond which is Laguna Creek Lane.
- West – Highway 680, beyond which are residential homes.

No visible evidence was observed of environmental impacts to the subject site from the above-listed adjacent and nearby properties.

2.3 PHYSICAL SETTING

This section summarizes site and general area physical setting information.

2.3.1 SITE AND AREA TOPOGRAPHY AND OCCURRENCE OF SURFACE WATER

The ground surface in the site vicinity is generally flat with a slight downward gradient to the west. The site elevation is approximately 320 ft above mean sea level and a seasonal, north-trending stream, Arroyo de la Laguna, is located on the west side of Highway 680 (LFR, 2000).

2.3.2 Regional and Local Geology and Soil conditions

The site is located near the center of the Coast Range geomorphic province, a northwesterly trending complex of subparallel ridges and valleys which extends several hundred miles to the north and south. The ridges in the region are typically composed of resistant sandstones or marine volcanics, and the valley areas are composed of relatively deep alluvial deposits with mean soil particles decreasing with increasing distance from the upland source. The depth to bedrock is estimated at 100 to 150 feet below ground surface (bgs). The soil profile is typical of in-situ weathering of uplifted marine sedimentary and volcanic bedrock sources which consist of unconsolidated, moderately sorted, permeable, and fine to medium-grained colluvium. The upper portion of the soil profile was formed when bedrock was uplifted to its present configuration, and ranges in depths from 10 to 50 feet (LFR, 2000).

2.3.3 Groundwater

According to the City of Pleasanton Water Department, there are several perennial aquifers in the area. The near-surface aquifer is inferred to be unconfined and encountered between 20 and 60 feet feet below ground surface (bgs). Groundwater beneath the site likely flows west towards Arroyo de Laguna (LFR, 2000).

3 SITE RECONNAISSANCE

A site reconnaissance of the property was conducted on December 13, 2012 by: GEOLOGICA Project Geologist Mr. Greg Romero. The purpose of the site reconnaissance was to observe existing property conditions and to evaluate evidence for recognized environmental conditions, including hazardous materials and/or wastes.

Observations noted during the site reconnaissance are summarized below. The property layout and general setting is provided in **Figure 2 – Site Layout Map**. Site photographs of the property and immediate vicinity are included in **Appendix A**.

3.1 CURRENT USES AND OCCUPANTS

The 26-acre subject property is undeveloped and currently vacant consisting of grass and tilled soil on open land. The vacant property is designated to be changed from commercial use to a residential development. No evidence of onsite dumping or illegal disposal was observed onsite.

3.2 HAZARDOUS MATERIALS – USE AND STORAGE

This section describes site hazardous materials use and storage conditions.

3.2.1 HAZARDOUS MATERIALS

The site is currently undeveloped and vacant. No evidence of hazardous materials, storage, disposal, and dumping was observed.

3.2.2 ASTS, USTS, AND OTHER CONTAINMENT STRUCTURES

There was no evidence or surface indications of aboveground storage tanks (AST) or underground storage tanks (USTs) on the property. Furthermore, the EDR database search indicated no historical presence of USTs at the site.

3.2.3 TRANSFORMERS AND ELECTRICAL EQUIPMENT

The site is currently undeveloped and vacant. No transformers and electrical equipment where observed at the subject property.

3.3 UTILITIES AND INFRASTRUCTURE

Site utility services and infrastructure are described in the following sections.

3.3.1 ELECTRICAL SERVICE AND NATURAL GAS

The site is currently undeveloped and vacant.

3.3.2 Backup Generators

The site is currently undeveloped and vacant.

3.3.3 Potable Water

The site is currently undeveloped and vacant.

3.3.4 Industrial, Sanitary, and Stormwater Sewers

The site is currently undeveloped and vacant.

3.4 Hazardous and Non-Hazardous Wastes

This section describes liquid and solid waste streams generated or produced at the subject property.

3.4.1 Hazardous Waste

The site is currently undeveloped and vacant. No evidence of hazardous waste, storage, disposal, and dumping was observed.

3.4.2 Waste Oils and Other Wastes

The site is currently undeveloped and vacant. No evidence of waste oils or other waste, storage, disposal, and dumping was observed.

3.4.3 Solid Waste

The site is currently undeveloped and vacant. No solid waste was observed.

3.5 Other Environmental Issues

Other than the items described above and below, no evidence of current or historical underground storage tanks (USTs), vent pipes, fill pipes, hydraulic lifts, drums, chemical containers, drains, sumps, clarifiers, drywells, discharge areas, discolored soils, pools of liquid, odors, wells, septic tanks, concrete or asphalt patches, monitoring wells, etc. was observed. No evidence of distressed vegetation, dumping, or disturbed soil was observed onsite.

3.5.1 Asbestos

The site is currently undeveloped and vacant.

3.5.2 Lead-Based Paints

The site is currently undeveloped and vacant.

3.5.3 HIGH POWER TOWER-MOUNTED TRANSMISSION LINES

No high power tower-mounted transmission lines were observed in close proximity to the property.

3.5.4 MICROBIAL GROWTH & MOISTURE INTRUSION

The site is currently undeveloped and vacant.

3.5.5 ENVIRONMENTAL NON-COMPLIANCE ISSUES (ENCIS)

No obvious material non-compliance issues were noted by GEOLOGICA in the course of performing the ESA.

3.5.6 WETLANDS

No evidence of the presence or potential presence of wetland areas on or immediately adjacent to the subject property.

3.5.7 ACTIVITY & USE LIMITATIONS (AULS)

No AULs are known to exist for the subject property.

4 SITE HISTORY

Information about the property's history and development are summarized below. The site history was developed based on Sanborn Insurance Maps, Aerial photographs, Topographic maps, City Directories, review of agency files and interviews with site personnel. Copies of historical Sanborn Maps, Aerial photographs, Topographic maps, and City Directories are provided in **Appendix B.**

4.1 PROPERTY HISTORY SUMMARY

According to historical sources, the subject area was previously used for agricultural purposes, and has always been vacant, and mainly used for hay production in the past. Review of topographic maps and aerial photographs dating to 1906 and 1939, respectively indicated no evidence of historic buildings or structures in the immediate area. The 26-acre subject property was part of a larger 39-acre property, and in 2010, approximately 12 of the 39-acres was developed into the Pleasanton Gateway Shopping Center with Safeway grocery store. The remaining 26-acres south of the shopping center remain vacant and undeveloped and are now planned for a residential development.

4.2 HISTORIC AERIAL PHOTOGRAPHS

Historical aerial photographs were provided by EDR and are reproduced in **Appendix B**.

Year	Source of Photo	Scale	Site & Surrounding Property Use
1939	Fairchild	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1950	Aero	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1958	Cartwright	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1965	Cartwright	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1974	NASA	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use. Highway 680 is now present.

Year	Source of Photo	Scale	Site & Surrounding Property Use
1982	USGS	1"=500'	The subject property and vicinity appears to be undeveloped land. Surrounding areas to the north have begun to be developed.
1993	EDR	1"=500'	The subject property is present and undeveloped. Surrounding areas to the north of Bernal Ave are significantly more developed.
1998	USGS	1" =500'	The subject property is present and undeveloped. Several building structures are present on the northeast portion of the subject property.
2005	EDR	1"=500'	The subject property is present and undeveloped. A residential community is now present to the northeast of the subject property.
2006	EDR	1"=500'	The subject property has not changed from the 2005 aerial photograph.

4.3 Historic Topographic Maps

Historic topographic maps were provided by EDR and are reproduced in **Appendix B**.

Year	Scale	Site & Surrounding Property Uses (Topographic Maps)
1906	1:62,500	The property is located within an undeveloped area, though minimal detail is present at the scale.
1947	1:50,000	The property is designated as agricultural or undeveloped land.
1953	1:24,000 1:62,500	The property is designated as agricultural or undeveloped land.
1961	1:24,000 1:62,500	The property is designated as agricultural or undeveloped land.
1968	1:24,000	The property is designated as agricultural or undeveloped land.
1973	1:24,000	The property is designated as agricultural or undeveloped land.
1980	1:24,000	The property is designated as agricultural or undeveloped land.

4.4 Historical Directories

There is no listings for the property address in EDR City Directory abstract.

4.5 HISTORICAL SANBORN MAPS

EDR reported "Unmapped Property" for historical Sanborn Maps.

4.6 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

The following section summarizes previous site environmental investigation activities conducted in the general area. Only a portion of our Subject property is included in these investigations. Relevant documentation and selections from key reports are included in **Appendix D**.

Report Phase I Environmental Site Assessment for Pleasanton Gateway Vacant Land, APN 947-0008-017, Pleasanton, CA (Geologica, 2009)

GEOLOGICA conducted a Phase I Environmental Site Assessment in December 2009 for Comerica Bank, for 39-acres of undeveloped vacant land, designated to be used for commercial and office uses. GEOLOGICA reviewed previous Phase Is and soil investigations and determined that no organochlorine pesticides or metals were detected in soil samples at the site above the residential PGRs or regional background levels, and is not likely to represent a significant threat to human health of the environment. Furthermore, no adjacent properties pose a significant risk to the subject property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation and that no additional Phase II work was recommended.

Report Phase I Environmental Site Assessment for Redevelopment Acreage, Corner of Hwy 680 and Bernal Ave Pleasanton, CA (Geologica, 2008)

GEOLOGICA conducted a Phase I Environmental Site Assessment in March 2008 for Pleasanton Gateway LLC, for 12.5-acres of vacant land located on the northwest corner of the larger 39-acre undeveloped property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation and that no additional Phase II work was recommended.

Phase I Environmental Site Assessment Bernal Property Bernal Property Bernal Ave at Highway 680 Pleasanton, CA (LFR, 2000)

The Phase I Environmental Site Assessment for the Bernal Property was performed by Levine-Fricke (LFR) in July 2000. The Assessment was done for a larger 500-acre property located south of Bernal Avenue and on the east and west sides of Highway 680 in Pleasanton, CA. The 39-acre subject property is part of the greater 500-acre undeveloped property and is located on the east side of Highway 680. The west side of Highway 680 has since been developed into a residential community and park, however, from 1910 to 1980 this parcel of land was used for a wastewater treatment plant that included an effluent holding and aeration reservoir ("Lake Monaco"), and 12 sludge drying beds. LFR concluded that there was no evidence of adverse environmental conditions associated with the site. However, LFR did recommend that further environmental investigation be conducted due to the historical uses of the site for agricultural production, disposal of treated sanitary sewer effluent, radionuclides and chemicals of concern. The investigation subsequently confirms that historical on-site use consisted primarily of hay production. The 39-acre subject property is not reportedly related to the adjacent sanitary sewer effluent area.

Follow-up Phase II Soil Investigations by LFR (2000b) and Cehn (2000).

Soil Investigations were conducted at the 500-acre Bernal Property by LFR (2000b) on both the east and west sides of Highway 680 in Pleasanton, CA. The purpose of the investigations was to assess the presence of organochlorine pesticides and metals in soil potentially associated with previous agricultural activities at the site and potential soil impacts related to the past uses, in specific areas, of the 500-acre site for wastewater treatment and sludge disposal. Samples were collected from 58 borings from three areas: the agricultural area (of which the 39-acre subject property is a part); the former Lake Monaco area (not part of the 39-acre site); and the former sludge drying bed area (also not part of the 39-acre site).

Sampling results from within the Subject Property:

- LFR (2000b) collected a total of 48 samples in the agricultural areas for testing for organochlorine pesticides and metals from depths of 0 to 6-in and 12 to 18 in below grade including approximately 8 to 10 soil samples on the subject property and the rest (44 samples) were from off-site locations. Analytical results indicated from all the samples indicated that no concentrations of organochlorine pesticides at the site exceeded the residential PRGs and that concentrations of metals were within the published background ranges for the western United States.

Sampling results from areas outside the Subject Property:

- LFR (2000) collected 11 samples (Lake Monaco area) and 12 samples (sludge drying bed area) for testing for pesticides, PCBs, VOCs, TPH, and metals from depths of 0 to 3 ft and 6 to 9 ft. The analytical results indicated that PCBs and VOCs were not present above the analytical detection limits at the site and low concentrations of metals and organochlorine pesticides detected were well below the residential PRGs. Furthermore, low TPH as diesel concentrations detected were considered unlikely to be a significant threat to human health or the environment.

- Cehn (2000) conducted a Radiological Testing, Sampling and Analysis Program to investigate sub-surface soils for possible radiological impacts at the 500-acre Bernal property. Samples were collected from the "sludge drying area" and the "Lake Monaco" area which are both off-site from the subject property on the other side of Highway 680. Cehn (2000) concluded that the only radioactive elements detected at the site were naturally occurring radioactive potassium, radium, and thorium, and man-made radioactive cesium and plutonium-238. Cehn further concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability expected in measurements made over wide areas. Therefore, no further analysis of the site with respect to radiological conditions was recommended.

5 RECORDS REVIEW

GEOLOGICA reviewed readily available records from the entities listed below. Copies of relevant documents for the property are presented in **Appendix C.**

5.1.1 PLEASANTON BUILDING / PLANNING DEPARTMENT

The Pleasanton Building / Planning Department was contacted by Mr. Romero. According to Mr. Marion Pavan, City of Pleasanton Associate Planner for the Pleasanton Gateway Project; the current project for development at the subject site is still currently under final review with the city. Mr. Pavan was unaware of any environmental concerns and confirmed that historical use at the subject property has always been vacant agricultural land.

5.1.2 PLEASANTON FIRE DEPARTMENT

The Pleasanton Fire Department was contacted by Mr. Romero. There was no files for the subject property.

5.1.3 ALAMEDA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

Alameda County Environmental Health reported no available files for the subject property.

5.1.4 DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

No file was identified for the subject property.

5.1.5 SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)

No file was identified for the subject property.

5.1.6 BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

No file was identified for the subject property.

5.2 EDR REPORT

The report prepared by EDR entitled The EDR Radius Map with GeoCheck Report dated December 13, 2012 contains a summary of a search of federal, state, and local governmental environmental information sources listing known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations that might include the property or properties in the vicinity and USTs, according to prescribed search distances. A reproduction of this report is presented in **Appendix B**.

5.2.1 EDR GOVERNMENT AGENCY DATABASES SUMMARY – SUBJECT PROPERTY

The subject property was not listed in any of the databases searched by EDR.

5.2.2 EDR Government Agency Databases Summary – Surrounding Properties

The EDR report provides a listing and mapping of sites within required search radii, their distance and geographical location relative to the subject property. The EDR regulatory agency database reported numerous listings within required search radii of the property. Properties that are located nonadjacent and interpreted as hydraulically downgradient of the property are unlikely to have impacted soil and groundwater with hazardous materials at the property. Key properties are described below.

EPA RCRA-SQG – There is two (2) additional sites on this list within 0.25-miles of the subject property.

ENVIROSTOR - There are two (2) additional sites on this list within 1-mile mile of the subject property.

DRYCLEANERS – There is one (1) additional site on this list within 0.25-miles of the subject property.

Summary – Although there are some listed sites in the vicinity, based on the regulatory agency status and/or location of these facilities relative to the subject site, the potential for these sites to have impacted the subject property is considered low at this time.

6 SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section summarizes the findings and provides conclusions of the Phase I ESA, and lists recommendations to address residual environmental issues and/or concerns.

6.1 SUMMARY OF FINDINGS

The following Key Findings were identified in conjunction with the subject property:

- The 26 –acre subject property has always been vacant and undeveloped until the present day; the only changes have been residential and commercial development in the surrounding areas.

- Review of available regulatory information did not indicate direct evidence that nearby sites have significantly impacted soil or groundwater beneath the property. Thus, there is no direct evidence that the site has been environmentally impacted by nearby sites.

6.2 DATA GAPS

In the opinion of the preparers of this Phase I ESA, no significant data gaps, as defined in ASTM 1527-05, were noted during performance of this Phase I ESA.

6.3 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the ASTM 1527-05 Scope of Work for a Phase I Environmental Site Assessment of the Pleasanton Gateway Redevelopment Property in Pleasanton, CA. No Recognized Environmental Conditions (RECs) were noted during this investigation. This assessment noted the following:

<u>On-Site</u>

- Results of a previous Phase I Environmental Site Assessments and a Soil Investigation by GEOLOGICA (2008, 2009) and LFR (2000, 2000b) concluded that there was no evidence of adverse environmental conditions associated with the property. No organochlorine pesticides or metals were detected in soil samples at the site above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.

<u>Off-Site Impacts to Subject Property</u>

- No VOCs, PCBs, TPH, organochlorine pesticides, or metals were detected in adjacent properties that were above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.

- Radiological testing was also conducted at an adjacent property to the southwest in a report by Joel I. Cehn (2000). It was concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability found and expected in measurements made over wide areas. Cehn recommended that no further radiological analysis be conducted at the site.

6.4 RECOMMENDATIONS

No additional work is recommended at this time.

7 LIMITATIONS

This Phase I ESA report is subject to GEOLOGICA's Master Services Agreement with Pleasanton Gateway, LLC. The report has been prepared solely for Pleasanton Gateway in response to GEOLOGICA's proposal. Other parties may rely on the findings and conclusions of the report for informational purposes only. However, Pleasanton Gateway and other parties who may rely on the findings and conclusions of the report should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions in this report are predicated on a site reconnaissance, a review of specified regulatory records, and a review of the historical usage of the property as presented in this report.

The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Thus, the information contained herein is only valid as of the date of the report, and will require an update to reflect recent records review/site visits. Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee of the results of the study is made within the intent of this report or any subsequent report, correspondence or consultation, either express or implied. The services performed were conducted in accordance with the local standard of care in the geographic region at the time the services were rendered. Pleasanton Gateway and other parties should also understand that radon, lead in drinking water, and methane gas were not addressed in the scope of services of this report.

8 REFERENCES

a. ASTM Designation E1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. American Society for Testing and Materials (ASTM), West Conshohocken, PA.

b. Cehn, Joel I. C.H.P (Cehn, 2000) - Radiological Testing, Sampling and Analysis Bernal Property, July 21, 2000.

c. EDR –Aerial Photo Decade Package for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 17, 2012.

d. EDR –City Directory Abstract for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 17, 2012.

e. EDR- The Sanborn Map Report for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 14, 2012.

f. EDR- The EDR Radius Map with GeoCheck for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 13, 2012.

g. EDR- The EDR Historical Topographic Map Report for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 14, 2012.

h. Geologica (Geologica, 2008) – Report Phase I Environmental Site Assessment Redevelopment Acreage Corner of Hwy 680 and Bernal Ave Pleasanton, California, March 21, 2008.

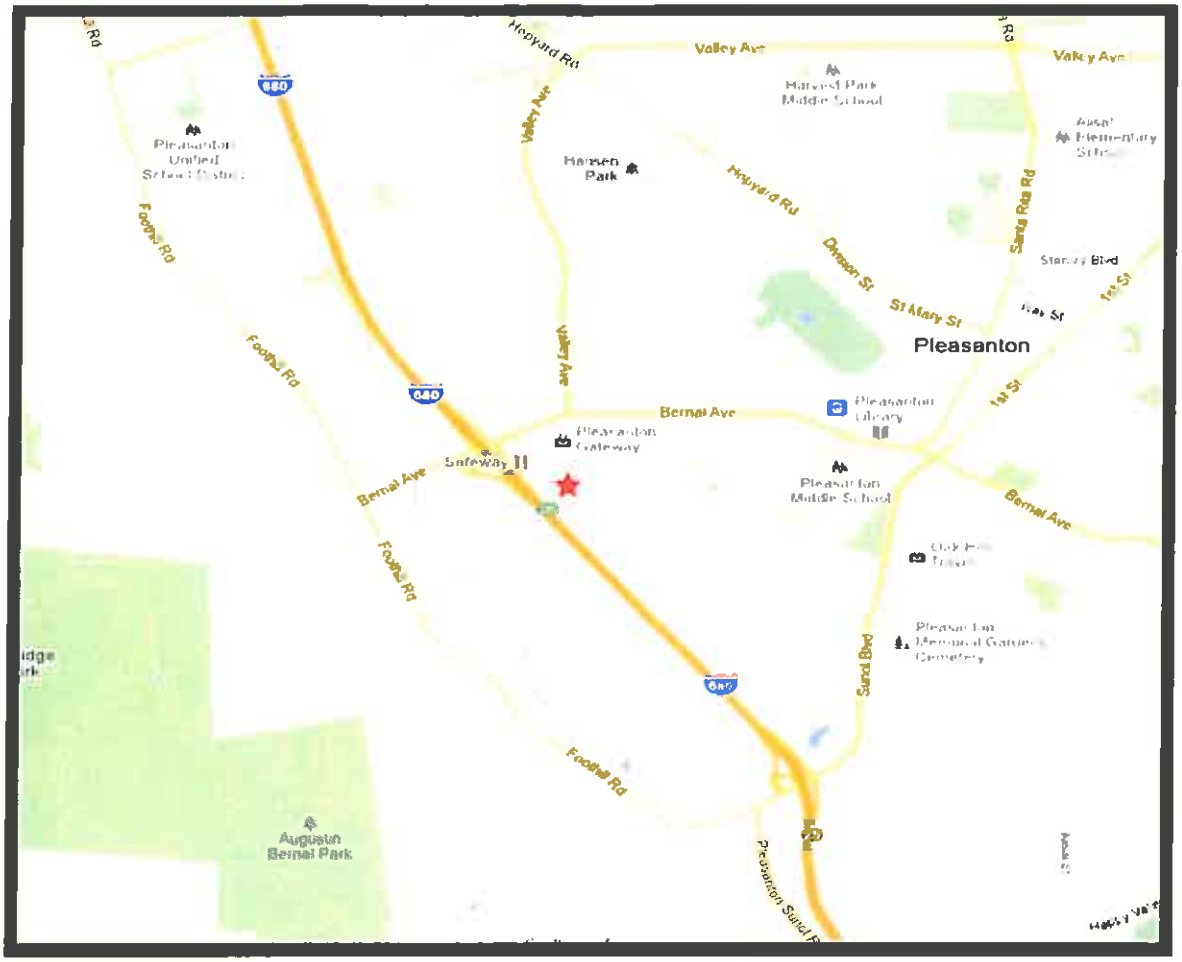
i. Geologica (Geologica, 2009) – Report Phase I Environmental Site Assessment Pleasanton Gateway Vacant Land APN 947-0008-017, Pleasanton, California, December 18, 2009

j. LFR Levine-Fricke (LFR, 2000) - Phase I Environmental Site Assessment Bernal Property Bernal Avenue at Highway 680, Pleasanton, California, July 24, 2000.

k. LFR Levine-Fricke (LFR, 2000b) - Results of Soil Investigations Bernal Property, Pleasanton, California, July 25, 2000.

Figures

Figure 1 **Site Location Map**
Figure 2 **Site Layout Map**



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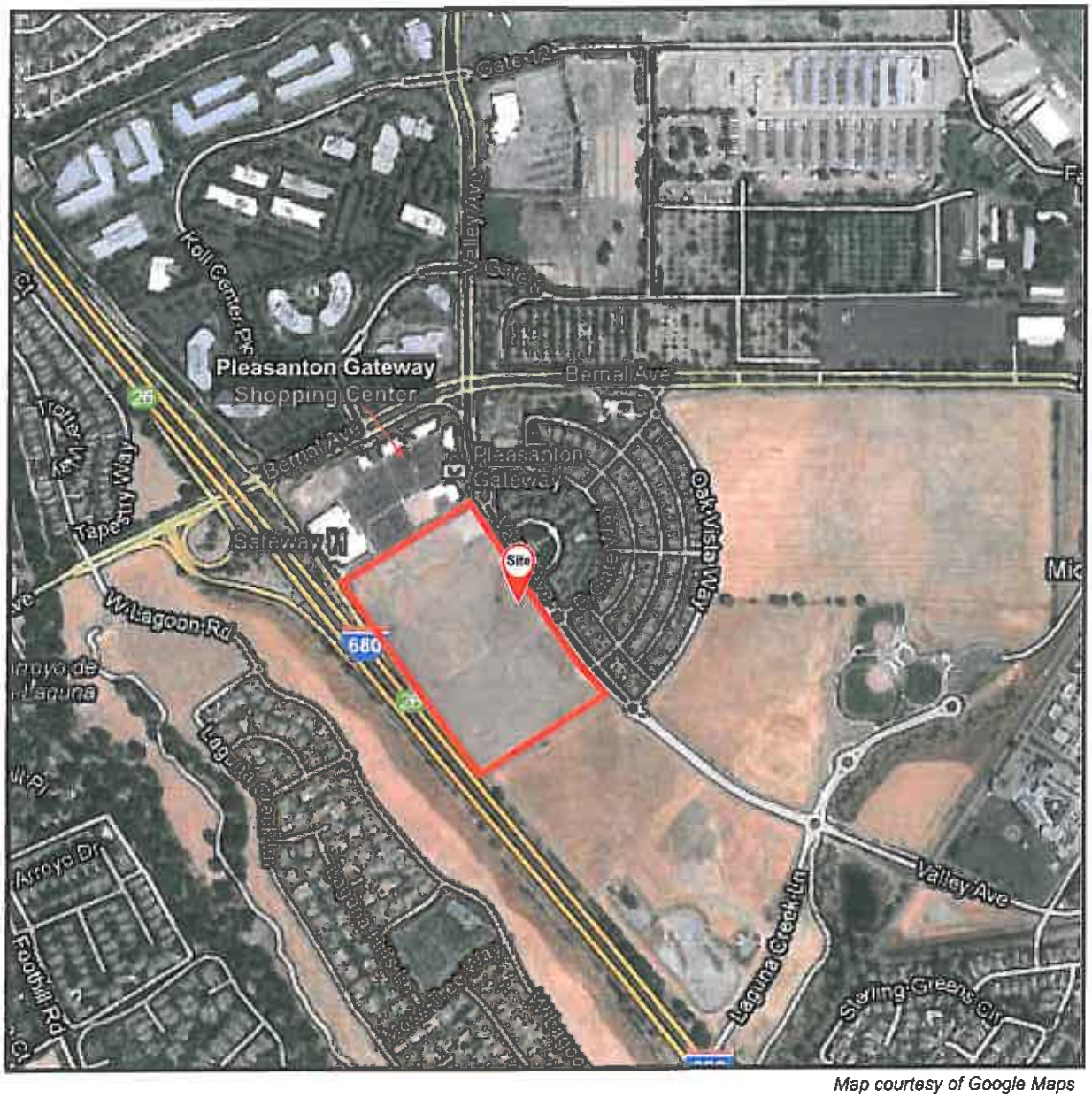
Site Location Map

Pleasanton Gateway Redevelopment Property
APN 947833
1500-1800 Valley Avenue
Pleasanton, CA

geologica
San Francisco, CA

Figure 1



Map courtesy of Google Maps

N

Approximate Scale in Feet

0' 1000'

Site Layout Map

Pleasanton Gateway Redevelopment Property
APN 947-8-33
1500 - 1800 Valley Avenue
Pleasanton, California

geologica
San Francisco, CA

Figure 2

Appendix D: Environmental Noise Assessment

The Commons at Gateway

Pleasanton, California

Environmental Noise Assessment

11 June 2013

Prepared for:

Pleasanton Gateway, LLC
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CSA Project Number: 12-0519

Charles M. Salter
ASSOCIATES INC.

INTRODUCTION

This report summarizes our environmental noise assessment for The Commons at Gateway residential project in Pleasanton, California. The purpose of this study is to quantify the noise environment, compare it with City and State goals for environmental noise, and propose conceptual noise mitigation measures as needed based on the current site plan.

Following is a summary of our findings:

1. The project will incorporate sound-rated windows, doors and exterior walls into the building shell(s) to reduce traffic noise to DNL[1] 45 dB[2] or lower indoors. Preliminary estimates suggest that sound insulation ratings up to approximately STC[3] 39 will be sufficient for residences along Interstate 680.
2. Ventilation or air conditioning systems will be provided in apartment units so the interior noise goal will be met if occupants desire to close their windows.
3. The proposed apartment buildings, noise berm/barrier in the southern portion of the site, and selected row house yard barriers, will reduce estimated traffic noise in the central park and pool area, and single-family house yards, to between approximately DNL 60 to 65 dB.
4. Noise from mechanical equipment, such as air-conditioning equipment, must meet the Pleasanton Municipal Code limits. This should be evaluated in detail when equipment types, locations and sizes are selected.

DESCRIPTION

The project will consist of 97 detached houses and 210 rental apartment units in nine buildings on a 26.7-acre site between Interstate 680 (I-680) and Valley Avenue (see Figure 1, attached). Detached houses will consist of 62 three-story row houses and 35 two-story single-family houses, most of which will be partially shielded from I-680 by the three-story apartment buildings. Outdoor use space will include a 1.3-acre community park, and individual yards for single-family houses. Amenities associated with the community park will include a business center, conference facilities, workout area, pool, barbeque, fire pit, and tot lot.

The site is generally flat, with approximately a five foot elevation differential which ranges from about three to eight feet below the elevation of I-680. Existing residences are located across I-680 to the southwest, shielded from the freeway by an earthen berm, and across Valley Avenue to the northeast. A commercial development borders the site to the north, between the site and Bernal Avenue. Stores include Safeway and CVS, which both have loading docks adjacent to the northern portion of the site.

---

[1] Day-Night Average Sound Level (DNL) – A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a penalty applied to noise occurring during the nighttime hours (10 pm - 7 am) to account for the increased sensitivity of people during sleeping hours.

[2] A-Weighted sound pressure level (or noise level) represents the noisiness or loudness of a sound by weighting the amplitudes of various acoustical frequencies to correspond more closely with human hearing. A 10-dB (decibel) increase in noise level is perceived to be a doubling of loudness. A-Weighting is specified by the U.S. EPA, OSHA, Caltrans, and others for use in noise measurements. All sound levels (dB) in this document are A-weighted.

[3] Sound Transmission Class (STC) – A single-number rating derived from the sound insulation properties of a partition. Numerically, STC represents the number of decibels of speech sound reduction from one side of the partition to the other.

ACOUSTICAL CRITERIA

The Pleasanton General Plan

The Noise Element of the Pleasanton General Plan 2005-2025, adopted 21 July 2009, contains land use compatibility guidelines for environmental noise in the community. Table 1, below, summarizes these guidelines for residential land uses and park areas.

Table 1: Summary of Table 11-5: Noise and Land Use Compatibility Guidelines

DNL Value in Decibels			Compatibility Level
Detached Residential	Multi-Family Residential	Parks and Recreation Areas	
60 dB or less	65 dB or less		*Normally Acceptable* Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.
60 to 75 dB	65 to 75 dB	65 to 80 dB	*Conditionally Acceptable* Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.
Greater than 75 dB		Greater than 80 dB	*Unacceptable* New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

In addition to the land use compatibility guidelines, the Noise Element outlines the following noise level goals:

- Interior noise goal of DNL 45 dB or lower for all single and multi-family residences.
- Maximum instantaneous noise level goals indoors, when the noise source is rail activity or aircraft. The project site is located far outside both the DNL 60 dB railroad noise contour and the CNEL 60 dB airport noise contour for Livermore Municipal Airport. Therefore, this analysis assumes these instantaneous noise level goals do not apply.

The Final Supplemental EIR for General Plan Amendment and Rezoning, dated December 2011, identifies DNL 65 dB as the outdoor noise goal for residential outdoor use spaces.

Pleasanton Municipal Code

Section 9.04.030 of the Pleasanton Municipal Code limits noise levels from mechanical equipment such as air-conditioners to 60 dB at residential property lines. Section 9.04.100 limits construction noise to the levels indicated in the Construction Noise section below.

California Building Code (CBC)

The California Building Code limits indoor noise from outdoor sources to DNL 45 dB in habitable rooms of attached housing.[4] Projects exposed to an outdoor DNL greater than 60 dB require an acoustical analysis during the design phase showing that the proposed design will limit outdoor noise to the prescribed allowable interior level. Additionally, if windows must be closed to meet the interior standard, "the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment."

[4] 2010 California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 12, Section 1207: Sound Transmission.

NOISE ENVIRONMENT

Environmental noise at the site is primarily from vehicle traffic on I-680. To quantify the existing noise environment, two long-term monitors each continuously measured noise levels at the site between 13 and 15 January 2010, between 6 and 8 July 2011, and between 5 and 7 November 2012. In addition, short-term "spot" measurements were conducted and compared with corresponding time periods of the long-term monitors to determine how noise levels vary at different locations on-site and at different elevations. Table 2 summarizes existing noise levels at the site. Figure 1, attached, shows approximate measurement locations.

Table 2: Existing Noise Environment

Site	Location	Date / Time	DNL
LT-1	I-680 Monitor Approximately 155' NE of I-680 centerline, 12' above ground	January 2010 July 2011 and November 2012[5]	74 dB
LT-2 and LT-3	Valley Avenue Monitor Approximately 12' SW of from near lane centerline, 12' above ground		62 to 67 dB
ST-1	I-680 Spot Measurement Approximately 155' NE of I-680 centerline, 10' / 40' above ground	15:45 to 16:00 15 Jan 2010	72 / 75 dB

The Circulation Element of the Pleasanton General Plan 2025 indicates that peak-hour traffic volumes along I-680 are expected to increase by up to 14 percent in the year 2025. This corresponds with approximately a 1-decibel increase in environmental noise. The estimated future noise level at the setback of future homes along I-680, based on this increase in future traffic, is shown in Figure 1, attached.

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

As indicated in Figure 1 attached, estimated future noise levels range from approximately DNL 60 to 75 dB across the site, and DNL 76 dB along the pedestrian / bike trail. This falls into the *conditionally acceptable* category for land use compatibility. The following is based on the preliminary floor plans and elevations dated 10 January 2013.

1. The project will incorporate sound-rated elements into the building shell to reduce environmental noise to DNL 45 dB or lower indoors.
   - Apartments - To provide an estimate of the extent of mitigation that may be needed, preliminary estimates assume a 12-foot by 14-foot room with approximately one-third of one or two exterior facades consisting of windows, and exterior walls consisting of 3-coat stucco over wood sheeting, insulation in stud cavities, and one layer of gypsum board on the interior (two layers on the I-680 façade). Based on these assumptions, preliminary estimates suggest that windows in rooms along I-680 will need to be in the range of STC 35 to 39, and windows in rooms perpendicular to I-680 will need to be in the range of STC 32 to 36. On the façade opposite the freeway, and in the shielded courtyards, needed sound insulation ratings are expected to be STC 30 or lower.
   - Detached Houses – Based on the preliminary site and floor plans provided, initial estimates suggest that windows and doors with sound insulation ratings up to STC 36 will be needed in the homes closest to I-680, and that STC ratings will decrease at houses located farther from the roadway and where they are shielded by barriers or other buildings.

[5] The adjacent Safeway and CVS stores appeared to be operational and open during the November 2012 measurements.

- Sound insulation will need to be determined during the design phase, when floor plans and final grading plans are known, and should include treatment for roof vents and other penetrations.

2. Window and door sound insulation ratings must be for the complete assemblies, including frames and operable sashes. Sound insulation ratings should be from tests conducted by an NVLAP accredited laboratory. For reference, standard dual-pane construction-grade windows and sliding glass doors have sound insulation ratings in the range of STC 26 to 28. Sound insulation ratings of up to STC 36 can typically be achieved using high quality insulated windows with glazing selected to meet the required ratings. Sound insulation ratings between STC 36 and 39 can be achieved by some specialty window manufacturers by using 1-inch or 1¼-inch glazing sections. Ratings above STC 39 typically require dual sash or "four track" windows.
3. Since windows of the apartment units will need to be closed to meet the interior noise criterion, the design will include "... a ventilation or air-conditioning system to provide a habitable interior environment." This will be coordinated with the project mechanical engineer so as not to compromise sound insulation of the exterior assemblies.
4. Noise levels in outdoor spaces will vary, depending on the location and orientation on site. The site plan shows the community park and pool in the center of the site, which will be mostly shielded from I-680 by the apartment buildings. As shown in Figure 1, the design will include a 16-foot tall combination earthen berm (8-foot) and noise barrier (8-foot) in the southern portion of the site, and 8-foot tall noise barriers at selected yards of detached houses. Following are initial comments that assume the site grade will not change significantly in the future.
   - Apartments – As shown in the preliminary site plan, the combined distance and shielding from the proposed apartment buildings will reduce estimated future traffic noise in the community park and pool area to approximately DNL 65 dB or lower. This is consistent with the City's goal for this space.
   - Detached Houses –
     - At the setback of the proposed houses nearest to I-680, estimated future un-shielded traffic noise (at the second and third stories), is approximately DNL 73 dB. The planned 16-foot tall earthen berm and noise barrier, and noise barriers at detached houses, will reduce traffic noise to approximately DNL 65 dB and below in shielded yards at-grade.
     - Along Valley Avenue, it is assumed that homes will front the roadway with side or rear yards. Shielding from the proposed homes will reduce estimated traffic noise to between approximately DNL 60 and 65 dB in these yards.
   - Pedestrian / Bike Trail – Estimated future traffic noise along the pedestrian / bike trail is approximately DNL 76 dB.
   - Effective noise barriers must be solid from bottom to top with no cracks or gaps, and must have a minimum surface density of approximately three pounds per square foot. Barriers may be constructed of a variety of materials including earthen berms, CMU, and plaster walls. Options include a combination of more than one material, such as a CMU wall atop an earthen berm.
5. The northern portion of the site is located adjacent to commercial businesses which include a Safeway loading dock and CVS drive-through pharmacy. The north westernmost apartment building will be located approximately 65 feet from the nearest drive isle and 145 feet from Safeway's loading dock. The nearest homes to CVS's drive-through will be approximately 150 feet away. The businesses are constrained by conditions of approval included in PUD-02-07M, dated 19 October 2010, which includes the following provisions for loading/off-loading activities and drive through activities.
   - Safeway delivery/loading/unloading hours are limited to between 6:00 AM and 12:00 PM (midnight)
   - CVS drive-through pharmacy activity is limited to pharmaceutical purchases only
   - Parking lot sweeping and garbage pick-up is limited to between 6:00 AM and 10:00 PM
   - Delivery trucks sand vendors shall access the site via Bernal Avenue

   The adjacency of the site to the retail space to the north should be disclosed to potential residents,

and they should expect to hear some noise from commercial activity, including Safeway's loading docks.

TRAFFIC NOISE ASSOCIATED WITH THE PROJECT

Project-generated traffic volumes are provided in a letter titled Trip Generation Analysis for Residential Development of Bernal Property, dated 8 November 2012, by Hexagon Transportation Consultants, Inc. The letter indicates that traffic volumes associated with the project will be less than both the previously planned and approved office project, and the recently re-designated residential use for the site. Corresponding noise levels from project-generated traffic will be less at off-site residences than they would have been with either of those projects. Further, based on the peak-hour traffic volumes included in the letter, and noise levels measure at the site, estimated traffic noise from vehicles associated with the project will increase environmental noise levels (DNL) at residence across Valley Avenue from the site by 2-decibels or less. This is generally considered a less-than-significant increase.

MECHANICAL EQUIPMENT NOISE ASSOCIATED WITH THE PROJECT

Stationary noise sources associated with the project may consist of residential air-conditioning units. Units should be selected and located to meet the City's Municipal Code limit of 60 dB at adjacent residential property lines. Mitigation for these types of sources generally consists of selecting quiet units and locating far from property lines. Details should be determined during the design phase.

CONSTRUCTION NOISE

The project shall incorporate the following guidelines to reduce the potential impact of construction noise. These guidelines are taken from Noise Mitigation Measure 4.J-1 from the Final Supplemental EIR, General Plan Amendment and Rezonings report dated December 2011.

- Comply with the applicable construction noise exposure criteria established in the Pleasanton Municipal Code, Section 9.04.100.
    - Notwithstanding any other provision of this chapter, between the hours of 8:00 a.m. and 8:00 p.m. daily, except Sunday and holidays, when the exemption shall apply between 10:00 a.m. and 6:00 p.m., construction, alteration or repair activities which are authorized by valid city permit shall be allowed if they meet at least one of the following noise limitations.
        - No individual piece of equipment shall produce a noise level exceeding 83 dB at a distance of 25 feet. If the devise is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible; or
        - The noise level at any point outside of the property plane of the project shall not exceed 86 dB.
- Locate stationary construction equipment as far from adjacent occupied building as possible.
- Select routes for movement of construction-related vehicles and equipment so that noise-sensitive areas, including residences, and outdoor recreation areas, are avoided as much as possible. Include these routes in materials submitted to the City of Pleasanton for approval prior to the issuance of building permits.
- All site improvements and construction activities shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. In addition, no construction shall be allowed on State and federal holidays. If complaints are received regarding the Saturday construction hours, the Community Development Director may modify or revoke the Saturday construction hours. The Community Development Director may allow earlier "start-times" for specific construction activities (e.g., concrete-foundation/floor pouring). If it can be demonstrated to the satisfaction of the Community

Development Director that the construction and construction traffic noise will not affect nearby residents.

- All construction equipment must meet DMV noise standards and shall be equipped with muffling devices.
- Designate a noise disturbance coordinator who will be responsible for responding to complaints about noise during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and shall be provided to the City of Pleasanton. Copies of the construction schedule shall also be posted at nearby noise-sensitive areas.

* * *

● INDICATES APPROXIMATE NOISE MEASUREMENT LOCATION

NOTE: DRAWING PROVIDED BY OTHERS; NO SCALE

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FOR ACOUSTICAL DESIGN INFORMATION ONLY

THE COMMONS AT GATEWAY SITE PLAN INDICATING ESTIMATED FUTURE NOISE ENVIRONMENT

FIGURE 1

CSA PROJECT NO. 12-0519
10 JUNE 2013
JMR

Charles M Salter Associates Inc 100 West San Fernando Suite 600 San Jose California 95113 Tel: 408 295 4944 Fax: 408 295 4949

Appendix E: Transportation Assessment

FEHR PEERS

TECHNICAL MEMORANDUM

Date: July 3, 2013

To: Mike Tassano, City of Pleasanton

From: Kathrin Tellez and Sarah Nadiranto

Subject: Transportation Assessment for Commons at Gateway

WC11-2878.02

Fehr & Peers conducted a transportation assessment for the proposed Commons at Gateway (Project) in Pleasanton, California. This study evaluates peak-hour intersection and driveway operations under existing and future conditions. Recommendations to improve site access and circulation are provided. The following presents our project understanding, analysis methods, analysis results, site access and circulation, and conclusions and recommendations.

PROJECT DESCRIPTION

The Commons at Gateway is located on a 26.72 acre vacant parcel, east of Interstate 680 (I-680) and south of Bernal Avenue. The site is bound by a vacant parcel to the south, Interstate 680 to the west, the Pleasanton Gateway Shopping Center to the north, and Valley Avenue to the east, as shown on **Figure 1**.

The Project proposes to construct 307 residential units, including 210 apartment units and 97 single-family homes. Each apartment would have a 1-car private garage with additional driveway and on-street parking. The single family homes would be two- and three-story homes each with a private two-car garage. Some homes would also have driveway parking. On-street parking would also be available on the east side of Valley Avenue. The development would be oriented around a 1.3 acre community park that includes a business center, conference facilities, workout area, resort style swimming pool, media center, and spa. The community park area would also include electric vehicle charging stations. These amenities would be available to all community residents.

Access to the site would be provided by two existing roundabout intersections from Valley Avenue and an internal connection from Bernal Avenue through the Pleasanton Gateway

shopping center to the proposed Project. Along Valley Avenue, northern access would be provided at Valley Avenue at Gateway Commons intersection and southern access would be provided at the Valley Avenue and East Gate Way intersection. From Bernal Avenue, access would be provided from a signalized intersection opposite Koll Center Drive and an internal drive aisle through the retail center. A conceptual Project site plan is shown on **Figure 2**.

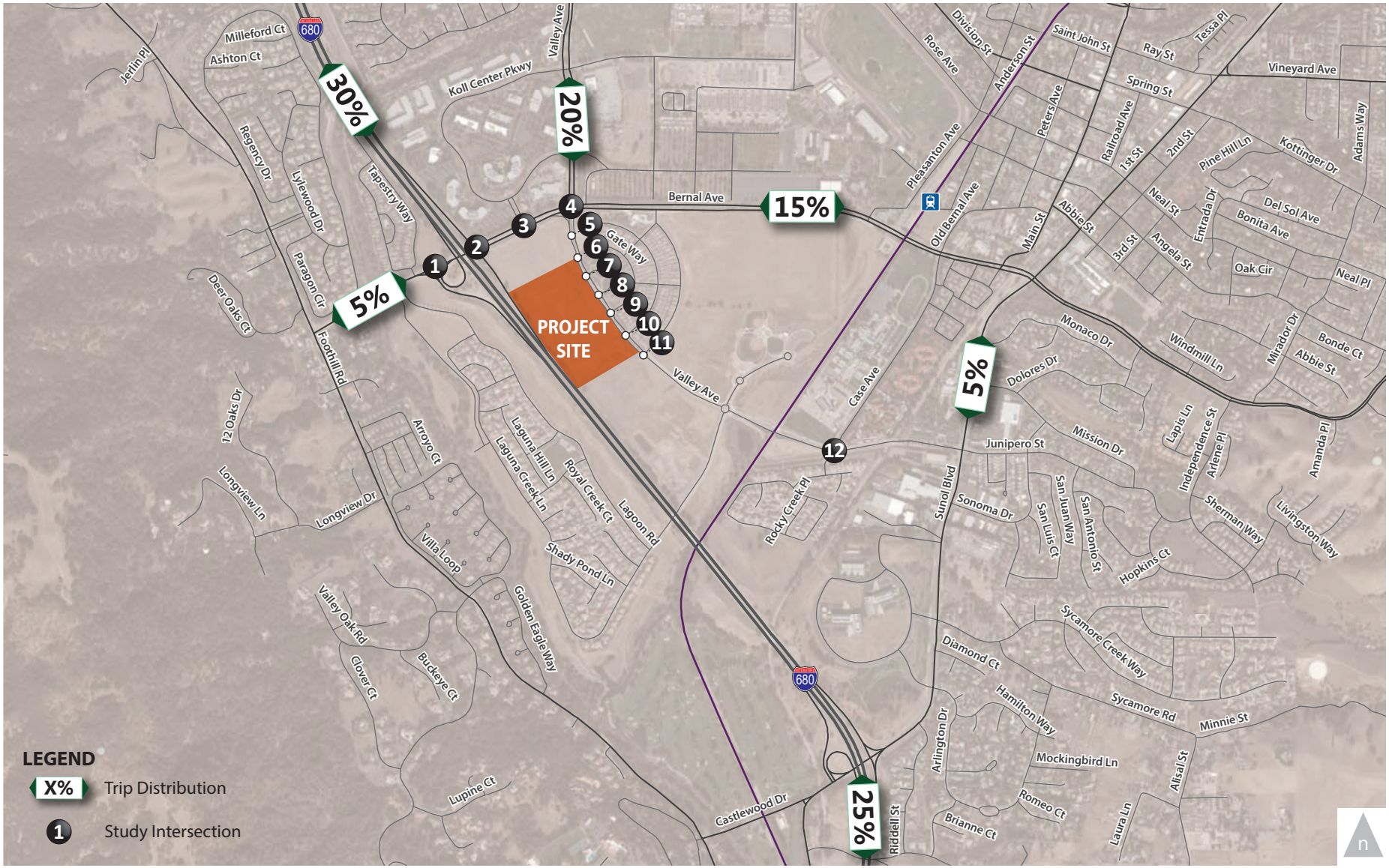
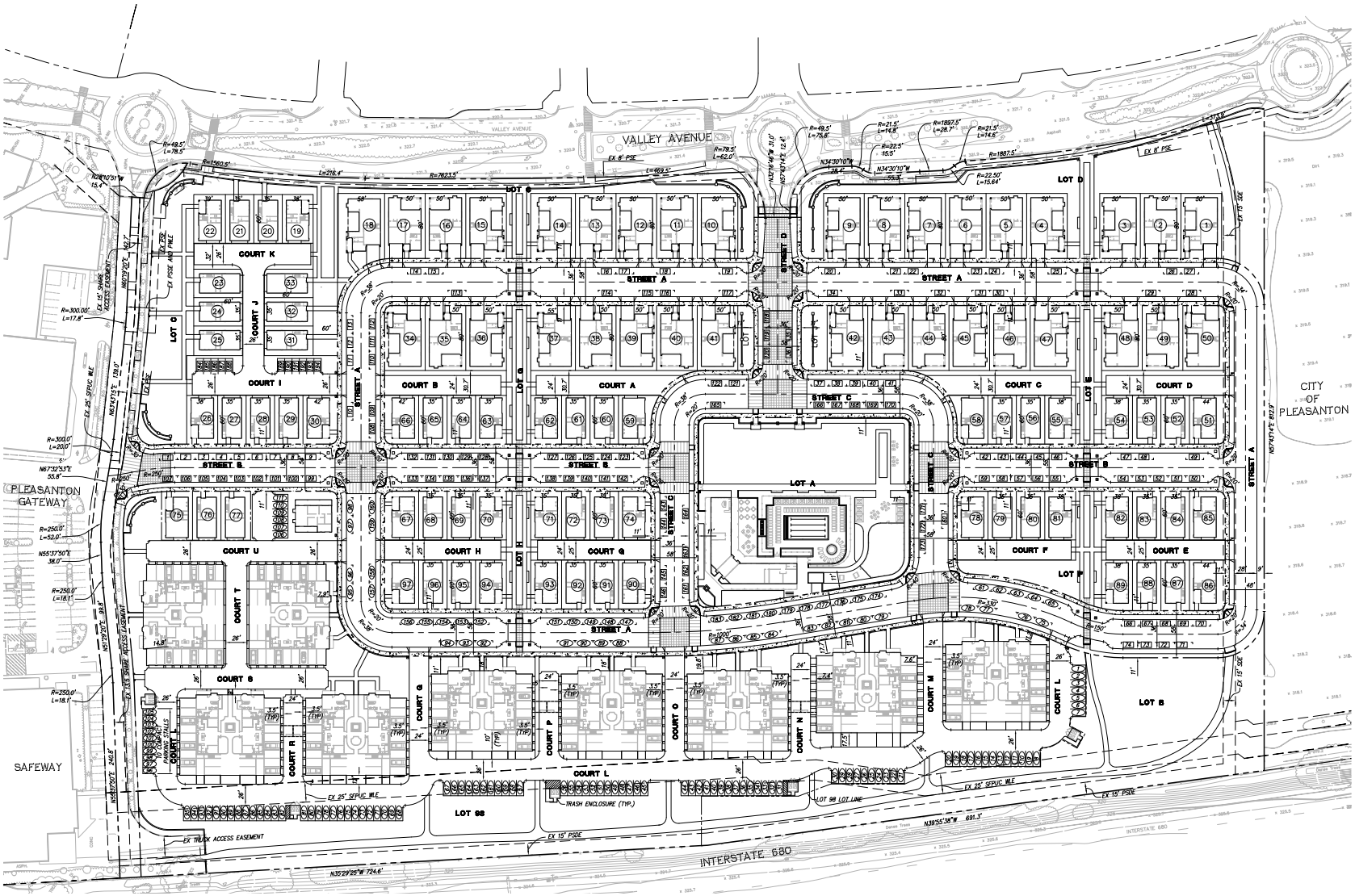


Figure 1.

Study Area and Trip Distribution

WC11-2878.02_1_StudyArea

FEHR PEERS



Source: Ruggeri-Jensen-Azar

Figure 2.

Conceptual Project Site Plan

WC11-2878.02_2_SitePlan

FEHR PEERS

ANALYSIS METHODS

Study Area and Analysis Scenarios

The following intersections were included in this assessment as they provide access to the Project site and are likely to be affected by the Project:

1. Interstate 680 Southbound Ramps at Bernal Avenue
2. Interstate 680 Northbound Ramps at Bernal Avenue
3. Koll Center Drive at Bernal Avenue
4. Valley Avenue at Bernal Avenue
5. Valley Avenue at Gateway Right-in/right-out Driveway
6. Valley Avenue at Gateway Commons
7. Valley Avenue at Wild Rose Place North
8. Valley Avenue at Wild Rose Place South
9. Valley Avenue at East Gate Way
10. Valley Avenue at Whispering Oaks Way
11. Valley Avenue at Oak Vista Way
12. Valley Avenue at Case Avenue

Study intersection operations were evaluated during the peak hour of traffic for weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods for the following scenarios:

- ***Existing*** – Existing conditions based on recent traffic counts.
- ***Existing Plus Project*** – Existing condition plus Project-related traffic.
- ***Existing Plus Approved Projects*** – Near-term conditions, which consider existing traffic plus anticipated traffic from approved developments that could affect the volumes at the study intersections.
- ***Existing Plus Approved Projects Plus Project*** – Near-term conditions plus Project-related traffic.
- ***Cumulative Without Project*** – Future forecast conditions, which considers local and regional traffic growth.
- ***Cumulative With Project*** – Future forecast conditions plus Project-related traffic.

Existing Conditions

This section describes transportation facilities in the Project study area, including the surrounding roadway network, transit, pedestrian, and bicycle facilities in the Project site vicinity.

Regional access to the Project site is provided by ***Interstate 680 (I-680)***. I-680 is a north-south freeway that is near the western boundary of the City of Pleasanton. I-680 extends from the City of Fairfield in the north to the City of San Jose in the south. In Pleasanton, three travel lanes per direction are provided and the facility carries approximately 122,000 vehicles per day, based on information provided by Caltrans. Direct access to the study area is provided by a full interchange at Bernal Avenue, while secondary access is provided at Sunol Boulevard.

Bernal Avenue is an east-west roadway in the Project vicinity. East of downtown Pleasanton, the roadway continues north-south to Stanley Boulevard where it continues as Valley Avenue. Right-turn pockets and exclusive left-turn lanes are provided at signalized intersections and major driveways. The number of travel lanes on Bernal Avenue varies between two and six and Class II bike lanes are provided on the north side of the roadway from Valley Avenue to Pleasanton Avenue and on the south side of the roadway from Oak Vista Way to Pleasanton Avenue. The bike lanes continue east after Old Bernal Avenue. Parking is not permitted along Bernal Avenue. Sidewalks are provided on both sides of the roadway near the Project. In the Project vicinity, the posted speed limit of Bernal Avenue ranges from 35 to 45 miles per hour (mph).

Valley Avenue is a two- to four-lane roadway that forms a ring road with Bernal Avenue around downtown Pleasanton. Near the Project, Valley Avenue continues south of Bernal Avenue to Sunol Boulevard, forming the eastern boundary of the Project. Valley Avenue provides two lanes of travel in both directions north of Bernal Avenue and one lane of travel in both directions south of Bernal Avenue. Right-turn pockets and exclusive left-turn lanes are provided at signalized intersections and major driveways. Between Bernal Avenue in the north and Case Avenue in the south, there are four, one-lane roundabouts along Valley Avenue. Parking pockets are provided on the east side of Valley Avenue. Parking is not permitted on the west side of Valley Avenue along the Project frontage. Class II bike lanes are provided south of Bernal Avenue. A Class III bike route is provided north of Bernal Avenue. Sidewalks are provided on the west side of the roadway north of Bernal Avenue and on the east side of the roadway south of Bernal Avenue. The posted speed limit is 35 miles per hour along the roadway and 15 miles per hour at the roundabouts.

Case Avenue is a two-lane roadway, running north-south between Valley Avenue and Bernal Avenue. The roadway provides access to Hearst Elementary School and Pleasanton Middle School, both located one mile south of the Project. Two-way, left-turn lanes are provided along Case Avenue. Dedicated left-turn lanes are provided at the signalized intersections and a right-turn pocket is provided at the entrance to the middle school. Class II bike lanes and sidewalks are provided along both sides of the street. On-street parking is permitted along most of the roadway. The posted speed limit is 25 miles per hour.

Existing Pedestrian and Bicycle Facilities

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Pedestrian facilities are provided on public roadways adjacent to the site. In the immediate Project vicinity, pedestrian crosswalks, push buttons and signals are provided at the signalized intersections on Bernal Avenue. At the roundabouts, crosswalks are provided along the northern and southern legs. Curb ramps are provided along the east and west legs of existing roundabouts to facilitate street crossings, but crosswalks are not striped. Sidewalks are not currently provided along the Project frontage Valley Avenue, but would be constructed with the project. Pedestrian counts at the intersections on Valley Avenue indicate that the most pedestrian activity occurs at the Valley Avenue at Oak Vista Way intersection with 23 pedestrians crossing Oak Vista Way during the morning peak hour and 8 pedestrian crossings during the afternoon peak hour.

Bicycle facilities in Pleasanton include the following:

- *Bike paths (Class I)* – Paved trails that are separated from roadways. There are also several unpaved off-street trails within Pleasanton. These facilities are typically shared with pedestrians, although bicycles must yield to pedestrians.
- *Bike lanes (Class II)* – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs. There may or may not be parking allowed on the roadway
- *Bike routes (Class III)* – Designated roadways for bicycle use by signs only; may or may not include additional pavement width for cyclists.
- *Side Paths* – An off-street facility located adjacent to a roadway that is shared with pedestrians. These paths may be paved or unpaved.

A paved trail encircles the west and north sides of the Koll Center. A trail that parallels I-680 is also provided, with access from Bernal Avenue, west of Meadowlark Drive. Class II bike lanes are provided on Valley Avenue south of Bernal Avenue, westbound Bernal Avenue east of Valley

Avenue, and Laguna Creek Lane between Valley Avenue and Lagoon Road. A side path is provided on the south side of Bernal Avenue east of Valley for pedestrians and bicyclists. A Class III bike route is provided along Valley Avenue north of Bernal Avenue. According to the 2010 Bicycle and Pedestrian Master Plan, Class II bike lanes are proposed along Valley Avenue north of Bernal Avenue.

Existing Transit Service

Transit service in the area is provided by Wheels, Pleasanton Paratransit, Altamont Commuter Express, Amtrak, and Bay Area Rapid Transit (BART). Wheels provides fixed-route and paratransit service throughout the Tri-Valley and connections to other transit service providers. Several Wheels bus routes serve the Project as described in **Table 1**.

The Altamont Commuter Express (ACE) Station is located about one mile (20 minute walk, less than 5 minute bike ride, or a short bus ride) from the Project site, as shown on Figure 2. ACE provides regional transportation connections from Stockton, through Pleasanton, down to San Jose and Santa Clara. Westbound service is provided for the morning commute with eastbound service for the afternoon and the evening commute. Train headways are approximately 60 minutes during both time periods.

Two Bay Area Rapid Transit (BART) stations are located in the City of Pleasanton. West Dublin/Pleasanton BART station is located on Stoneridge Mall Road about 4 miles (8 minute drive) from the Project site. Dublin/Pleasanton BART Station is located on Owens Drive about six miles (10 minute drive) from the Project site. BART provides regional transportation connections to much of the Bay Area and the Dublin/Pleasanton line provides direct access to San Francisco, with stops in Hayward and Oakland where connections may be made to other lines. BART train headways are 15-20 minutes from approximately 5:00 AM to 12:00 AM.

TABLE 1
WHEELS BUS ROUTES

Lines	Route	Nearest Stop	Weekday		Weekend	
			Hours	Headway	Hours	Headway
Rapid, Local, and Express Routes						
8	E. BART to Downtown Pleasanton to E. BART	Valley Ave at Wild Rose Place	6:00 AM to 7:00 PM	60 minutes	8:00 AM to 9:00 PM (Saturdays) 8:30 AM to 2:00 PM (Sundays)	60 minutes (Saturday) 30 minutes (Sunday)
53	Pleasanton ACE Station to W. BART	Pleasanton ACE Station	5:30 AM to 8:45 AM; 4:00 PM to 7:30 PM	30 minutes to 75 minutes	Weekend Service not provided	
54	Pleasanton ACE Station to Hacienda Business Park to BART	Koll Center Parkway at Valley Avenue	5:30 AM to 9:30 AM; 3:45 PM to 6:30 PM	60 minutes to 75 minutes	Weekend Service not provided	
School Routes						
602	Del Prado Park to Foothill High School	Koll Center Parkway at Valley Avenue	7:00 AM to 7:40 AM; 3:00 PM to 3:25 PM	N/A[1]	Weekend Service not provided	

Notes:
1. One bus provided in the AM. Two buses are provided during the PM; however both busses are scheduled to leave at the same time.

Source: Wheels, Livermore Amador Valley Transit Authority and Fehr & Peers, January 2013.

Existing Roadway Operations

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection vehicle turning movement counts were conducted in March 2013 for the driveways that serve the Project site, including shared driveways that provide access to the Gateway shopping center. Traffic counts were collected after the Safeway gas station was open and operational for a few weeks and schools were in normal session. Vehicle counts for the signalized intersection were obtained from the City of Pleasanton, based on Spring 2013 data. For the study intersections, the single hour with the highest traffic volumes during the count periods was identified. Due to the different data collection sources, imbalances between the existing intersection volume counts

were observed. Volume balancing was completed for intersections along Bernal Avenue and Valley Avenue to reduce this imbalance. The peak hour volumes are presented on **Figure 3** along with the existing lane configuration and traffic control. The existing driveway traffic count data are provided in the Technical Appendix.

The operations of roadway facilities are described with the term "level of service" (LOS) in this study. **Appendix A** describes the LOS analysis methods. The City of Pleasanton has set LOS D as the level of acceptable delay at most major intersections, which are defined as intersections of two or more Arterials or one Arterial and one Collector Street. A number of intersections, referred to as Gateway and Exempted Downtown intersections, are exempt from the LOS D policy. These intersections may have a level of service below the LOS D standard if no reasonable mitigation exists or if the necessary mitigation is contrary to other goals and policies of the City. For Gateway intersections, additional vehicle capacity could encourage additional vehicle traffic that should remain on the regional transportation system and could also degrade the pedestrian experience and visual character of the intersection. Gateway intersections evaluated in this assessment include:

- Bernal Avenue at I-680 Northbound Ramp
- Bernal Avenue at I-680 Southbound Ramp
- Valley Avenue at Bernal Avenue

Although the City strives to maintain access to the roadway system from driveways and local streets, there is not a defined level of service standard for those locations.

Results of the existing conditions analysis are presented in **Table 3**, which shows that the intersections that provide access to the Project site operate at LOS D or better during both peak hours. Results of the queue assessment, presented in **Table 4** and **Table 5,** indicate that vehicle queues periodically (typically one to two times during either the AM or PM peak hours) spillback from the available storage for some travel movements.

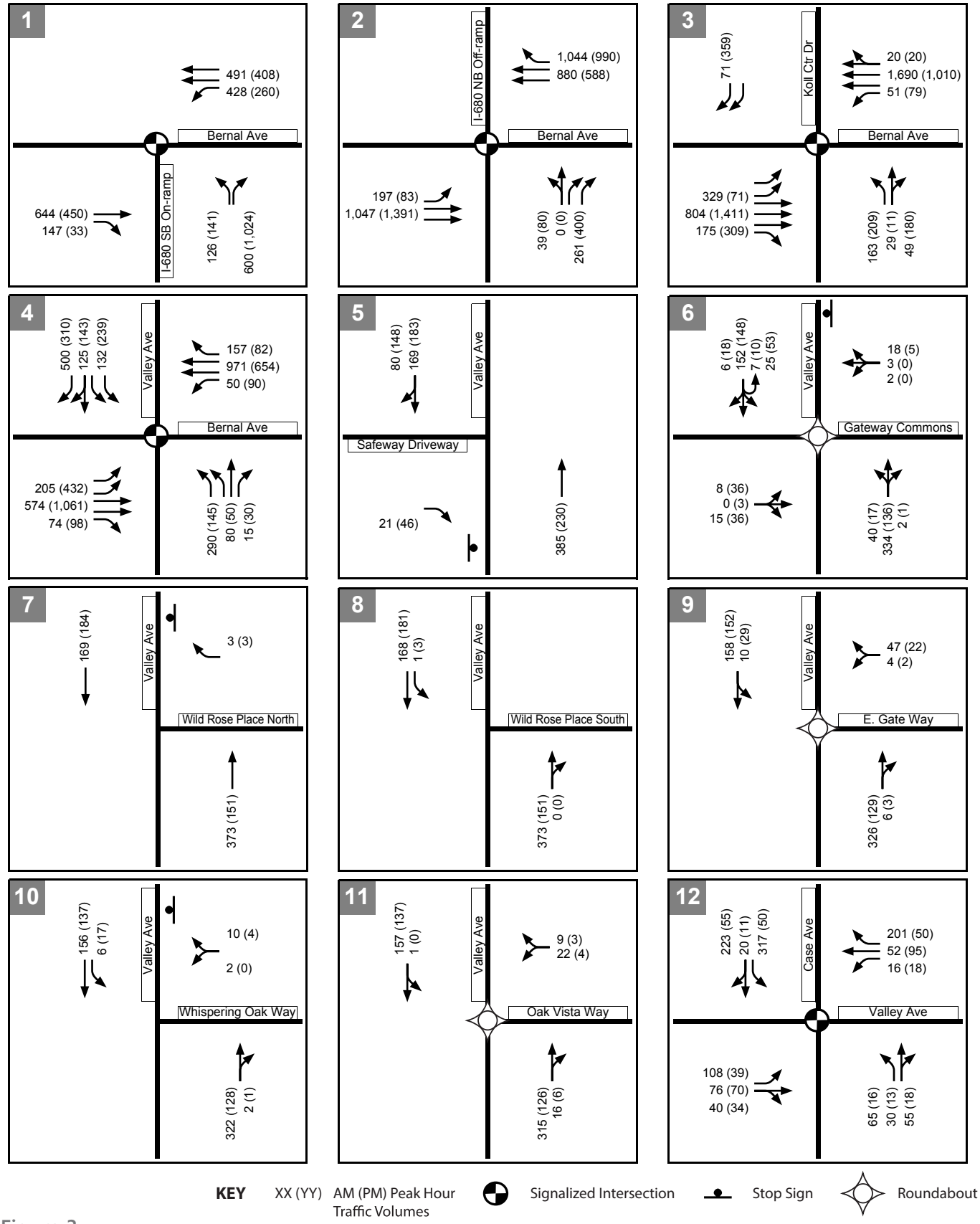


Figure 3.

Existing Peak Hour
Intersection Volumes, Traffic Control and Lane Configurations

FEHR PEERS

WC11-2878.02_3_ExVols

PROJECT TRAFFIC ESTIMATES

To estimate conditions with the Project, vehicle trips expected to be added to the roadway system were combined with existing traffic volumes through the following process:

1. ***Trip Generation*** – The *amount* of vehicle traffic entering and exiting the Project site was estimated.
2. ***Trip Distribution*** – The *direction* trips use to approach and depart the site was projected.
3. ***Trip Assignment*** – Trips were then *assigned* to specific roadway segments and intersection turning movements.

Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates are created on a daily basis and for the peak one-hour periods during the morning and evening commute periods when traffic volumes on the adjacent streets are highest. The Project trip generation was estimated using rates from the Institute of Transportation Engineers *Trip Generation* (9th Edition) land use numbers 220 (apartment) and 210 (single-family detached housing). The resulting trip generation estimates are shown in **Table 2.**

The Project is located in close proximity bound by Gateway Center, a retail center anchored by a Safeway supermarket, pharmacy, bank, and other small shops and restaurants. On the north side of Bernal Avenue, approximately ¼ of a mile from the center of the Project site, is the Koll Business Center with over one million square feet of office development. Due to the close proximity of the retail plaza and employment center, it is anticipated that some of the future site residents might chose to live in the development due to the proximity to their work place and some may choose to walk to the retail center as most of their daily needs can be met by establishments within a short walking distance.

To estimate the potential level of interaction between the Project and adjacent sites, we used a mixed-use trip (MXD) generation model to estimate the expected interaction between the various uses in the immediate vicinity of the Project site. The MXD model suggests that during the morning peak hour, approximately 5 percent of the trips generated by the Project would be to one of the adjacent destinations, with up to 10 percent of the trips to an adjacent destination during the PM peak hour and on a daily basis.

Considering the potential for non-motorized trips to adjacent uses, the Project is expected to generate approximately 2,180 daily vehicle trips, including 177 AM peak hour vehicle trips and 211 PM peak hour vehicle trips.

TABLE 2
PROJECT TRIP GENERATION ESTIMATES

Land Use	ITE Code	Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Apartments	220[1]	210	1,400	21	86	107	86	47	133
Single Family Detached Housing	210[2]	97	1,020	20	59	79	64	38	102
Total			*2,420*	*41*	*145*	*186*	*150*	*85*	*235*
Walk/Bike Trips to Adjacent Development [3]			-240	-2	-7	-9	-15	-9	-24
Net Vehicle Trips			***2,180***	***39***	***138***	***177***	***135***	***76***	***211***

Notes:
1. Trip generated based on Institute of Transportation Engineers (ITE), *Trip Generation* (9th Edition) equations Apartments (Land Use Code 220):
Daily: T = 6.06(X) + 123.56
AM Peak Hour: T = 0.49(X) +3.73; Enter = 20%; Exit = 80%
PM Peak Hour: T = 0.55(X) +17.65; Enter = 65%; Exit = 35%
Where T = trips generated, X = Dwelling Units
2. Trip generated based on Institute of Transportation Engineers (ITE), *Trip Generation* (9th Edition) equations for Single Family Detached Housing (Land Use Code 210):
Daily: Ln(T) = 0.92Ln(X) + 2.72
AM Peak Hour: T = 0.70(X) + 9.74; Enter = 25%; Exit = 75%
PM Peak Hour: Ln(T) = 0.90Ln(X) + 0.51; Enter = 63%; Exit = 37%
Where T = trips generated, X = Dwelling Units
3. Walk/bike trips to adjacent retail development and employment center: Daily = 10%; AM = 5%; PM = 10%.
Source: *Trip Generation* (9th Edition), ITE, 2012; Fehr & Peers, April 2013.

Trip Distribution and Assignment

Vehicle trips expected to be generated by the Project were assigned to the roadway system based on existing travel patterns, locations of complementary land uses, Project site driveway location, and location of parking fields within the site. Trip distribution percentages are presented on **Figure 1.** The net new vehicle traffic generated by the Project was then assigned to streets in the

local roadway system for the AM and PM peak hours. The resulting Project trip distribution through for each study intersection is shown on **Figure 4**.

Project intersection volumes were added to existing traffic counts, to show Existing Plus Project traffic conditions. The resulting traffic counts are shown on **Figure 5**.

TRAFFIC FORECASTS

To assess the changes in traffic flow through the City with approved and planned development, the City of Pleasanton Travel Demand model was used to assess citywide vehicular travel changes. For this Project, the near-term and cumulative forecasts developed for the Housing Element Analysis were adjusted to remove traffic forecasts associated with development of the proposed Project on the site. **Figures 6** through **9** present the Near-Term without Project, Near-Term with Project, Cumulative without Project and Cumulative with Project Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control Devices. These forecasts reflect buildout of the adjacent Gateway Center.

ROADWAY NETWORK

No changes to the lane configurations at the study intersections were assumed, except for Project driveways for the Existing and Near-Term analyses. For the cumulative analyses, planned improvements to the I-680 interchange at Bernal Avenue were assumed to be in place. Planned improvements include modifications to the westbound approach at Bernal Avenue at I-680 northbound ramps to widen the on-ramp to permit the conversion of a westbound through lane to a through-right lane and to the westbound approach at the Bernal Avenue at I-680 southbound ramps to provide dual left-turn lanes and one through lane. The lane configurations assumed under each scenario are shown on the volume figures.

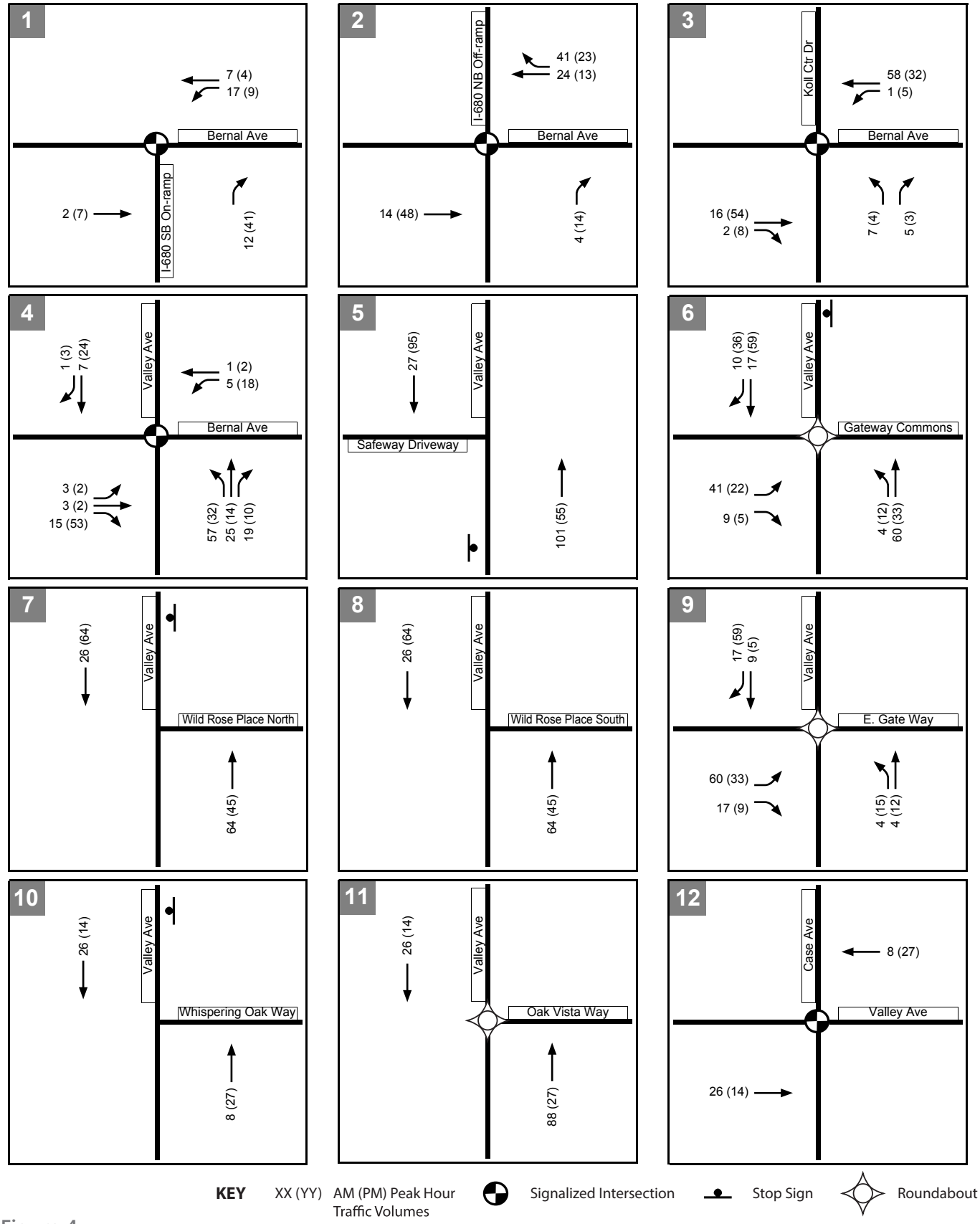


Figure 4.

Project Peak Hour Intersection Volumes and Traffic Control

WC11-2878.02_4_ProjTripVols

FEHR PEERS

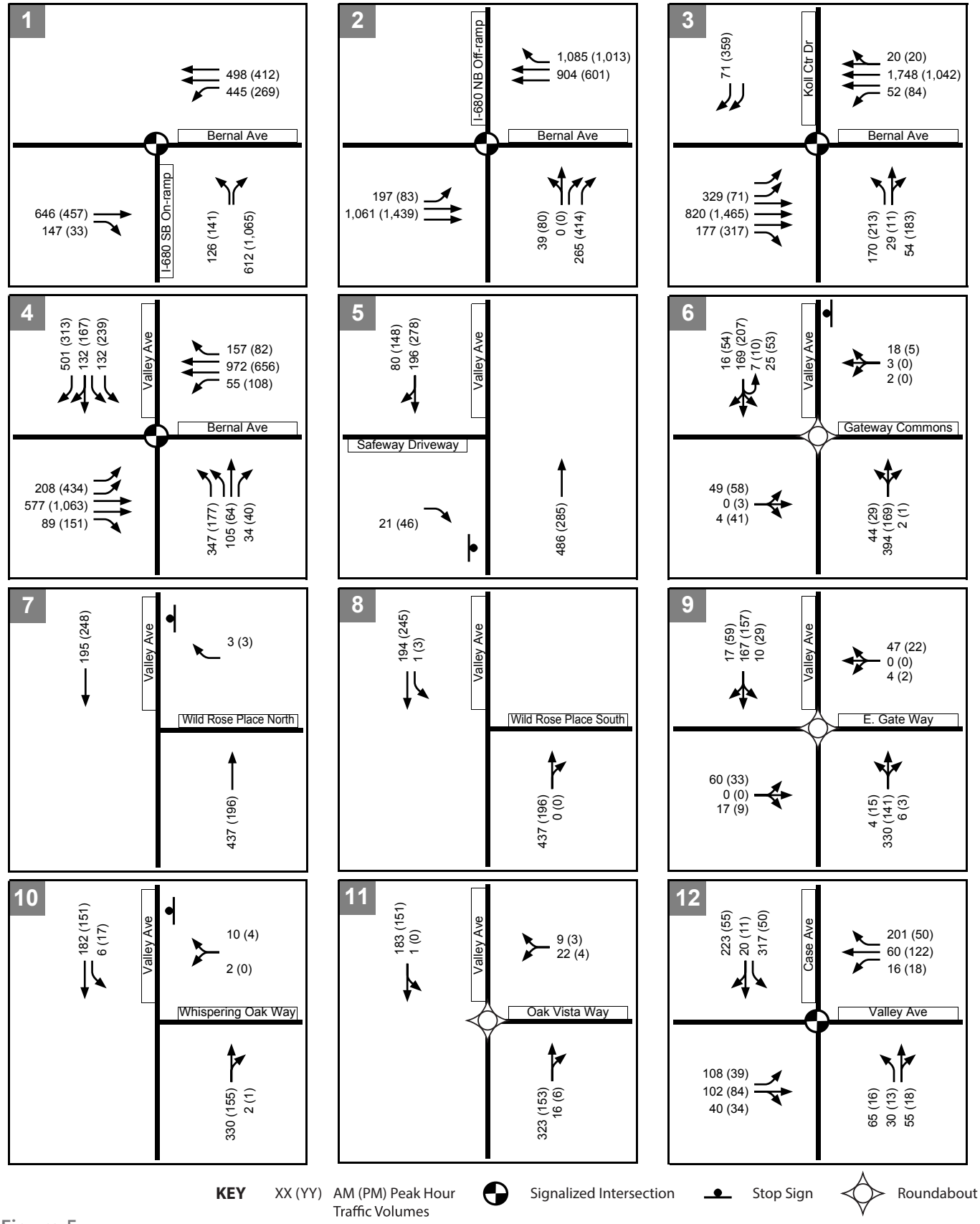


Figure 5.

Existing Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations

WC11-2878.02_5_ExPlusProjVols

FEHR PEERS

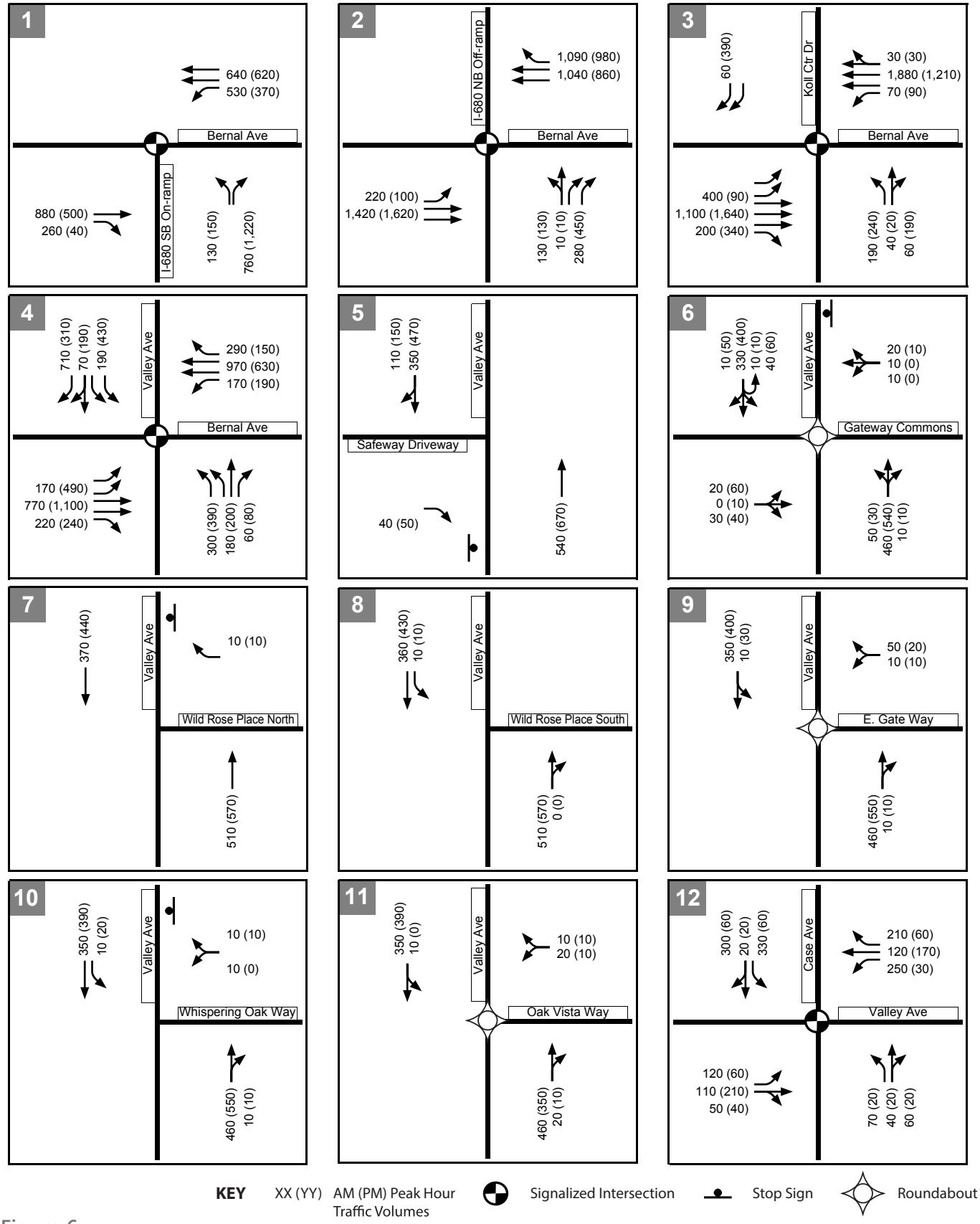


Figure 6.

Near Term No Project Peak Hour

Intersection Volumes, Traffic Control and Lane Configurations

FEHR PEERS

WC11-2878.02_6_ExPlusAppProjVols

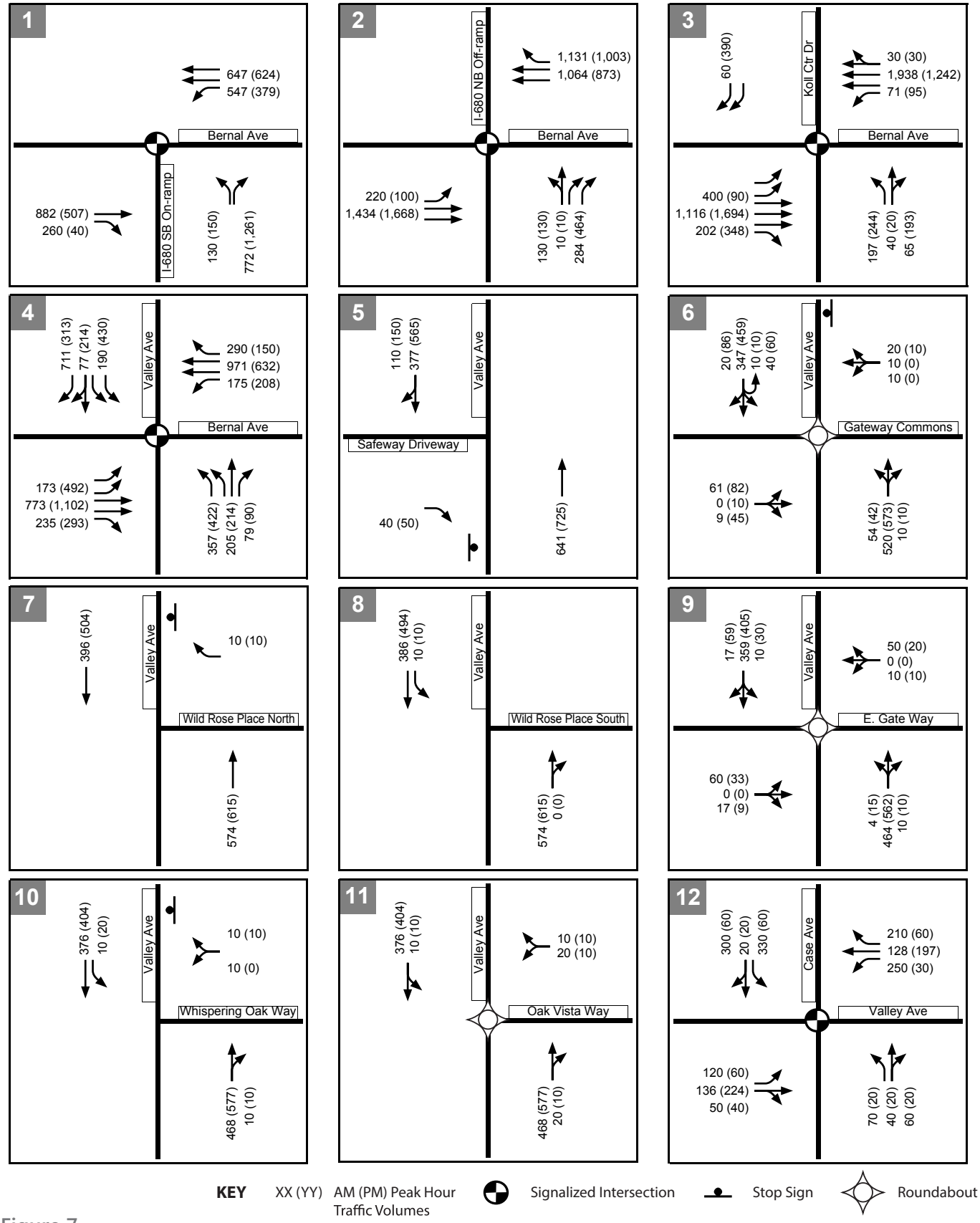


Figure 7.

Near Term Plus Project Peak Hour

Intersection Volumes, Traffic Control and Lane Configurations

FEHR PEERS

WC11-2878.02_7_ExPlusProjPlusAppVols

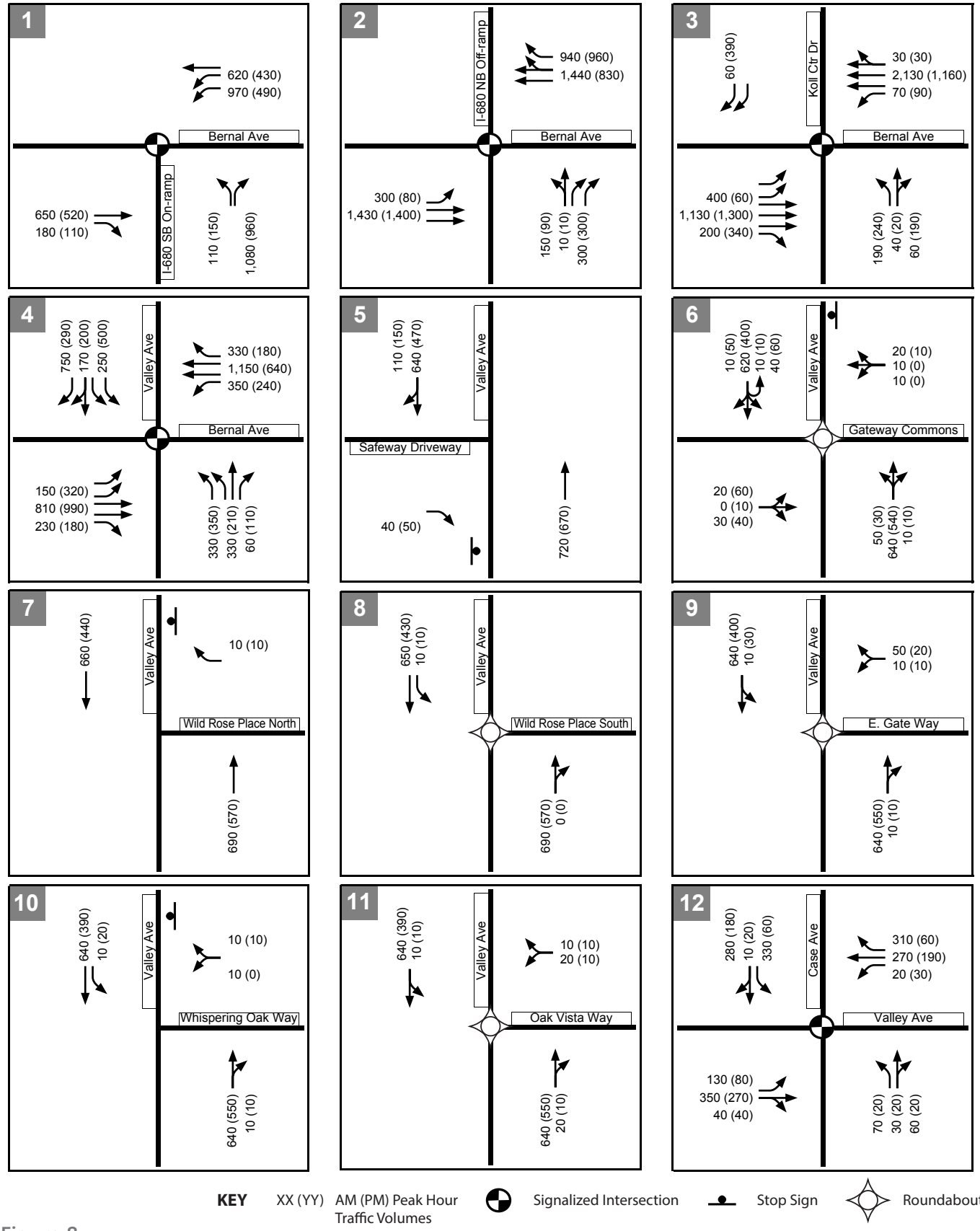


Figure 8.

Cumulative No Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations

WC11-2878.02_8_CumuNPVols

FEHR PEERS

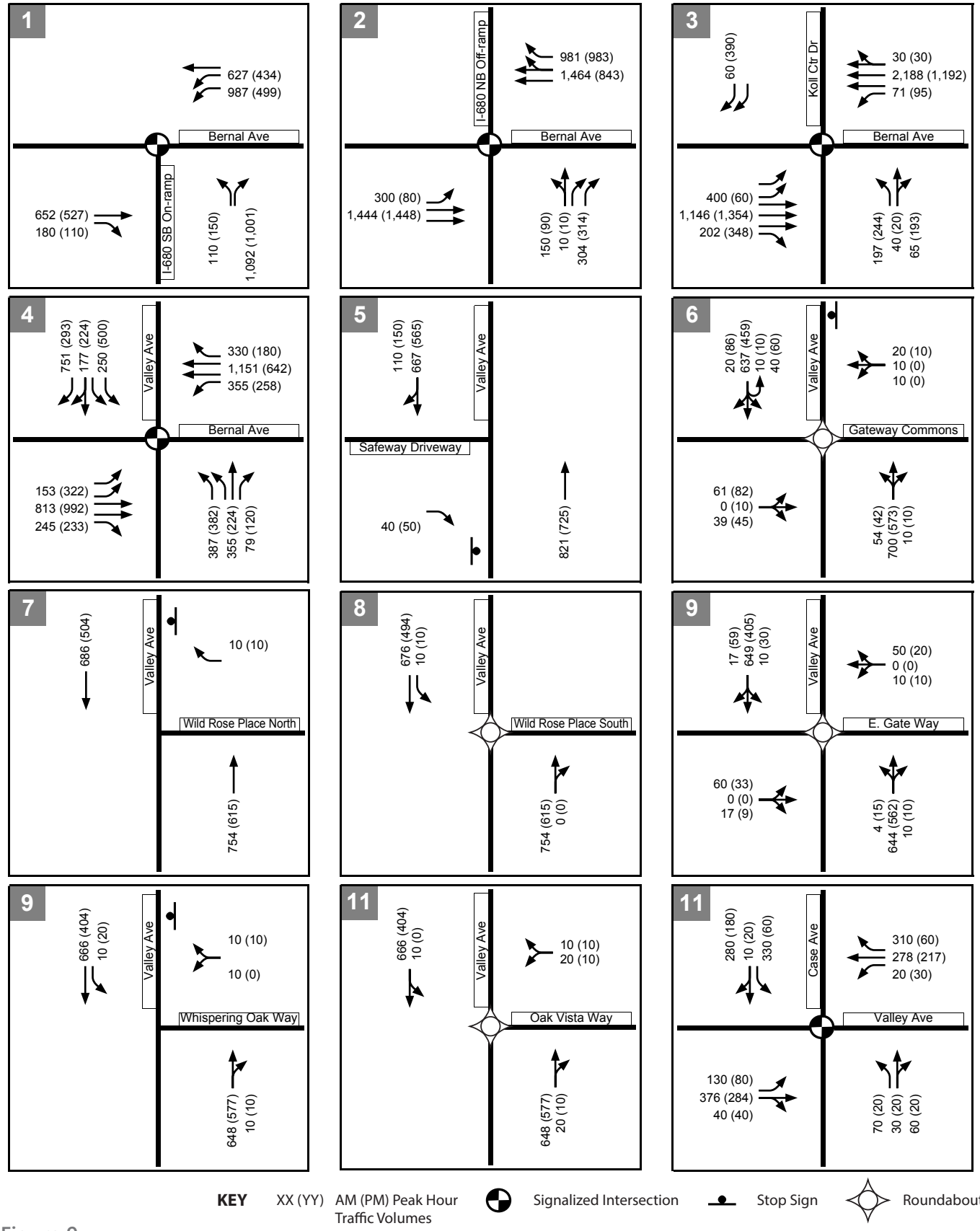


Figure 9.

Cumulative Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations

WC11-2878.02_9_CumuPlusProjVols

FEHR PEERS

ANALYSIS RESULTS

Intersection Operations

Signalized and unsignalized intersections were evaluated using Synchro software, and roundabouts were evaluated using SIDRA software for the weekday AM and PM peak hours for analysis scenarios listed previously, based on the analysis methods outlined in Attachment A. **Table 3** presents level of service (LOS) operations at study intersections for the AM and PM peak hours.

As presented in Table 3, the driveways and intersections that provide access to the site from regional transportation system currently operate at LOS D or better during the morning and evening peak hours. With the addition of project traffic, intersections are expected to continue to operate at LOS D or better.

In the near-term and cumulative conditions, intersections would continue to operate at acceptable service levels during both the morning and evening peak hours with the addition of traffic from the Project.

A typical single-lane roundabout has a capacity of up to 2,000 vehicles per hour or 20,000 vehicles per day. Roundabouts operating below capacity have lower average delay and queue lengths than stop controlled and signalized intersections because all approaches are yield controlled. The yield control permits vehicles to advance through the intersection slowly, thereby allowing for a constant flow of vehicles through the intersection rather than requiring vehicles to come to a complete stop. Roundabouts require traffic on Valley Avenue to slow down approaching the intersection, improving access from the side street without requiring Valley Avenue traffic to come to a complete stop. Based on the peak hour traffic volume forecasts, the expected near-term and cumulative volumes would not exceed capacity of the roundabouts; therefore, the roundabouts are expected to operate at acceptable levels of service through the future as shown in Table 3. Additionally, off-peak delay would be significantly less when conflicting traffic volumes are much lower and vehicles are not required to stop.

TABLE 3
PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. I-680 Southbound Ramps at Bernal Avenue	Signal	AM PM	16 9	B A	17 9	B A	49 11	D B	50 11	D B	15 10	B A	15 10	B A
2. I-680 Northbound Ramps at Bernal Avenue	Signal	AM PM	17 12	B B	21 13	C B	30 15	C B	36 16	D B	24 10	C B	26 11	C B
3. Koll Center Drive at Bernal Avenue	Signal	AM PM	18 16	B B	18 17	B B	21 18	C B	21 19	C B	21 18	C B	21 18	C B
4. Valley Avenue at Bernal Avenue	Signal	AM PM	32 30	C C	34 32	C C	33 45	C D	36 50	D D	49 44	D D	53 47	D D
5. Valley Avenue at Gateway Right-in/Right-out Driveway	SSSC	AM PM	1 (10) 1 (10)	A (A) A (A)	1 (10) 1 (11)	A (A) A (B)	1 (12) 1 (12)	A (B) A (B)	1 (12) 1 (14)	A (B) A (B)	1 (16) 1 (12)	A (C) A (B)	1 (17) 1 (14)	A (C) A (B)
6. Valley Avenue at Gateway Commons	Round-about	AM PM	1 1	A A	1 1	A A	1 2	A A	2 2	A A	2 2	A A	3 2	A A
7. Valley Avenue at Wild Rose Place (north intersection)	SSSC	AM PM	1 (11) 1 (10)	A (B) A (A)	1 (12) 1 (9)	A (B) A (A)	1 (12) 1 (13)	A (B) A (B)	1 (13) 1 (13)	A (B) A (B)	1 (15) 1 (13)	A (B) A (B)	1 (16) 1 (13)	A (C) A (B)

TABLE 3
PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
8. Valley Avenue at Wild Rose Place (south intersection)	SSSC	AM	0 (0)	A (A)	0 (0)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)
		PM	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)
9. Valley Avenue at East Gate Way	Round-about	AM	6	A	6	A	8	A	9	A	14	B	16	C
		PM	5	A	5	A	10	A	11	B	10	A	11	B
10. Valley Avenue at Whispering Oaks Way	SSSC	AM	1 (11)	A (B)	1 (11)	A (B)	1 (16)	A (C)	1 (16)	A (C)	1 (27)	A (D)	1 (28)	A (D)
		PM	1 (9)	A (A)	1 (9)	A (A)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)
11. Valley Avenue at Oak Vista Way	Round-about	AM	6	A	6	A	8	A	9	A	14	B	15	C
		PM	5	A	5	A	10	A	10	A	10	A	11	B
12. Valley Avenue at Case Avenue	Signal	AM	27	C	27	C	31	C	31	C	32	C	33	C
		PM	14	B	14	B	16	B	16	B	16	B	17	B

Notes: **Bold** text indicates unacceptable operations based on City's level of service policy.
1. Signal = Signalized Intersection; SSSC = Side-street stop-controlled intersections, traffic from the major roadway does not stop; Roundabout = Roundabout control
2. Delay presented in seconds per vehicle; for side-street stop-controlled intersections, delay presented as intersection average (worst approach)
3. LOS = Level of Service.

Source: Fehr & Peers, April 2013.

Vehicle Queues

The average and 95th percentile Vehicle queues were evaluated for vehicle movements where the project is expected to have an effect on traffic volumes, including intersections along Bernal Avenue and project Driveway intersections on Valley Avenue at Gateway Commons, and Valley Avenue at East Gate Way, as summarized in **Table 4** for the 50th percentile queue and **Table 5** for the 95th percentile queue. The 50th percentile queue is an estimated value from the analysis software which represents the average queue length during the peak hour. The 95th percentile vehicle queue is an estimated value from the analysis software that represents the 95th highest queue out of 100 calculations. For the signalized intersections along Bernal Avenue, there are approximately 35 queue observation periods per hour based on the typical cycle length, so the 50th percentile queue as shown in Table 4 is expected to occur 15 to 20 times per peak hour, whereas the 95th percentile queue as shown in Table 5 is expected to occur 1 to 2 times per peak hour. When 95th percentile vehicle queues that exceed the available storage length coincide with poor service levels, it may take several cycles for vehicle queues to clear. However, when intersections are operating within the expected capacity range, queues tend to clear quickly and do not cause long-term disruptions to the transportation network.

Results of the queuing analysis indicate that vehicles traveling westbound on Bernal Avenue accessing northbound I-680 create queues through the Koll Center Driveway during both the morning and evening peak hours. Vehicle queues also extend beyond the available storage at the I-680 southbound on-ramp from westbound Bernal Avenue. The Project would add traffic to these movements, but is not expected to increase vehicle queues by more than one vehicle.

> ***Recommendation:*** The Project applicant shall pay their fair share towards planned improvements at the I-680 at Bernal Avenue interchange through the payment of applicable local and regional traffic impact fees. Improvements are planned for both the northbound and southbound ramps.

Vehicle queues periodically spillback from turn-pockets by approximately 5 to 10 vehicles, at the Bernal Avenue at Valley Avenue intersection in the existing and future conditions. As shown in Table 4, the average queue is within the available storage for all scenarios with exception to the future AM peak hour at the westbound left turn pocket. However, traffic from the Project does not increase queues by more than one vehicle during either the AM or PM peak hour.

Vehicle queues spillback in the westbound direction of the Bernal Avenue at I-680 Southbound intersection for existing and future conditions. As shown in Table 4, the average queue for the

westbound left turn movement exceeds the available storage length. However, traffic from the Project does not increase queues by more than one vehicle during either the AM or PM peak hour. As depicted in Table 3, the intersection is anticipated to operate at acceptable levels so vehicle queues are expected to clear quickly.

Vehicle queues at the intersections on Valley Avenue are projected to be minimal in the existing and near-term conditions with the addition of Project traffic. In the cumulative condition with additional through traffic on Valley Avenue, northbound and southbound vehicle queues on Valley Avenue at the Gateway Commons intersection could extend to the adjacent right-in/right-out intersections; however, the southbound vehicle queue is not expected to extend to Bernal Avenue, nor is the northbound queue expected to block access to the southern Wile Rose Place. As the intersection is projected to operate at acceptable levels, the vehicle queues are expected to clear quickly.

> ***Recommendation:*** Periodically monitor the operation of the Valley Avenue at Gateway Commons intersection as the study area is developed over time and traffic volumes increase.

TABLE 4
50TH PERCENTILE VEHICLE QUEUES IN FEET[1]

Intersection	Movement	Available Storage[2]	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-680 Southbound Ramps at Bernal Avenue	Westbound Left	210	**210**	90	**225**	95	**285**	155	**300**	160	**275**	85	**280**	90
	Westbound Thru	475	25	20	25	20	35	35	40	35	85	50	85	50
	Eastbound Thru	400	315	145	325	150	**700**	200	**710**	205	330	165	340	170
I-680 Northbound Ramps at Bernal Avenue	Westbound Right	560	115	30	155	40	370	45	410	55	60	0	70	0
	Westbound Thru	560	120	25	125	80	185	145	195	150	**600**	180	**645**	190
	Northbound Right	350	10	60	10	65	40	85	40	95	70	35	75	40
	Eastbound Left	150	70	30	70	30	90	40	90	45	**200**	25	**200**	30
	Eastbound Thru	475	55	135	55	150	125	215	130	245	160	105	165	115
Koll Center Drive at Bernal Avenue	Westbound Thru	520	250	115	270	125	335	170	360	180	400	165	420	170
	Westbound Left	195	25	30	25	30	45	40	45	45	45	40	45	45
	Northbound Left	380	75	70	85	75	115	100	115	100	115	100	125	100
	Northbound Thru/Right	380	15	5	15	10	20	20	20	20	20	15	25	15
	Eastbound Left	280	80	10	85	10	125	15	125	15	125	10	130	10
	Eastbound Thru	560	75	150	80	160	120	200	125	215	120	145	125	160
Valley Avenue at Bernal Avenue	Westbound Thru	700	305	195	310	200	305	210	315	210	410	205	410	205
	Westbound Left	175	35	55	35	65	110	130	120	145	**285**	160	**295**	**175**
	Northbound Left	280	100	45	125	55	105	145	130	175	125	120	160	135
	Northbound Thru	450	45	25	55	35	105	125	125	135	220	130	240	140
	Northbound Right	170	--	--	--	--	--	--	--	--	--	--	5	--
	Eastbound Left	510	70	120	70	130	55	150	60	155	55	90	55	90
	Eastbound Thru	510	145	295	150	315	235	370	245	375	290	300	290	305
	Southbound Left	200	45	70	45	75	65	155	65	155	90	190	90	195
	Southbound Thru	500	180	130	190	150	155	170	175	185	315	165	325	175
	Southbound Right	200	65	0	65	7	115	15	125	15	170	5	170	10

TABLE 4
50TH PERCENTILE VEHICLE QUEUES IN FEET[1]

Intersection	Movement	Available Storage[2]	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Valley Avenue at Gateway Commons	Eastbound	360	--	--	--	--	5	--	5	--	5	--	10	--
	Southbound	170	25	10	35	10	45	55	60	70	80	55	125	70
	Northbound	180	10	10	15	20	30	35	35	50	75	35	85	50
Valley Avenue at East Gate Way	Eastbound	110	5	--	5	--	5	--	5	--	5	--	5	--
	Southbound	210	20	5	20	5	35	45	35	50	75	45	80	50
	Northbound	250	5	10	10	10	20	25	25	35	75	25	85	35

Notes: **BOLD** indicates 95th percentile queue could exceed storage length.

1. 95th Percentile Vehicle queue (in feet) as calculated by Synchro. Bold indicates vehicle queues will extend beyond the available storage space.
2. Vehicle storage presented in feet, not accounting for the bay taper. Where two numbers are presented, the first number represents vehicle storage without the Project and the second number represented vehicle storage with the Project.

Source: Fehr & Peers, April 2013.

TABLE 5
95TH PERCENTILE VEHICLE QUEUES IN FEET[1]

Intersection	Movement	Available Storage[2]	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-680 Southbound Ramps at Bernal Avenue	Westbound Left	210	**320**	190	**340**	195	**460**	**270**	**490**	**280**	**385**	150	**370**	155
	Westbound Thru	475	40	30	40	30	50	50	50	50	120	80	125	80
	Eastbound Thru	400	**615**	270	**620**	280	**940**	370	**945**	385	**530**	295	**545**	300
I-680 Northbound Ramps at Bernal Avenue	Westbound Right	560	**570**	**570**	**580**	**580**	**680**	**580**	**730**	**560**	260	55	280	60
	Westbound Thru	560	215	140	225	150	330	270	340	280	**915**	330	**960**	390
	Northbound Right	350	45	115	45	130	85	85	40	195	120	70	125	80
	Eastbound Left	150	135	74	135	70	165	110	165	115	**325**	65	**325**	65
	Eastbound Thru	475	100	241	100	270	220	410	225	455	265	180	265	205
Koll Center Drive at Bernal Avenue	Westbound Thru	520	**530**	265	**555**	270	**670**	325	**705**	335	**700**	315	**760**	325
	Westbound Left	195	85	100	85	110	110	120	110	135	110	120	110	135
	Northbound Left	380	160	165	170	165	190	200	195	215	185	205	190	210
	Northbound Thru/Right	380	55	57	55	60	65	80	65	85	65	70	65	75
	Eastbound Left	280	180	40	175	40	215	50	215	50	230	35	230	35
	Eastbound Thru	560	165	315	170	330	240	380	240	400	235	285	240	300
Valley Avenue at Bernal Avenue	Westbound Thru	700	470	305	470	305	470	295	470	295	600	290	600	290
	Westbound Left	175	80	125	85	145	**240**	**280**	**250**	**320**	**515**	**370**	**525**	**400**
	Northbound Left	280	200	95	260	110	210	**300**	265	**330**	230	250	**285**	**280**
	Northbound Thru	450	85	60	110	70	175	195	200	210	315	200	365	210
	Northbound Right	170	15	25	25	30	30	35	35	40	30	40	45	45
	Eastbound Left	510	125	280	130	280	105	330	110	330	95	175	95	175
	Eastbound Thru	510	250	**600**	255	**600**	365	**635**	365	**640**	400	495	400	**510**
	Southbound Left	200	85	140	85	140	115	315	115	315	145	**365**	140	**365**
	Southbound Thru	500	320	250	335	270	315	285	345	310	**590**	275	**600**	295
	Southbound Right	200	145	40	145	50	**215**	60	**225**	70	**285**	50	**285**	60

TABLE 5
95TH PERCENTILE VEHICLE QUEUES IN FEET[1]

Intersection	Movement	Available Storage[2]	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Valley Avenue at Gateway Commons	Eastbound	360	5	12	10	15	10	25	25	35	20	25	40	35
	Southbound	170	25	25	30	45	70	85	80	125	**185**	85	**315**	125
	Northbound	180	60	20	85	30	110	135	155	175	**195**	135	**315**	175
Valley Avenue at East Gate Way	Eastbound	110	--	--	5	5	--	--	10	5	--	--	15	5
	Southbound	210	20	20	20	30	50	65	60	80	180	65	205	80
	Northbound	250	45	15	45	15	85	110	90	125	180	110	200	125

Notes: **BOLD** indicates 95th percentile queue could exceed storage length.

3. 95th Percentile Vehicle queue (in feet) as calculated by Synchro. Bold indicates vehicle queues will extend beyond the available storage space.
4. Vehicle storage presented in feet, not accounting for the bay taper. Where two numbers are presented, the first number represents vehicle storage without the Project and the second number represented vehicle storage with the Project.

Source: Fehr & Peers, April 2013.

SITE ACCESS AND ON-SITE CIRCULATION

This section discusses site access and internal circulation for vehicles, pedestrians, bicycles, and emergency vehicles based on the site plan presented previously on Figure 2. A parking assessment was also conducted. Site recommendations are presented on **Figure 10**.

Vehicle Access

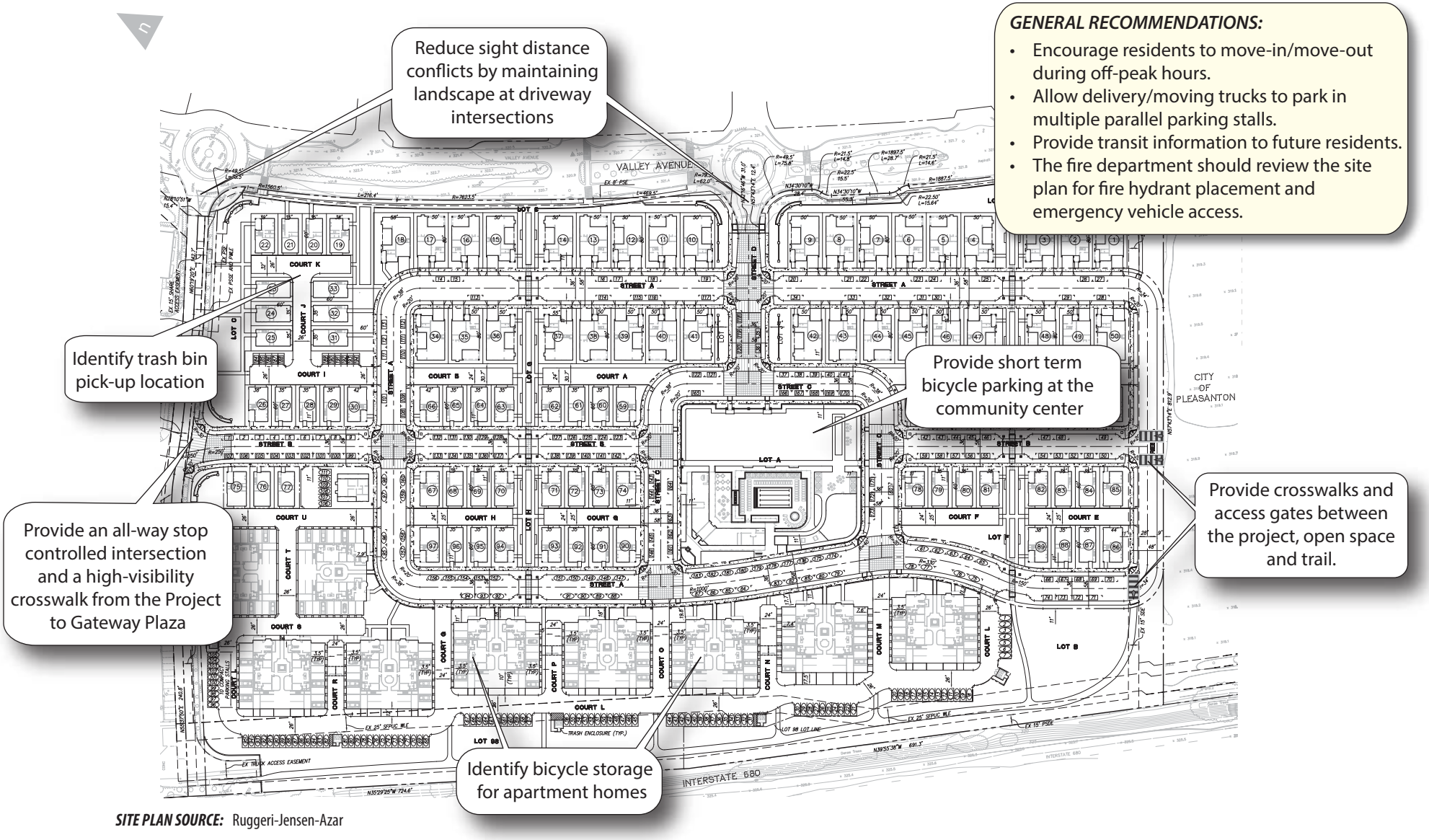
Vehicular access to the site would be provided from a connection to Gateway Commons and a new roadway connecting to Valley Avenue at East Gate Way. Both driveways would provide full access and are projected to operate acceptably during peak hours as shown in Table 3. Provision of a vehicle connection to Whispering Oaks Way would not be necessary to provide acceptable vehicle operations on Valley Avenue.

> ***Recommendation:*** Install all-way stop-control at the Street B/Gateway Commons intersection.

The full access driveway on Valley Avenue would align with the existing roundabout on E. Gate Way.

> ***Recommendation:*** Maintain landscaping on the northwest corner of the intersection to avoid sight distance conflicts (shrubs should not be higher than approximately 30 inches and tree canopies should be approximately six feet from the ground).

Proposed streets providing the main connections through the site and limited driveway access are proposed to be 36 feet wide with parallel parking on both sides. Courts would provide garage access to most of the single-family homes with a width of 24 feet without parking, or 26 feet if perpendicular parking is provided on one side of the street.



SITE PLAN SOURCE: Ruggeri-Jensen-Azar

Figure 10.

Consultant Site Plan Recommendations

WC11-2878.02_10_SitePlanRecs.ai

FEHR PEERS

Emergency Vehicles

A fire station is located on Bernal Avenue approximately 1/4-mile from the Project site. Emergency vehicles have multiple ways of accessing the site from Bernal Avenue and Valley Avenue so if one entrance is blocked, alternative access would be available. An AutoTurn assessment indicates that a large fire truck would enter into the opposite travel lane when navigating through the site. Large emergency vehicles may have difficulty accessing homes on Courts J and K.

> ***Recommendation:*** The fire department should review the site plan for fire hydrant placement and emergency vehicle access. Results of the AutoTurn assessment are shown on **Figure 11** for their use in reviewing site access and circulation.

Pedestrian

As part of the Project, new pedestrian paths could be constructed within the Project site and connect to the existing pedestrian facilities on Valley Avenue. Curb extensions and high visibility crosswalks at intersections would alert drivers to expect pedestrian traffic. Pedestrian paths and plazas would be constructed to facilitate walking throughout the site. Most internal roadways provide sidewalks on both sides of the street with exception to some of the Court frontage. External roadways on Valley Avenue and Gateway Commons provide sidewalk along both sides of the street.

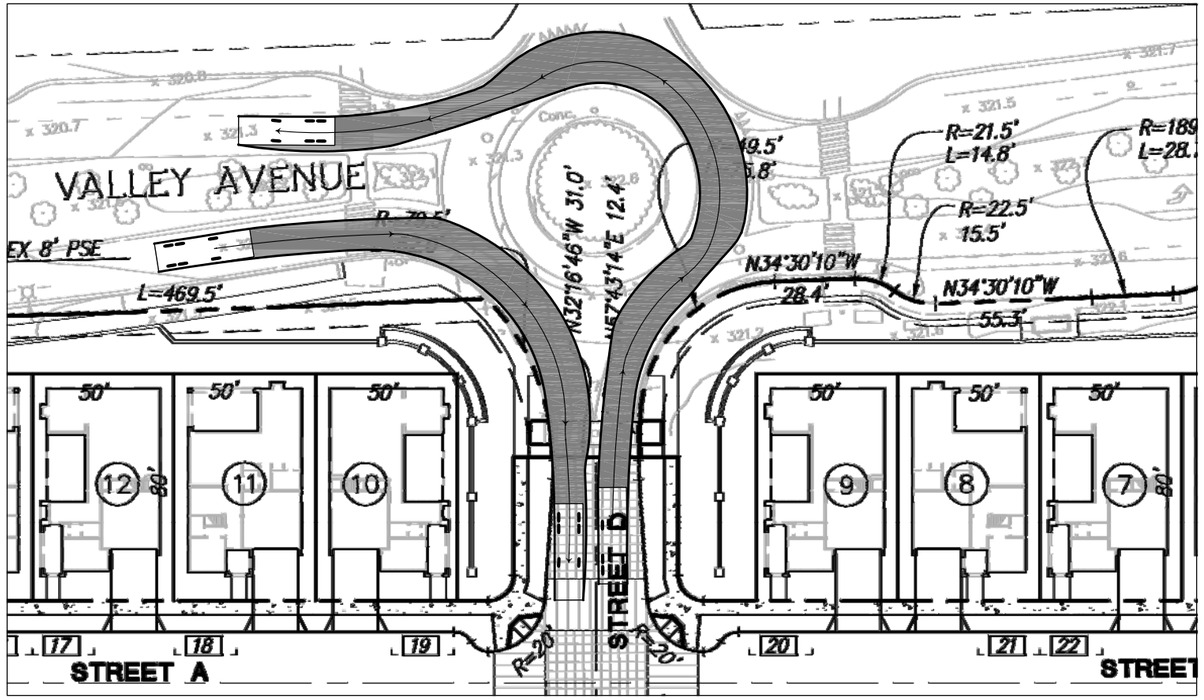
> ***Recommendation:*** Provide a high-visibility crosswalk from the Project to the Gateway shopping center on the east leg of Gateway Commons and Street B, to enhance pedestrian connectivity.

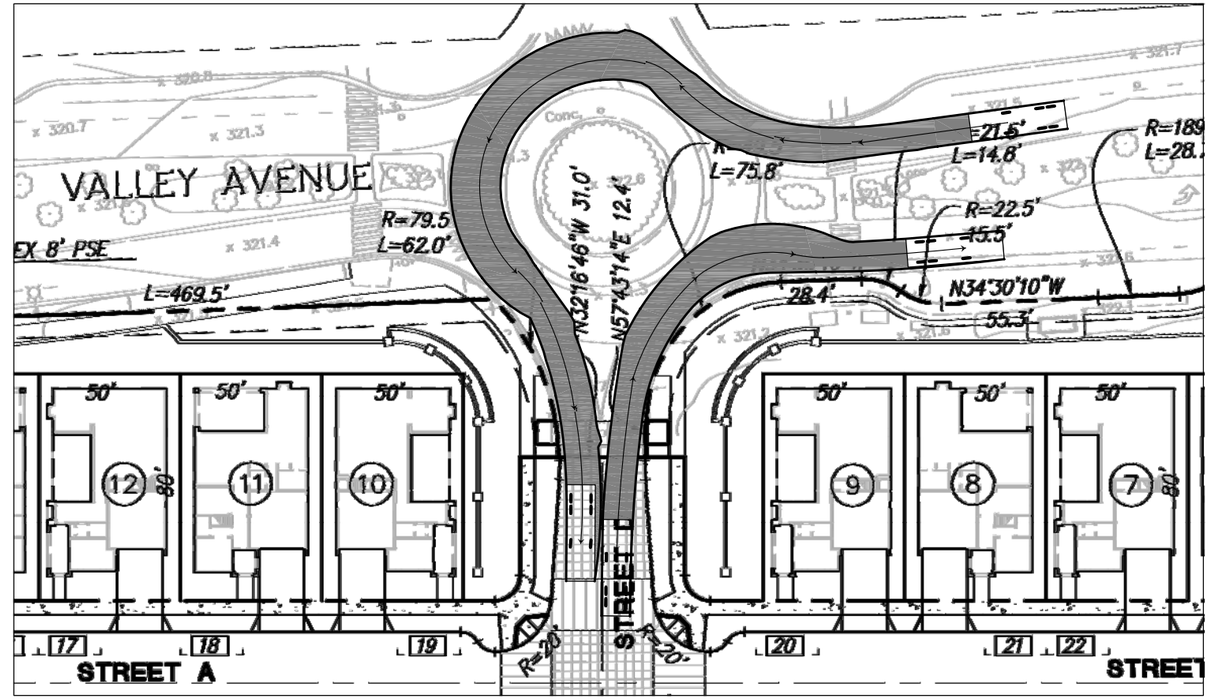
Bicycle

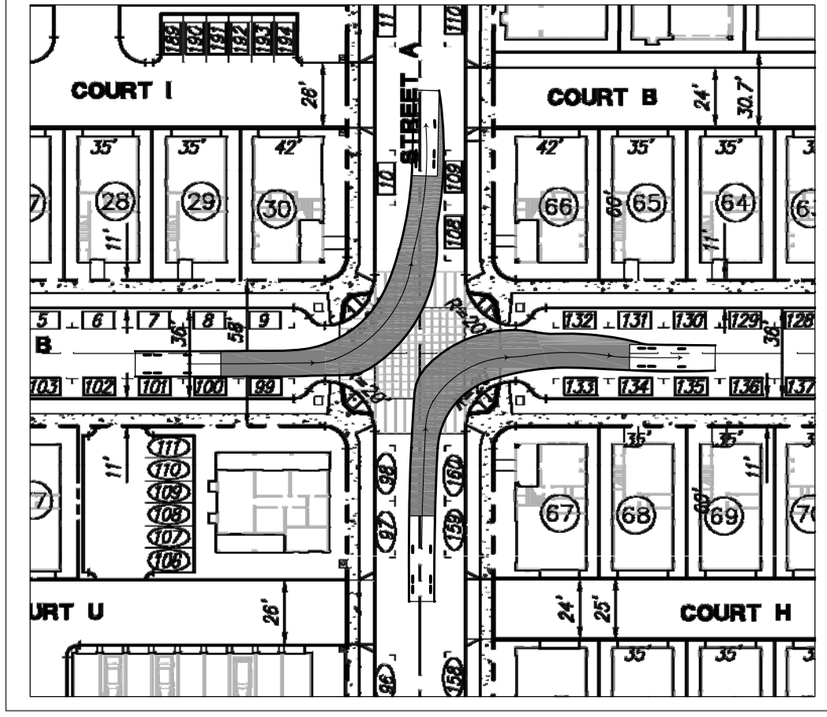
Class II bicycle facilities (bike lanes) are currently provided on Valley Avenue along the Project frontage. The Project proposes a trail connection on the south-west side of the Project to a proposed Regional class III trail which parallels I-680. The Project would connect to the proposed trail from Street A and Street B.

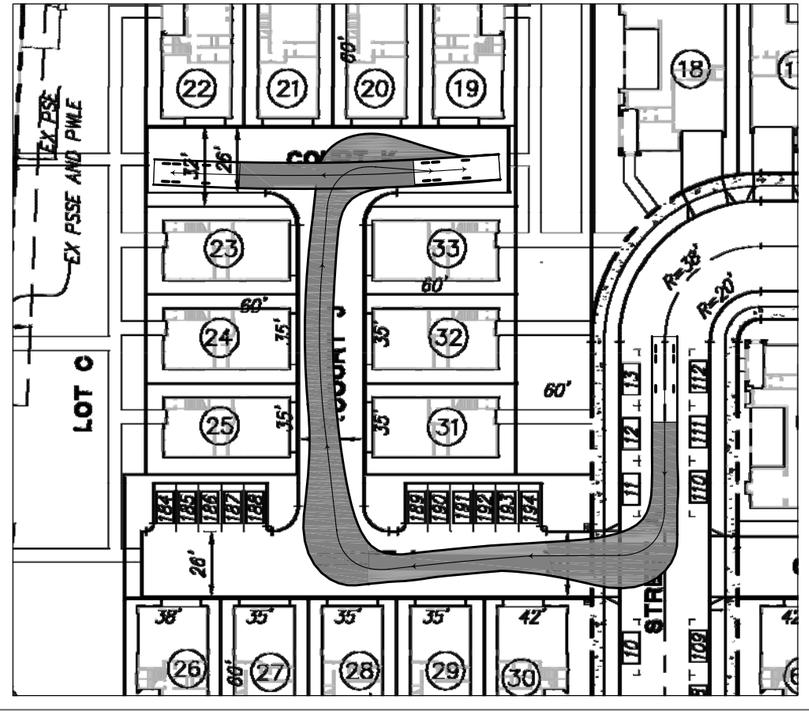
> ***Recommendation:*** Provide a pedestrian crosswalk across Street A to connect the Project to the trail entrances.

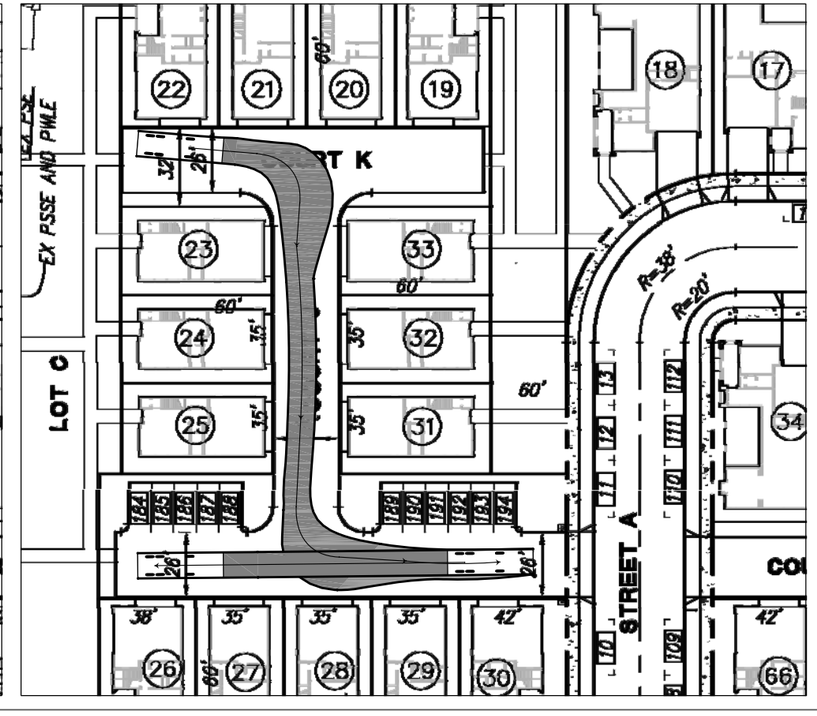
> ***Recommendation:*** Provide access gates between the open space, trail and the Project along Street A to encourage residents to use the trail and open space.











FEHR & PEERS

EMERGENCY VEHICLES
AUTOTURN ASSESSMENT

FIGURE 11

Apr 19, 2013
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Bicycles would be permitted within the Project vehicular travel way. Bicycle parking is not shown on the site plan, but it is anticipated that future residents of the single family homes would be able to store bicycles within their private garages.

For the multi-family portion of the site 0.8 secure and weather protected bicycle parking spaces per unit are required, resulting in a requirement of 168 long-term bicycle parking spaces for the 210 apartment units. As each apartment unit would be provided a private garage, the garages should be large enough for storage of a bicycle and a vehicle or bicycle storage rooms should be provided throughout the apartment community. Additionally, short term bicycle parking should be provided at the community center.

> ***Recommendation:*** Identify bicycle storage for the apartment homes and provide short term bicycle parking at the community center.

Transit

Wheels currently serve the Project area with stops along Valley Avenue, Bernal Avenue, and Case Avenue. No changes to the number of transit stops or level of transit service are proposed as part of the Project. Additional transit facilities are located in the Project area such as the ACE and BART station located approximately 1 mile and 5 miles away, respectively.

> ***Recommendation:*** Provide information to new residents regarding transit service provided in the area.

Delivery Vehicle Access

Access to the site by moving trucks, furniture delivery, and trash collection vehicles are expected to occur on a regular basis. No designated loading areas are shown on the site plan. For the majority of single family homes, delivery/moving vehicles would be able to park on the street in close proximity to the destination. For some homes on Courts J and K, internal access may be constrained and delivery vehicles may stop on Valley Avenue or Gateway Commons, which should not be allowed. For deliveries/moving in the apartment home area, trucks may park on the internal drive aisle temporarily blocking two-way travel on some of the Court Streets.

> ***Recommendation:*** Encourage residents to conduct move-in/move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Allow delivery moving trucks/delivery vehicles to park in parallel

parking stall(s) on the designated Streets within the development to maintain two-way travel on internal roadways.

Trash collection areas are shown throughout apartment home area and it is assumed that each single family home would have their own private trash containers to be set at the curb on designated collection days. Trash collection vehicles may have difficulty accessing private garbage containers from homes Court J and K and trash containers may need to be picked up from Street A. Should all ten homes from Courts J and K place trash containers on Street A and when on-street parking supplies are at a high level of occupancy, there may not be sufficient curb space for 20 trash containers (assuming one trash and one recycle container per unit)

Recommendation: Review trash collection procedures for the site with Pleasanton Garbage Service to ensure all homes within the development can be served.

Parking

City of Pleasanton requirements for parking were reviewed. For apartment uses, 1.5 to 2 spaces are required for each unit with an additional 1 guest space for each 7 units, resulting in a parking code requirement of 351 spaces for the apartment potion of the project, as shown in **Table 6**. For the single family units, each unit is required two provide 2 spaces per unit, a total requirement of 194 spaces. The apartment portion of the project proposes to provide 216 private garage spaces and 111 off-street parking spaces, for a total off-street parking supply of 327 spaces, a deficit of 24 spaces as compared to code requirements. Each single family home would have a private two car garage and approximately 81 units would have a driveway of sufficient length to accommodate a parked vehicle, satisfying parking code requirements.

On-street parking is also provided, with approximately 183 spaces dispersed throughout the development. Although on-street parking cannot be counted towards the code required parking, as sufficient private reserved parking is provided and guest parking demand would be accommodated by the on-street parking, provision of additional off-street parking is not recommended.

TABLE 6
CITY CODE AUTOMOBILE PARKING REQUIREMENTS

Land Use	Size	Parking Code Requirement	Parking Spaces Required	Private Garage Spaces	Off-Street Spaces[1]	Total
Apartments – First Four 1-2 Bedrooms	4 units	2 per unit	8	216	111	327
Apartments –1-2 Bedrooms	198 units	1.5 per unit	297			
Apartments – 3+ Bedrooms	8 units	2 per unit	16			
Apartment Guests	210 units	1 per 7 units	30			
Single Family Detached Housing	97 units	2 per unit	194	194	81	275
Total	***307 units***	***~2.55 per unit***	***545***	***410***	***192***	***602***

Notes:
1. Off-street spaces measured by number of single family dwelling unit driveways

Source: City of Pleasanton Municipal Code Section 18.88.030.

Americans with Disability Act parking requirements for apartments were calculated. ADA requires 2 percent accessible parking per assigned garage parking, 2 percent accessible per assigned on-street parking, and 5 percent accessible per unassigned and visitor parking, resulting in an accessible parking requirement of approximately 10 spaces. The Project proposes to include 11 accessible spaces.

CONCLUSIONS AND RECOMMENDATIONS

With construction of the Project, vehicular traffic to the site is expected to operate at acceptable levels of service and even with projected growth in the City, intersections along Bernal Avenue are projected to operate at LOS D or better during the weekday morning and evening peak hours evaluated for this study. With the expected growth, the City should monitor gateway intersections and provide appropriate improvements to minimize poor operations and spillback to adjacent intersections. The Near-term analysis recommends improvements for Bernal Avenue at the I-680 intersections before the Cumulative year.

Based on our site plan review, the following are recommended for consideration in development of the final site plan:

- Reduce sight distance conflicts by restricting parking on Gateway Commons, approaching Valley Avenue and maintain landscaping at the Valley Avenue at Gateway Commons intersection
- Review trash collection procedures for the site with Pleasanton Garbage Service to ensure all homes within the development can be served.
- Encourage residents to conduct move-in/move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Allow delivery moving trucks/delivery vehicles to park in parallel parking stall(s) on the designated Streets within the development to maintain two-way travel on internal roadways.
- Provide information to new residents regarding transit service provided in the area.
- Identify bicycle storage for the apartment homes and provide short term bicycle parking at the community center.
- The fire department should review the site plan for fire hydrant placement and emergency vehicle access.

Technical Attachments:

A – Intersection Level of Service (LOS) Methods

B – Existing (2013) Traffic Count Sheets

C – Level of Service Reports

D – Signalized Intersection Queuing Reports