City of Tracy

Tracy Hills Specific Plan
Recirculated
Draft Subsequent Environmental Impact Report
Volume I

October, 2015

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Kimley»Horn

CITY OF TRACY

TRACY HILLS SPECIFIC PLAN

RECIRCULATED

DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

VOLUME I

SCH#2013102053

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Prepared By:

Kimley»Horn

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1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The City of Tracy previously circulated for public review and comment the December 23, 2014 Draft Subsequent Environmental Impact Report (Draft SEIR) for the proposed Tracy Hills Specific Plan Project. Subsequent to the close of the public comment period for the Draft SEIR (which extended from December 23, 2014 through March 3, 2015), both the City and Project Applicant completed additional technical analysis for the Project. While most of the aforementioned conclusions did not change, the City did identify several transportation improvements that, while identified in the City's Transportation Master Plan (TMP), are not within complete control of the City to implement. Thus, in these cases, the City has identified these impacts as significant and unavoidable until such time as these improvements are constructed. In an effort to provide full disclosure of all potential impacts of the proposed Project and provide additional opportunity for public input, the City has elected to recirculate the Draft SEIR in its entirety for an additional 45 days of public review. Refer to Chapter 2, *Introduction,* for additional information.

This chapter summarizes the proposed Project and its history, and provides an overview of the analysis contained in Chapter 4: *Environmental Analysis*. The California Environmental Quality Act (CEQA) requires that this chapter summarize the following: 1) areas of controversy; 2) significant impacts; 3) unavoidable significant impacts; 4) implementation of mitigation measures; and 5) alternatives to the Project.

1.2 PROJECT HISTORY

The Tracy Hills Specific Plan ("THSP") was approved by the City Council in 1998. In addition to the approval of the Tracy Hills Specific Plan, the "Project" that was examined in the certified Tracy Hills Final Environmental Impact Report (SCH No. 95122045) also included corresponding amendments to the City's General Plan and Zoning Ordinance, and annexation into the City. The 1998 THSP study area included approximately 2,732 acres of developable area for development of up to 5,499 residential units in a mix of low, medium and high density neighborhoods, and over five million square feet of non-residential land uses including office, commercial, and light industrial uses, in addition to parks, schools, and additional open space.

Following the City's 1998 approval of the THSP, various regional and local steps were taken to begin implementing the THSP Project. For example, as part of a settlement agreement reached between the County of Alameda, the City of Livermore, the City of Tracy, Sierra Club, and the original applicant, the parties agreed to the creating a governing structure in the form of a joint powers authority ("JPA") which would serve as a mechanism to fund needed regional transportation infrastructure improvements. This JPA was ultimately formed and served as the model followed by the San Joaquin COG in subsequent years when it formed a Regional Transportation Infrastructure Fund to mitigate regional traffic impacts. Approximately 3,500 acres adjacent to the Project Site that have been set aside for conservation (and are subject to recorded conservation easements). This set aside occurred as a previous Project design feature to preserve higher quality habitat areas in the foothills of the Diablo Mountains, and to concentrate development in the low-lying, highly disturbed, low quality habitat areas of the Project site. ~~The City's previous approval of the THSP also resulted in the permanent dedication of 3,500 acres for open space uses west of I-580. A conversation easement has been~~

~~recorded on this 3,500 acres, but in the absence of the development of the THSP, there is no management funding source available. It is envisioned that implementation of the revised THSP would allow for a source of permanent management funding for the 3,500 acres covered by the conversation easement.~~ Lastly, in the interim years since the City's approval of the THSP, the City has embarked on numerous planning efforts aimed at ultimately implementing the THSP. These planning efforts have included the adoption of a revised General Plan in 2011 that included the anticipated build out of the THSP. In addition, in order to implement the City's General Plan as it relates to the THSP, the City has adopted city-wide numerous infrastructure plans designed to accommodate the buildout of the THSP. These infrastructure plans were subjected to their own CEQA review and are now part of the City's adopted infrastructure plans to implement the THSP. The City's previously-certified EIR prepared for the THSP is incorporated by reference into this EIR and is available on the City's website.

Following the 1998 Project approvals, the City updated its General Plan with a comprehensive update in 2011. The General Plan was the subject of a certified FEIR, *City of Tracy General Plan Final EIR,* State Clearinghouse No. 2008092006 (the "General Plan EIR"), and established land use designations for the Project site.

This Draft Environmental Impact Report (EIR) was prepared by the City of Tracy to evaluate potential environmental impacts that could result from the approval and implementation of the Project. The Project includes a comprehensive update to the previously adopted 1998 Tracy Hills Specific Plan. The 1998 THSP established land use and development standards for approximately 2,732 acres located near the existing interchange around Corral Hollow Road and the proposed Lammers Road interchange on Interstate 580. The current Project Area consists of the incorporated portion of the 1998 THSP, which is the -approximately 2,732 acres described here (hereinafter referred to as the "THSP Area" or the "Specific Plan Area"). The Specific Plan was prepared pursuant to the provisions of California Government Code, Title 7, Article 8, Section 65450 et seq., which grants local planning agencies the authority to prepare a specific plan for any area covered by a General Plan for the purpose of establishing systematic methods for implementation of the General Plan.

1.3 PROJECT UNDER REVIEW

OVERVIEW

The Tracy Hills Project Area encompasses approximately 2,731.6 acres within the southern portion of the City of Tracy surrounding the existing interchange at Corral Hollow Road and the proposed Lammers Road interchange on Interstate 580 (I-580).

The Specific Plan consists of three areas defined by the physical characteristics of the site:

1. The northern portion of the Specific Plan between the Delta-Mendota Canal and the California Aqueduct will include a mix of low and medium density residential areas adjacent to light industrial uses.

2. The central portion of the Specific Plan, south of the California Aqueduct and north of I-580, is planned predominately for single-family homes, open space conservation corridors, mixed use business park, and commercial retail areas. These uses will provide employment opportunities and daily needs and services for residents. Multi-use trails will connect residential neighborhoods, integrated with public park amenities that

are within walking distance. Additionally, an elementary school site is planned to serve the neighborhood residents of this area.

3. The southern portion of the Project Area, with rolling and steeper slopes on the southern side of I- 580, will be primarily residential neighborhoods with parks and school sites. Consistent with the General Plan, 185 acres of open space, (~~originally~~ shown as a golf course in the 1998 approved Specific Plan), will be integrated into the low density residential areas. A mixed use business park area will be located southwest of the planned Lammers interchange and a commercial retail area will be located along the southeasterly Project boundary at Corral Hollow Road. This area abuts approximately 3,500 acres of open space under a conservation easement.

Refer to Table 1-1, *THSP Land Use Plan Projected Buildout.*

Table 1-1: THSP Land Use Plan Projected Buildout

Zoning District or Land Use	Approximate Gross Acres[1]	Approximate Adjusted Developable Acres[1,2, 3]	Target Density Range or F.A.R.	Projected Dwelling Units or Square Feet[1]
Residential Estate	95.6	81.3	(0.5-2.0 DU's/ac.)	122 DU's
Low Density Residential[2]	1,216.0	876.3	(2.1-5.8 DU's/ac.)	3,238 DU's
Medium Density Residential	318.1	270.4	(5.9-12.0 DU's/ac.)	2,014 DU's
High Density Residential	9.2	7.8	(12.1-25.0 DU's/ac.)	125 DU's
Mixed Use Business Park	214.6	182.5	0.20 F.A.R.	1,589,069 s.f.
General Highway Commercial	102.4	87.0	0.20 F.A.R.	758,944 s.f.
Light Industrial	363.1	308.6	0.25 F.A.R.	3,360,654 s.f.
Conservation Corridors	119.8		n/a	
Subtotal:	**2,438.8**	**1,813.9**		
Interstate 580 Interchange and ROW	137.5			
California Aqueduct ROW	143.1			
Union Pacific Rail Road	12.2			
TOTAL:	**2,731.6**	**1,813.9**		5,499 DU's 5.7 mil s.f.

Source: Integral Communities, December 2014

1. All Acreages, dwelling units, and square footage examples shown herein are approximate.
2. Adjusted Developable Acres - Residential, Mixed Use Business Park, General Highway Commercial, and Light Industrial acreages have been adjusted to show that an estimated 15% of the land area is used for infrastructure such as roads and utilities, and/or public facilities such as neighborhood parks/amenities, schools, and/or public facilities such as retention basins as noted in the General Plan. Actual numbers will vary depending on site specific characteristics.
3. 180 to 185 acres of General Plan mandated Open Space taken out of Low Density Residential land use category.

1.4 PROJECT BACKGROUND

In May, 2013, the Applicant requested certain amendments to the 1998 THSP, and on October 23, 2013, the City published a Notice of Preparation for the Project, then titled the "Tracy Hills Specific Plan Amendment Project." On November 6, 2013, the City conducted a scoping meeting for the Tracy Hills Specific Plan

Amendment Project. Because the requested modifications to the 1998 THSP are substantial (including modification to the project goals, zoning and development standards, and zoning districts, and associated text, graphics and format), the Project Applicant in consultation with City Staff decided to submit a comprehensive update to the Specific Plan as opposed to submitting numerous amendments to specific sections of the 1998 THSP. While the scope and substance of the Applicant's requested amendments to the 1998 THSP have not changed, it was determined that an entirely re-written Specific Plan would provide greater clarity and definition and more contemporary policy direction, and would reduce the possibility of confusion that could be created by separately amending individual sections of the 1998 THSP. As a result, the City and the Project Applicant have agreed that the environmental analysis for the re-written Specific Plan should address the proposed amendments as an entirely new CEQA project subject to a full environmental impact report, rather than utilizing any streamlined or tiered form of environmental review that could be available under CEQA and the CEQA Guidelines. The analysis contained in this Draft Reirculated EIR compares impacts associated with implementation of the proposed Project to current existing conditions, and not to conditions identified in the 1998 THSP. To document this change in approach to the environmental review for the Project, the City published an Updated Notice of Preparation on April 21, 2014. Per Section 15125 of the *CEQA Guidelines* baseline conditions from which this EIR evaluates impacts were established at the time the Notice of Preparation (NOP) was released on April 21, 2014 and identifies that the Draft Recirculated EIR will cover the entire Project Area and address the full range of environmental topics identified in Appendix G of the State CEQA Guidelines. Chapter 1A of this Draft Recirculated EIR identifies comments received during the scoping period as well as where comments have been responded to throughout the Draft Recirculated EIR.

1.5 SIGNIFICANT IMPACTS

Under CEQA, a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. Table 1-2 (Draft EIR Summary of Impacts and Mitigation) provides a summary of the potentially significant impacts identified in the Draft Recirculated EIR for the proposed Project, proposed mitigation measures, and the level of significance after mitigation.

1.6 MITIGATION MEASURES

This Draft Recirculated EIR suggests mitigation measures that would reduce the impacts identified above to less than significant levels, as summarized in Table 1-2 at the end of this chapter. These mitigation measures will form the basis of a mitigation monitoring and reporting program to be implemented in accordance with State law.

1.7 UNAVOIDABLE SIGNIFICANT IMPACTS

AESTHETICS

Impact 4.1-1 The Project would substantially alter the visual character of the site, including views to, from and across the Project Area, resulting in a significant impact to scenic vistas.

Impact 4.1-2 The Project would substantially alter the existing scenic resources by adding new development directly adjacent to a State-designated route, which would be a significant impact.

Impact 4.1-3 The Project would bring urban development to a rural and agricultural area, thereby changing its character and resulting in a significant impact.

Impact 4.1-5 The Project would change the visual aspect of and views from, to, and across the Project Area, add new development to viewsheds, bring urban development to a rural and agricultural area, resulting in cumulatively considerable contributions to significant impacts on scenic vistas, scenic resources within a State scenic highway, and visual character.

AGRICULTURAL RESOURCES

Impact 4.2-1 Implementation of the Project would result in the conversion of 25 acres of Prime Farmland, approximately 2,200 acres of Farmland of Local Importance and approximately 500 acres of Grazing Land. Impacts to Prime Farmland and Farmland of Local Importance would remain significant and unavoidable.

Impact 4.2-3 Development of the Project, together with other cumulative projects, would result in an incremental reduction in agricultural resources. Impacts to Prime Farmland and Farmland of Local Importance would remain significant and unavoidable.

AIR QUALITY

Impact 4.3-1 Implementation of the Tracy Hills Specific Plan would result in temporary potentially significant construction-related dust and vehicle emissions.

Impact 4.3-2 The Project would result in potentially significant overall increase in the local and regional pollutant load due to direct impacts from vehicle emissions and indirect impacts from area sources and electricity consumption.

Impact 4.3-3 Due to the Project exceedances of SJVAPCD's air quality standards, future development projects would not be consistent with the most recent Air Quality Management Plan and therefore is a potentially significant impact.

Impact 4.3-5 Implementation of the Project could result in a potentially significant localized emissions impact or expose sensitive receptors to substantial pollutant concentrations.

GREENHOUSE GAS EMISSIONS

Impact 4.7-1 Implementation of the Tracy Hills Specific Plan would generate potentially significant greenhouse gas emissions.

Impact 4.7-3 Future development facilitated by the Project and other related cumulative projects could have a cumulatively considerable and potentially significant contribution to greenhouse gas emissions.

NOISE

Impact 4.11-2 Implementation of the Project would result in a potentially significant increase in off-site ambient noise levels due to operational noise impacts.

Impact 4.11-3 Implementation of the Project would result in a potentially significant increase in onsite ambient noise levels due to operational noise impacts.

Impact 4.11-4 Future development facilitated by the Project and other related cumulative projects could result in potentially significant noise impacts.

TRAFFIC AND CIRCULATION

Impact 4.13-1b: Implementation of the THSP Project would result in potentially significant impacts to parking at the Pleasanton and East Dublin BART parking garages.

Impact 4.13-5a: Development within the THSP Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.

Impact 4.13-5b: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the roadway segments.

Impact 4.13-6b: Buildout of the THSP would add traffic onto the existing roadway and potentially impact the roadway segments.

Impact 4.13-7a: Development within the THSP would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to intersections under the Cumulative Plus Project 2035 scenario.

Impact 4.13-7b: Development within the THSP would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to the roadway segments under the Cumulative Plus Project 2035 scenario.

Impact 4.13-8a: Buildout of the THSP Project would add traffic on the 2035 roadway network and would potentially impact the Caltrans intersections.

Impact 4.13-8b: Buildout of the THSP Project would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to the 2035 roadway segments.

Impact 4.13-8c: Buildout of the THSP Project would add traffic to the 2035 freeway network and potentially impact the freeway facilities.

Impact 4.13-9a: Development within the THSP Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.

Impact 4.13-9b: Development within the THSP Project would add traffic on the existing Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.

Impact 4.13-9c: Development within the THSP Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.

Impact 4.13-10a: Development within the THSP Project would add traffic on the cumulative roadway network and would potentially impact the following existing intersections.

Impact 4.13-10b: Development within the THSP Project would add traffic on the future Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.

Impact 4.13-10c: Development within the THSP Project would add traffic onto the cumulative freeway network and potentially impact the freeway facilities.

Impact 4.13-14a: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the existing intersections.

Impact 4.13-15a: Development within the THSP Phase 1a Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.

Impact 4.13-15b:Development within the THSP Phase 1a Project would add traffic on the existing Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.

Impact 4.13-15c: Development within the THSP Phase 1a Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.

Impact 4.13-15g: Phase 1a of THSP does not indicate a bicycle and pedestrian connection from Spine Road along Corral Hollow Road.

1.8 ALTERNATIVES TO THE PROJECT

1.8.1 ALTERNATIVE 1: NO PROJECT/CURRENT ZONING ALTERNATIVE

Under the No Project Alternative, the land uses described in the proposed THSP would not be implemented. Future development of the Project site would occur in accordance with the City's General Plan land use desginations for the Project site. The Project Area is currently designated primarily Residential Medium and Residential Low mixed with some Office, Industrial, Commercial, Village Center and Residential High uses south of the California Aqueduct. The Project Area located north of the California Aqueduct is designated primarily Industrial and Residential Medium. The developable uses for the site under the General Plan include a maximum of 5,499 residential units, up to 6 million square feet of commercial, office, and industrial uses, parks, schools, and various open space uses on approximately 2,732 acres. The most substantive difference between the No Project Alternative and the proposed Project would be the timing and pace of phased development. Under this alternative, the Vesting Tentative Map for Phase 1a would not proceed in the

timeframe contemplated in this Draft Recirculated EIR, and in fact it is reasonable to assume that the overall timing of the entirety of Phase 1 would be protracted. Nonetheless, it is anticipated that the development that could occur under Alternative 1 would be similar in nature to the proposed Project.

1.8.2 ALTERNATIVE 2: NO PROJECT/NO BUILD ALTERNATIVE

Under the No Project/No Build Alternative, the land uses described in the proposed THSP would not be implemented, and no development would occur on the Project site in the future. The site would remain largely vacant and in its current state. Additionally, the comprehensive update to the Specific Plan would not be adopted with the implementation of Alternative 2. The Amendment to the General Plan would not occur under Alternative 2.

1.8.3 ALTERNATIVE 2: REDUCED DENSITY ALTERNATIVE

As noted in Chapter 4.12 of this Draft Recirculated EIR, the proposed Project would require a substantial investment in new infrastructure to mitigate for 2035 conditions. As a result, the focus of this alternative was to determine what level of development would be feasible, remain economically viable, while also serving to minimize (in particular) potentially significant air quality, greenhouse gas emissions and transportation-related impacts, all the while attempting to achieve the majority of the Project objectives.

As such, a trigger analysis was performed to determine to what extent the THSP could be developed with Transportation Master Plan (TMP) identified improvements at the Corral Hollow interchange for 2035 conditions. The Corral Hollow Road interchange is an existing roadway and is the only existing roadway that provides access to the THSP. As the THSP develops, improvements would be made to Corral Hollow Road and the Corral Hollow Road interchange up to the geometry identified in the TMP. Any additional development in the THSP beyond the TMP capacity would require the construction of Lammers Road and the Lammers Road interchange. The analysis indicates that an overall project trip generation of 2,588 trips in the AM peak hour would cause operational degradation along Corral Hollow Road and would merit the construction of Lammers Road and the Lammers Road/I-580 interchange, or result in major improvements to the Corral Hollow interchange. Therefore, Alternative 3, Reduced Density Alternative, is based upon the highest number of trips that can be generated by future development of the Project site before the construction of Lammers Road and the I-580 interchange is triggered. It is anticipated that a mix of uses would be developed under Alternative 3 similar in nature to the mix of land uses identified in the proposed Project. However, under Alternative 3, no more than 2,588 residential equivalent trips could be generated by any combination of these uses. This accounts for an approximately 40 percent reduction in overall trips generated from the Project site. Thus, Alternative 3 would include the development of reduced density land uses overall within the same development footprint identified in the proposed Project description.

1.8.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives.

In comparison to the alternatives analyzed, Alternative 3, Reduced Density Alternative, is considered the environmentally superior alternative. Alternative 3 marginally reduces some impacts due to the reduced development intensity potential. This alternative reduces overall trips generated by the Project by

approximately 40 percent. This accounts for a reduction in air quality, GHG, noise and traffic impacts. Other impacts would be similar in nature when compared to the proposed Project. Alternative 3 meets some of the Project objectives identified in Section 7.1 of this Draft Recirculated EIR. However, it does not fully meet many of the objectives, including implementation of the City's General Plan Area of Special Consideration Number 8: Tracy Hills Specific Plan Area. Additionally, this alternative would avoid significant and unavoidable Project impacts with respect to air quality, greenhouse gas emissions, and noise.

1.9 SUMMARY TABLE

Table 1-2, *Draft EIR Summary of Impacts and Mitigation* provides a summary of the potentially significant impacts identified in the Draft Recirculated EIR for the proposed Project, proposed mitigation measures, and the level of significance after mitigation.

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Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Aesthetics				
Impact 4.1-1: The Project would substantially alter the visual character of the site, including views to, from and across the Project Area, resulting in a significant impact to scenic vistas.	S	4.1-1	The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which have been implemented in the Phase 1a Vesting Tentative Map (Figure 3-12, *Phase 1a Vesting Tentative Map*), and which would be required on individual, site-specific developments within the THSP. These measures would ensure that development within the Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.	SU
Impact 4.1-2: The Project would substantially alter the existing scenic resources by adding new development directly adjacent to a State-designated route, which would be a significant impact.	S	4.1-2	The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which have been implemented in the Phase 1a Vesting Tentative Map (Figure 3-12, *Phase 1a Vesting Tentative Map*), and which would be required on individual, site specific development within the THSP. These measures would ensure that development within the THSP Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.	SU
Impact 4.1-3: The Project would bring urban development to a rural and agricultural area, thereby changing its character and resulting in a significant impact.	S	4.1-3	The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which would be required on individual, site specific development within the THSP. These measures would ensure that development within the THSP Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.	SU
Impact 4.1-4: The Project would create new sources of light and glare, which, despite existing regulations, may result in a significant impact.	S	4.1-4	To decrease light spillage and glare to the maximum extent practicable, all individual developments under the THSP shall be required to: ♦ Prior to final inspection or certificate of occupancy, all exterior and parking area lighting shall be directed downward or shielded, to prevent glare or spray of light on to public rights-of-way or adjacent residential property, consistent with City standards.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.1-5: The Project would change the visual aspect of and views from, to, and across the Project Area, add new development to viewsheds, bring urban development to a rural and agricultural area, resulting in cumulatively considerable contributions to significant impacts on scenic vistas, scenic resources within a State scenic highway, and visual character.	S	4.1-5	The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which would be required on individual, site specific development within the THSP. These measures would ensure that development within the THSP Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.	SU
Agricultural Resources				
Impact 4.2-1: Implementation of the Project would result in the conversion of 25 acres of Prime Farmland, approximately 2,200 acres of Farmland of Local Importance and approximately 500 acres of Grazing Land.	S	4.2-1	As part of the development process for individual site-specific development projects, the agricultural mitigation fee adopted by the City shall be paid for each acre of Prime Farmland to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City. The majority of the 2,200 acres identified as Farmland of Local Importance has historically been utilized as grazing land with no infrastructure in place to irrigate and actively farm. For the portion of the 2,200 acres of Farmland of Local Importance historically utilized as grazing land, the Project established of a conservation easement to ensure that over 3,500 acres of grazing land would be preserved in perpetuity. The recording of this conservation easement on 3,500 acres of open space has been identified as a Project Design Feature that has been implemented. For any of the 2,200 acres of Farmland of Local Importance that has been actively farmed, the City's adopted agricultural mitigation fee shall be paid for each acre of Farmland of Local Importance to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City. Though the City's Municipal Code identifies the Tracy Hills site as exempt from the City's adopted fee, the Project Applicant has agreed to payment of the fee as described within this mitigation measure.	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.2-2: Implementation of the Project could result in a significant impact on agricultural activities on the adjacent land due to potential incompatibilities.	S	4.2-2	As construction occurs along the Project Area boundary, buffers such as roadways, conservation easements, building setbacks, and parking areas, shall be required prior to occupancy of those structures, in compliance with General Plan Policy OSC-2.2 P1.	LTS
Impact 4.2-3: Development of the Project, together with other cumulative projects, would result in an incremental reduction in agricultural resources.	S	4.2-3	As part of the development process for individual site-specific development projects, the agricultural mitigation fee adopted by the City shall be paid for each acre of Prime Farmland to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City. The majority of the 2,200 acres identified as Farmland of Local Importance has historically been utilized as grazing land with no infrastructure in place to irrigate and actively farm. For the portion of the 2,200 acres of Farmland of Local Importance historically utilized as grazing land, the Project established a conservation easement to ensure that over 3,500 acres of grazing land would be preserved in perpetuity. The recording of this conservation easement on 3,500 acres of open space has been identified as a Project Design Feature that has been implemented. For any of the 2,200 acres of Farmland of Local Importance that has been actively farmed, the City's adopted agricultural mitigation fee shall be paid for each acre of Farmland of Local Importance to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City. Though the City's Municipal Code identifies the Tracy Hills site as exempt from the City's adopted fee, the Project Applicant has agreed to payment of the fee as described within this mitigation measure.	SU
Air Quality				
Impact 4.3-1: Implementation of the Tracy Hills Specific Plan would result in temporary potentially significant construction-related dust and vehicle emissions.	S	4.3-1a	Prior to the issuance of any grading permit the City Engineer and the Chief Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with SJVAPCD Regulation VIII, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures.	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors: ♦ All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover; ♦ All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant; ♦ All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking; ♦ When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained; ♦ All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.); ♦ Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant; ♦ Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday; ♦ Any site with 150 or more vehicle trips per day shall prevent carryout and trackout; ♦ Limit traffic speeds on unpaved roads to 15 mph;	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		♦ Install sandbags or other erosion control measures to prevent silt run-off to public roadways from sites with a slope greater than one percent; ♦ Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the THSP Project Area; and ♦ Fugitive dust emanating from the Project site shall not exceed 20 percent opacity, per SJVAPCD Regulation VIII. ♦ Applicant shall consult with the County Public Health Services Department to develop a Valley Fever Dust Management Plan that addresses Valley Fever exposure. The Plan shall be provided to the City and shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate dust management and safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential Valley Fever-containing dust. 4.3-1b The following measures shall be implemented during construction to reduce NO_X related emissions. They shall be included in the Grading Plan, Building Plans, and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit. ♦ Use of construction equipment rated by the United States Environmental Protection Agency (EPA) as having Tier 3 or higher exhaust emission limits for equipment over 50 horsepower that are onsite for more than 5 days, if available and feasible. Tier 3 engines between 50 and 750 horsepower are available for 2006 to 2008 model years. After January 1, 2015, encourage the use of equipment over 50 horsepower that are on-site for more than 5 days to meet the Tier 4 standards, if available and feasible. A list of construction equipment by type and model year shall be maintained by the construction contractor onsite, which shall be available for City review upon request.	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		♦ Use of alternative-fueled or catalyst-equipped diesel construction equipment, if available and feasible; and ♦ Clearly posted signs that require operators of trucks and construction equipment to minimize idling time (e.g., 5-minute maximum). ♦ Properly and routinely maintain all construction equipment, as recommended by manufacturer's manuals, to control exhaust emissions. ♦ Use electric equipment for construction whenever possible in lieu of fossil fuel-fired equipment. 4.3-1c Prior to the issuance of any grading permit, the City shall confirm that the Project complies with the SJVAPCD Rule 9510, Indirect Source (ISR). If feasible measures are not available to meet the emissions reductions targets outlined in Rule 9510, then Project Applicants shall pay an in-lieu mitigation fee to the SJVAPCD to offset the Project's emissions-related impacts, or coordinate with the SJVAPCD to implement a Voluntary Emission Reduction Agreement (VERA). If in-lieu fees are required, Project Applicants shall coordinate with the SJVAPCD to calculate the amount of the fees required to offset the Project's impacts. The applicant shall document, to the City's reasonable satisfaction, its compliance with this mitigation measure.	
Impact 4.3-2: The Project would result in potentially significant overall increase in the local and regional pollutant load due to direct impacts from vehicle emissions and indirect impacts from area sources and electricity consumption.	S	Refer to Mitigation Measure 4.7-1 in Section 4.7, *Greenhouse Gas Emissions.* The following additional mitigation measure is also required: 4.3-2 Prior to issuance of building permits, each applicant for individual site specific developments under the Specific Plan shall demonstrate compliance with SJVAPCD Rule 9510, Indirect Source Review (ISR) or implementation of a Voluntary Emission Reduction Agreement (VERA). Project applicants shall coordinate with the SJVAPCD to ensure that the Project meets the requirements of SJVAPCD Rule 9510 or implement a VERA. If feasible reduction measures are not available to meet the emissions reductions targets as established by the SJVAPCD, then Project Applicants shall pay an in-lieu mitigation fee to the SJVAPCD to offset the Project's emissions-related impacts. If in-lieu fees are required, Project Applicants shall coordinate with	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			the SJVAPCD to calculate the amount of the fees required to offset the Project's impacts.	
Impact 4.3-3: Due to the Project exceedances of SJVAPCD's air quality standards, future development projects would not be consistent with the most recent Air Quality Management Plan and therefore is a potentially significant impact.	S	Refer to Mitigation Measures 4.3-2 and 4.7-1.		SU
Impact 4.3-4: Implementation of the Project could result in a potentially significant localized emissions impact or expose sensitive receptors to substantial pollutant concentrations.	S	4.3-4a	New sensitive land uses including residential, hospital, medical offices, and day care facilities located within 500 feet of the I-580 freeway shall be designed to include air filtration systems with efficiencies equal to or exceeding a Minimum Efficiency Reporting Value (MERV) 13 (or equivalent system) as defined by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.2. The average particle size efficiency (PSE) removal based on ASHRAE Standard 52.2 for MERV 13 is approximately 75 percent for 0.3 to 1.0 $\mu g/m^3$ (DPM) and 90 percent for 1.0 to 10 $\mu g/m^3$ (PM_{10} and $PM_{2.5}$).	LTS
		4.3-4b	New sensitive land uses including residential, hospital, medical offices, and day care facilities shall not be located closer than 1,000 feet from any existing or proposed distribution center/warehouse facility which generates a minimum of 100 truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, they shall be designed and conditioned to include mechanical ventilation systems with fresh air filtration. For operable windows or other sources of ambient air filtration, installation of a central heating, ventilation, and air conditioning (HVAC) system that includes high efficiency filters for particulates (Minimum Efficiency Reporting Value [MERV] 13 or higher) or other similarly effective systems shall be required.	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact 4.3-5: Implementation of the Project could result in a potentially significant impact to regional air quality levels on a cumulatively considerable basis.	S	Refer to Mitigation Measure 4.3-1a through 4.3-4b and Mitigation Measure 4.7-1.	SU
Biological Resources			
Impact 4.4-1: Does the proposed project have a potential to result in 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?	S	4.4-1a Construction operations will be overseen by an appropriately-credentialed biologist (biological monitor), and the Project will implement a worker environmental awareness training program to reduce the Project's potential adverse effects to special status species. This measure is specific to Areas A, B and C of the Project. 4.4-1b Prior to commencement of ground disturbing activities in any areas of potentially suitable habitat to support special status plant species, pre-activity clearance surveys shall be initiated by a qualified botanist. This measure is specific to Area A, B and C. ♦ Surveys shall be floristic in nature and timed during appropriate blooming periods. ♦ Surveys shall target those locales within the Project Site of direct and indirect effects. The results of these surveys shall be submitted to CDFW and USFWS for review. ♦ In the event special-status plant species are detected within portions of the Project Site proposed for development, individual plant(s) or populations shall plant be avoided whenever possible by delineation and observing a no disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. ♦ If buffers cannot be maintained, then consultation with CDFW and USFWS is warranted to determine appropriate minimization measures for impacts to special-status plant species. 4.4-1c Prior to commencement of ground disturbing activities in any areas of potentially suitable habitat to support San Joaquin Kit Fox, no less than sixty (60) days prior to any ground disturbing activates or grading, pre-construction clearance surveys shall be initialed by a qualified biologist to reinforce negative findings (the continued	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		absence of SJKF) on the Project Site with substantial evidence. A second SJKF survey shall be conducted no more than thirty (30) days prior to the onset of construction or ground disturbing activities. If SJKF are detected within portions of the Project Site proposed for development, the developer shall immediately contact the USFWS telephonically and in writing, and following consultation with the USFWS, avoidance and minimization measures specific to SJKF will be incorporated into the Project as described in the USFWS "Standard Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbing Activities (1999)" and the USFWS "San Joaquin Kit Fox Habitat Evaluation Forms (2001)" to reduce impacts to this species to a less-than-significant level. These SJKF avoidance and minimization measures shall include the following: 1) No later than forty five (45) days prior to any ground disturbing activities or grading, the developer shall contact a qualified biologist holding proper permits and provide approval to that biologist to relocate known SJKF located on site to the 3,500 acre open space preserve or another relocation preserve approved by the USFWS or covered by the SJMSCP. 2) No later than fourteen (14) days prior to any ground disturbing activities or grading, all known dens shall be monitored for at least three (3) consecutive days to ensure that SJKF dens, to the extent they exist on the Project Site, are unoccupied prior to den excavation. 3) No later than five (5) business days prior to the initiation of any ground disturbing activities or grading (Grading Start Date), developer shall notify the Regional Offices of CDFW and USFWS in writing of its intent to destroy unoccupied SJKF dens and initiate grading. At this time, Developer shall again authorize qualified representative of CDFW and USFWS to attempt to relocate known SJKF, to the extent feasible. If CDFW and USFWS are unable to relocate known SJKF by the Grading Start Date, Developer shall be required to eliminated known SJKF dens in the manner set forth below: ♦ Known SJKF dens located on the Project Site shall be excavated and destroyed under the direct supervision of a qualified biologist. Prior to the destruction of the dens, the dens shall be monitored for at least three (3) consecutive days to determine whether the den is active or dormant.	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Activity at the den can be monitored by placing tracking medium at den entrances and by spot lighting. If no den activity is observed during this period, then den should be destroyed immediately, pursuant to the den destruction procedures set forth below. ♦ Destruction of dens shall be accomplished by careful excavation with hand tools until it is certain that no kit foxes are inside. The den shall be fully excavated and back filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. ♦ If a kit fox is found inadvertently inside a den during excavation, the animal shall be allowed to escape unhindered, or, to the extent feasible, representatives from the CSFW or USFWS shall be contacted to attempt to relocate and/or collar the kit fox pursuant to SJMSCP or other applicable protocol.	
		4.4-1d During construction, temporary disturbances and Project-related vehicle traffic will be restricted to established roads, construction areas, and other designated lands. Also during construction: 1) Project-related construction vehicles will observe a daytime speed limit of 20-mph, except on County roads and State and Federal highways. 2) Night-time construction will be minimized to the greatest extent feasible. However if it does occur, then the speed limit will be reduced to 10-mph. 3) Project-related, non-ranch operations off-road traffic outside of designated Project areas that are undergoing construction will be prohibited. 4) To prevent inadvertent entrapment of small mammals, including SJKF, during construction, excavated, steep-walled holes or trenches more than 2-feet deep will be covered at the close of each working day by plywood or similar materials. Each excavation shall contain at least one ramp, with long trenches at least one ramp shall be placed every .25 mile. Slope of ramps shall be now steeper than 1:1. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks will be installed. Before such holes or trenches are filled, they will be thoroughly inspected for trapped wildlife. If at any time a trapped or injured SJKF is discovered, the USFWS and the CDFW will be	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		contacted immediately to attempt to relocate and/or collar the SJKF. Escape ramps shall also be installed immediately to allow trapped animals to escape. 5) Construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored within Project limits for one or more overnight periods will be thoroughly inspected for any SJKF before the pipe is subsequently buried, capped, or otherwise used or moved. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS and CDFW has been consulted. If necessary, and under the direct supervision of a biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped. 6) All food, garbage in plastic shall be disposed of in closed containers and regularly removed from the site to minimize attracting SJKF and other sensitive species to the site. 7) Use of rodenticides and herbicides within Project limits will be restricted. Uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide or an equivalent material will be used because of a lower adverse health risk to kit fox. 8) No dogs, cats or other animals shall be permitted on the Project Site. 9) Developer shall provide a sensitive species identification and avoidance education program for all construction employees that consists of a consultation in which persons knowledgeable in kit fox biology and legislative protection to explain endangered species protocols, habitat needs and the measures and conditions of approval being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to all contractors, their employees, and any and all other personnel who are working on the construction site. 4.4-1e Prior to commencement of ground disturbing activities in all areas of potentially suitable habitat to support Swainson's hawk, pre-activity clearance surveys shall be	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. If Swainson's hawk is detected within portions of the Project Site proposed for development, then avoidance and minimization measures specific to Swainson's hawk will be incorporated into the Project as described in the CDFW "Staff Report on Mitigation for Impacts to Swainson's Hawk (2012)" to reduce impacts to Swainson's hawk to less-than significant. This measure is applicable to Areas A, B and C of the Project. 1) If an active nest site is found, the Project will allow sufficient foraging and fledging area to maintain the nest. 2) The Project will not remove historic or known Swainson's hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February. 4.4-1f Prior to commencement of ground disturbing activities in all areas of potentially suitable habitat to support California Tiger Salamander (CTS), pre-activity clearance surveys shall be initialed by a qualified biologist in accordance with published guidelines and protocols. Survey methods shall be derived from published protocols, and to reinforce positive or negative findings with substantial evidence. If CTS is detected within portions of the Project Site proposed for development, then avoidance and minimization measures specific to CTS will be incorporated into the Project as necessary to reduce impacts to CTS to less-than significant. This measure is specific to Areas A, B and C of the Project. 1) Temporary construction disturbances to CTS habitat will be minimized to the extent practicable. All Project-related vehicle traffic will be restricted to established roads, and construction areas. 2) A qualified biologist will be on site during all activities that may result in the take of CTS. The biologist will be given the authority to stop any work that may result in the take of this listed species.	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		3) The biologist will be responsible for ensuring that the exclusion fence installed around occupied CTS habitat inspected before the start of each day and remains intact until project construction is complete. 4) Plastic monofilament netting (erosion control matting) or similar material will not be used for erosion control or other purposes around occupied CTS habitat because CTS may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding. 5) The project proponent or its contractor will implement BMPs to prevent sediment from entering suitable CTS habitat through the use of silt fencing and sterile hay bales. 6) A worker training program that includes the CTS will be conducted for construction personnel before groundbreaking at individual redevelopment project sites. 7) A speed limit of 20 (mph) will be observed within construction areas, particularly on rainy nights when CTS are most likely to be moving between their breeding ponds and upland habitat. To the extent possible, nighttime construction will be minimized. Off-road traffic outside designated construction areas will be prohibited. 8) To prevent entrapment of CTS during construction, any trenches, holes, or other excavations into which CTS could fall and become trapped will be covered. The opening will be completely covered at the end of each workday. 4.4-1g Prior to commencement of ground disturbing activities in all areas of potentially suitable habitat to support California red-legged frog (CRLF), pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. This measure is specific to Areas B and C of the Project. 1) Survey will occur during the wet season (generally October 15 to April 15), no more than 48 hours before new ground disturbance.	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		2) A worker training program that includes the CRLF will be conducted for construction personnel before groundbreaking at individual redevelopment project sites. 3) If a CRLF is found, the construction supervisor shall halt work immediately within a buffer area of 50 feet of any discovered CRLF. The construction supervisor will also contact the project biologist and will suspend all construction activities in the immediate construction zone (50-foot radius) until the animal leaves the site voluntarily or is removed by the biologist to a release site using USFWS-approved transportation techniques. 4) To prevent entrapment of CRLF during construction, any trenches, holes, or other excavations into which CRLF could fall and become trapped will be covered. The opening will be completely covered at the end of each workday. 4.4-1h All applicants who conduct Projects within Areas A and B of the Project Site shall adhere to the terms of the SJMSCP. Participation in the SJMSCP includes compliance with all incidental take measures as required in the SJMSCP, including but not limited to preconstruction surveys to determine presence for special status flora and fauna. Notwithstanding this biological resource section's less-than-significant impact conclusions, if required by applicable law, projects being implemented within Area C shall voluntarily secure Section 7 and/or Section 10 permits in consultation with the appropriate wildlife agencies. 4.4-1i Pre-construction surveys shall include a survey for burrowing owl and raptor nests, which will be conducted prior to grading. Pre-construction surveys for burrowing owl will be conducted weekly, beginning no later than thirty (30) days and ending no earlier than three (3) days prior to the commencement of disturbance. If burrowing owls are found during the pre-construction survey, then replacement burrows and habitat shall be provided prior to the commencement of construction within the 3,500 acre preserve area. The Project applicant shall provide artificial replacement burrows in the event that owls are detected, either as wintering or breeding within Project boundaries.	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Construction activities associated with project features that occur within portions of the Project Site containing occupied or suitable habitat for the burrowing owl and raptor nests shall be restriction to periods outside the breeding season for this species. The breed season for burring owl runs from February 15 through August 31. If construction or operation activities occur during the breeding season for burrowing owls, surveys are required prior to such construction to determine the presence or absence of this species within the impact area. Focused surveys shall be conducted under CDFW and Burrowing Owl Consortium protocol by a qualified biologist from February 15 to August 31. If this species is determined to occupy any portion of the Project Site, consultation with the CDFW and USFWS is required and no construction activity shall take place within 500 feet of an active nest/burrow until it has been determined that the nest/burrow is no longer active, and all juveniles have fledged the nest/burrow. No disturbance to active burrows shall occur without appropriate permitting through the SJMSCP or CDFW. If active burrows are detected outside the breeding season, passive and/or active relocation may be approved following consultation with the CDFW and USFWS. The installation of one-way doors may be installed as part of a passive relocation program. Wintering individuals may be evicted with the use of exclusion devices followed by a period of seven days to ensure that animals have left their burrows. Burrowing owl burros shall be excavated with hand tools by a qualified biologist when determined to be unoccupied, and backfilled to ensure that animals do not reenter.	
		4.4-1j To avoid the potential for disturbance of nesting birds on or near the Project Site, schedule the initiation of any vegetation removal and grading for the period of September 1 through February 15. If construction work cannot be scheduled during this period, a qualified biologist shall conduct pre-construction surveys for nesting birds according to the following guidelines:	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		1) The preconstruction surveys shall be conducted by the qualified biologist no later than 14 days prior to the start of vegetation removal or initiating project grading. 2) If birds protected under the Migratory Bird Treaty Act are found nesting, then appropriate construction buffers shall be established to avoid disturbance of the nests until such time that the young have fledged. The size of the nest buffer shall be determined by the biologist in consultation with CDFW, and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. Typically, these buffers range from 75 to 250 feet from the nest location. 3) Nesting activities shall be monitored periodically by a qualified biologist to determine when construction activities in the buffer area can resume. 4) Once the qualified biologist has determined that young birds have successfully fledged, a monitoring report shall be prepared and submitted to the City of Tracy Development Services for review and approval prior to initiating construction activities within the buffer area. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds. Construction within the designated buffer area shall not proceed until the written authorization is received by the applicant from the Development Services Director. The above provisions are in addition to the preconstruction surveys to confirm presence or absence of nesting Swainson's hawk, burrowing owl, and other special-status species as required under the Incidental Take Minimization Measures of the SJMSCP. 4.4-1k In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site shall take place outside of the typical avian nesting season (e.g., February 1st until September 1st) to the maximum extent practical. If work needs to take place between February 1st and September 1st, a pre-construction survey for nesting birds should be completed prior to the onset of Project activities. If a lapse in Project activity occurs for 7 days or more during the bird nesting season than initial avian	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		clearance surveys shall be repeated. A buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed. 4.4-1l Prior to construction, the Project applicant will stake, flag, fence or otherwise conspicuously delineate all environmentally sensitive areas that are to be protected in place and remain undisturbed during construction. Environmentally sensitive areas would include wetland, riparian habitat, aquatic habitat, raptor nesting locations, etc. The construction materials used to delineate environmentally sensitive areas would be removed no later than 30 days following physical completion of construction. 4.4-1m The discovery of any previously unidentified protected species that are not covered by the SJMSCP, including those protected under the MBTA and the Fish and Game Code, shall be avoided and evaluated by a qualified biologist during surveys. The USFWS and CDFG shall be notified of the presence of any previously unreported protected species. Any unanticipated take of protected wildlife shall be reported immediately to the USFWS and CDFG. 4.4-1n Prior to commencement of ground disturbing activities in areas of potentially suitable habitat to support Western spadefoot toad, pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. 1) For work conducted within suitable habitat and during the western spadefoot toad migration and breeding season (November 1 to May 31), a qualified biologist will survey the active work areas (including access roads) in mornings following measurable precipitation events. Construction may commence once the biologist has confirmed that no spadefoot toads are in the work area. 2) If western spadefoot toad is found within the construction footprint, it will be allowed to move out of harm's way of its own volition or a qualified biologist will relocate the organism to the nearest burrow that is outside of the construction impact area.	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		4.4-1o Prior to commencement of ground disturbing activities in areas of potentially suitable habitat to support American Badger, pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. If American badger is located within the Project Site, potential loss of individual animals must be mitigated through one of the following: (1) an on-site passive relocation program, through which badgers are excluded from occupied burrows by installation of a one-way door in burrow entrances, monitoring of the burrow for one week to confirm badger usage has been discontinued, and hand excavation and collapse of the burrow to prevent reoccupation; or (2) active trapping and relocation of badgers to suitable off-site habitat by a qualified biologist. 4.4-1p The Project applicant shall execute a management and funding agreement for the managing and monitoring of one hundred percent of the approximately 3,500 acre open space preserve subject to the three conversation easements discussed in this Section, which shall occur before the commencement of any ground disturbing activities in Area C. (Note Areas A and B are already subject to a management and funding agreement and therefore this Measure applies to Area C.)	
Impact 4.4-C: Would the Project have a potential 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?.	S	4.4-3a The project area includes numerous small episodic drainage features. If adverse effects to them cannot be avoided, then the Project shall notify the appropriate regulatory agency (i.e., USACE, CDFW and RWQCB) prior to impacting the feature, to comply with the requisite permitting requirements. 3) Section 401 of the CWA requires a water quality certification for discharges and/or adverse impacts to regulated waterways and aquatic environments. The RWQCB is empowered to enforce this regulation through the Water Quality Certification Program. For this Project, activities may require a CWA Section 401 Water Quality Certification (WQC). 4) Section 1600 of the California Fish and Game Code (CFGC) regulates substantial alteration of waters and their adjacent riparian lands within the State. For this Project, activities may require Lake and Streambed Alteration Notification.	LTS

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		5) If impacts to special aquatic resource areas are ultimately unavoidable within the Project Site, then the applicant should develop an informal plan to offset or compensate for adverse effects to these resources to ensure rapid and favorable action during any warranted permitting processes. With regard to Waters of the State, the Project has voluntarily elected to offset locales associated with permanent losses, at a mitigation to impact ratio of 3:1, and 1:1 for temporary disturbances to regulated waters, riparian habitats or other sensitive natural communities in all areas where Project related activities would be expected to adversely affect watercourses, streams, drainages, and their tributaries. The offset associated with permanent losses would occur by purchasing conservation credits from an approved mitigation bank, in-lieu fee program, or equivalent resource agency-approved process. 6) Avoidance measures being utilized by the Project include but are not be limited to the following: 1) complete avoidance of wetlands and other water features; 2) construction of structures to maintain natural floodplains; 3) installation of open channel drainages, swales or bottomless culvert systems to maintain the integrity of natural water features; 4) installation of culverts for wildlife crossings in sensitive and unique habitats to allow connectivity among water features or natural lands; 5) use natural/biological materials in armoring of structures (i.e. bridges, culverts, etc.) to the greatest extent practical; 6) when feasible, install exclusionary fencing to guide wildlife away from roadways and into water features or sensitive habitats; and 7) consult with regulatory agencies to determine the most environmentally sound methods and alternatives prior to Project implementation. 4.4-3b A Jurisdictional Determination would be required from the USACE documenting isolated conditions and lack of jurisdictional authority on the Project site. 4.4-3c A RWQCB Report of Waste Discharge (ROWD) pursuant to the California Water Code Section 13260 would need to be acquired for impacts to "waters of the State" under the jurisdictional authority of the RWQCB. 4.4-3d A CDFW Streambed Alteration Agreement shall also be obtained, where necessary under applicable laws and regulations, for any proposed Project activities that would affect State waters regulated by the CDFW within the Project Site.	

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Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact 4.4-D: Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites? .	S	4.4-4a A 100-foot setback from the California Aqueduct shall be required to allow wildlife movement to persist throughout the Project Site without any significant barriers or blockades. Prior to development of properties adjacent to I-580 or the south side of the California Aqueduct that do not have a 100-foot wide conservation easement placed adjacent to these facilities, a 100-foot wide conservation easement shall be recorded along the I-580 and the Aqueduct. These measure ensures that known wildlife movement corridors remain intact, and allow for an appropriate number and size of permeable wildlife passages through Project boundaries, ensuring connectively to areas that already are subject to conservation easements, such as the 3,500 acre preserve located adjacent to Area C.	LTS
Impact 4.4-E: Would the proposed Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? .	S	See Mitigation Measures 4.4-1a through 4.4-1o.	LTS
Impact 4.4-F: The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	S	See Mitigation Measures 4.4-1h, 4.4-1j, 4.4-1m, and 4.4-4a.	LTS
Impact 4.4-6: The Project may conflict with applicable habitat conservation plans or natural conservation plans.	S	Implement Mitigation Measures 4.4-2a and 4.4-2b.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Cultural Resources			
Impact 4.5-1: Ground disturbing activities associated with the Project have the potential to significantly disturb previously discovered or undiscovered cultural or historical resources.	S	4.5-1a Lammers Road Homestead (P-39-000120) Monitoring A trained archaeological monitor (BA/BS in Anthropology or related field with an emphasis in archaeology OR adequate training and experience in archaeological field methods) shall be present within 100 feet of the Lammers Road Homestead (P-39-000120) (Lammers Road Homestead measures 490' (N-S) x 400' (E-W)) during ground disturbance associated with the Project. The archaeological monitor shall work under the direction of a qualified archaeologist (M.S./M.A. in anthropology, archaeology, or related discipline with an emphasis in archaeology and demonstrated competence in archaeological research, fieldwork, reporting, and curation AND meets the Secretary of Interior standards as a qualified archaeologist). If a buried historic or archaeological feature or deposit is present it shall undergo archaeological excavation, analysis, technical reporting, and the collection shall be offered to a local repository, such as the Tracy Historical Museum. If no resources are found, the archaeological monitor shall submit a report that documents negative findings for buried historic archaeology. 4.5-1b Construction Personnel Training Construction supervisory personnel shall be notified of the existence of cultural resources and required to keep personnel and equipment away from these areas. A qualified archeologist (see definition under MM 4.5-1a) shall be notified prior to initiation of construction activities. During construction and operations, personnel and equipment shall be restricted to the project work site.	LTS
Impact 4.5-2: Unanticipated archaeological discoveries may be potentially significantly damaged or destroyed during Project construction.	S	4.5-2a Training and Reporting Prior to the initiation of disturbing activities associated with the Project area, all construction personnel shall be alerted to the potential for encountering buried or unanticipated cultural and paleontological remains, including prehistoric and/or historical resources. Construction personnel shall be instructed that upon discovery	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			of buried cultural materials, all work within a 30 meter vicinity of the find will be halted immediately, and the lead agency will be notified. Once the find has been identified by a qualified archaeologist, the lead agency shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the find is found to be an historical resource per State CEQA Guidelines as discussed in Section 4.5.4.2.	
		4.5-2b	Human Remains If human remains are encountered during ground disturbing activities, all work within a 30 meter vicinity of the find shall be halted immediately, and the City of Tracy and the San Joaquin County Coroner shall be notified. If the remains are determined to be Native American, the Native American Heritage Commission shall be notified within 24 hours as required by Public Resources Code §5097.94 and §5097.98. The Native American Heritage Commission shall notify the designated Most Likely Descendant(s), who would in turn provide recommendations for the treatment of the remains within 48 hours of being granted access to the find.	
Impact 4.5-3: Directly or indirectly potentially significantly destroy a unique paleontological resource or site or unique geologic feature.	S	4.5-3a	Paleontological spot check monitoring by a trained paleontologist (a trained paleontologist should have a BA/BS in Anthropology or related field with an emphasis in paleontology OR adequate training and experience in paleontological field methods, and work under the direct supervision of a qualified paleontologist) of excavations deeper than five feet in depth within the Project area, and spot check monitoring of any excavation in valleys in the eastern portion of the Project area against the hills in several of the washes (all areas of the Oro Loma Formation as mapped on the USGS Geology Map (Dibble 2006)) shall be performed by a train paleontologist.	LTS
Geologic Resources				
Impact 4.6-4: Be located on expansive soil, creating substantial risks to life or property that would be potentially significant.	S	4.6-4	During excavation activities and prior to the placement of fill on the site, a certified geotechnical engineer shall be retained by the Project Applicant/future Project Applicants to evaluate subgrade soils for the extent of their expansive potential. For areas found to contain soft, potentially expansive clays, the soil shall be removed	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			(i.e., over excavated) and/or stabilized prior to the placement and compaction of fill. Stabilization techniques include, but are not limited to, the placement of 18 inches of ½-inch to ¾-inch crushed rock over stabilization fabric (such as Mirafi 500X or equivalent), placement of larger, angular stabilization rock (1-inch to 3-inch, clean) and use of chemical treatments such as lime to reduce the soil's expansive potential. In addition, building construction alternatives, such as the use of alternative foundation types (i.e., post-tension, piles, etc.) versus end-bearing foundations, shall be considered and implemented where appropriate. Final techniques shall be (a) developed by a certified geotechnical engineer or engineering geologist and (b) reviewed and approved by the City prior to issuance of a grading permit.	
Greenhouse Emissions				
Impact 4.7-1: Implementation of the Tracy Hills Specific Plan would generate potentially significant greenhouse gas emissions.	S	4.7-1	The Project shall include, but not be limited to, the following list of design features. These features shall be incorporated into the design of the Project to ensure consistency with adopted statewide plans and programs to the extent feasible. Project Applicants shall demonstrate the incorporation of design features of the Project prior to the issuance of building or occupancy permits, as noted below. Transportation ♦ Provide pedestrian connections to the off-site circulation network (building permit triggers). ♦ For commercial uses, implement a trip reduction program, for which all employees shall be eligible to participate (occupancy permit). ♦ Provide a ride sharing program, for which all employees shall be eligible to participate (occupancy permit). ♦ Provide amenities for non-motorized transportation (i.e., secure bicycle storage, changing rooms, and showers) (building permit). ♦ Provide transit shelters for all transit stops within the Project (building permit triggers and coordination with TRACER).	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		♦ Include traffic calming measures at Project intersections and on roadways where feasible (tentative map). ♦ Employers shall provide parking cash-out programs for employees (100 percent of employees eligible). Energy Efficiency ♦ Design buildings to be energy efficient and meet or exceed Title 24 requirements (per Measure E-1 of the City's Sustainability Action Plan (building permit). ♦ Install "cool" roofs and cool pavements, and strategically placed trees as applicable. ♦ Install high efficiency lighting, and energy efficient heating and cooling systems (building permit). ♦ Install high energy efficient appliances (clothes washers, dishwashers, fan, and refrigerators) (occupancy permit). ♦ Install programmable thermostats (building permit). ♦ Design buildings to reduce energy use through solar orientation and take advantage of landscaping and sun screens (building permit). ♦ Reduce unnecessary outdoor lighting (building permit). Water Conservation and Efficiency ♦ Install water-efficient irrigation systems (building permit). ♦ Landscaping shall consist of drought tolerant native species with water-efficient characteristics (building permit). ♦ Comply with *Municipal Code* Section 21.20.050, Efficient Landscape Standards (building permit).	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			♦ Install water-efficient fixtures (e.g., faucets, toilets, showers) (building permit). ♦ Install infrastructure for recycled water per the City's Infrastructure Master Plan. Solid Waste ♦ Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard) (building permit). ♦ Provide interior and exterior storage areas for recyclables and adequate recycling containers located in public areas (occupancy permit).	
Impact 4.7-2: The THSP Project would result in a potentially significant conflict with an applicable greenhouse gas reduction plan, policy, or regulation.	S	Refer to Mitigation Measure 4.7-1. No additional measures are required.		LTS
Impact 4.7-3: Future development facilitated by the Project and other related cumulative projects could have a cumulatively considerable and potentially significant contribution to greenhouse gas emissions.	S	Refer to Mitigation Measure 4.7-1. No additional measures are available.		SU
Hazards and Hazardous Materials				
Impact 4.8-1: Implementation of THSP Project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	S	4.8-1	Facilities that store, handle or use regulated substances as defined in the California Health and Safety Code 25532 (g) in excess of threshold quantities shall prepare and implement, as necessary, risk management plans (RMP) for determination of risks to the community. The RMP will be reviewed and approved by the San Joaquin County Environmental Health Department (EHD) through the Certified Unified Program Agencies (CUPA) process.	LTS
Impact 4.8-2: Implementation of THSP Project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment.	S	4.8-2a	Prior to issuance of grading permits, a Phase II ESA focused on soil sampling shall be conducted near the location of the underground crude oil pipelines, as determined by a qualified Phase II/Site Characterization specialist. The sampling shall be conducted in consultation with Conoco Phillips, Shell and the San Joaquin (EHD), with regard to potential contaminated soils from pipeline leaks. Upon completion	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		of site characterization activities, the Site Characterization specialist shall recommend remedial activities, if necessary, in consultation with EHD. This recommendation from the Phase II ESA shall be implemented to the satisfaction of EHD.	
		4.8-2b Prior to issuance of grading permits, the Project Applicant shall work with Conoco Phillips and Shell to implement and observe a site damage-prevention plan to the satisfaction of the City of Tracy Engineering Division. This may potentially include the following: ♦ Designing a site development plan incorporating permanent land use over the pipeline right-of-way that minimizes the potential for damage to the lines (as discussed above, this is already an integrated plan design feature, but is listed here because it is an important component of a damage prevention plan); ♦ Prominently marking the line locations prior to site development, maintaining markings throughout the development process, and final marking after work is complete; ♦ Communicate plans for significant excavation or land contouring work; ♦ Identify changes in land contour that could significantly reduce the soil cover over the pipelines; ♦ Evaluate the effects of heavy construction vehicles crossing the lines, designate areas for heavy construction vehicles to cross the lines, and provide temporary fill or other temporary protection over the lines where necessary; ♦ Minimize installations of new buried utilities and services across the existing pipelines; ♦ Evaluate whether the existing lines should be lowered to increase vertical separation between the pipelines and new surface features; and ♦ Develop other damage-prevention measures as may be necessary.	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		In addition to the damage prevention measures listed above, the Project Applicant and the pipeline operators should consider other measures for reducing risk suggested in the Pipelines and Informed Planning Alliance (PIPA) recommended practices on informed land use. PIPA recommended practices are not "mandated", but they are best management practices intended to reduce risk and enhance pipeline safety.	
Impact 4.8-3: Implementation of the proposed school may be subject to a release from the nearby petroleum pipelines.	S	4.8-3 The proposed underground storm drain system, roadways, graded slopes, and final surface topography shall be designed and constructed in accordance with the recommendations outlined in the *Liquid Petroleum Pipeline Risk and California Aqueduct Flood Risk for the Proposed Tracy Hills School Site, Jefferson School District, City of Tracy, San Joaquin County, California* prepared by Wilson Geosciences, Inc. dated May 2013 and to the satisfaction of the City of Tracy Engineering Division.	LTS
Impact 4.8-4: Implementation of the proposed development within the THSP Project may be subject to a release from the nearby natural gas and crude oil pipelines.	S	4.8-4 In accordance with the *Pipeline Safety Hazard Assessment, Tracy Hills Specific Plan* prepared by PlaceWorks dated September 2014, proposed development adjacent to the natural gas and/or crude oil pipelines shall implement the following measures: 1. Incorporate a 13- to 18-foot setback distance from the centerline of the Phillips 66 pipeline to the nearest buildings/structures in the proposed development. 2. Incorporate a setback distance of 25 feet from the centerline of any pipeline within the two natural gas pipelines and the Chevron crude oil pipeline. This would result in an additional 15 feet on the northeast side of the PG&E easement and an additional 20 feet on the southwest side of the easement to be dedicated as open space or public space or used for landscaping. 3. Incorporate designated land uses over the pipeline easements, such as public space, open space, or green space, to minimize the potential for third party damage. 4. Mark the pipeline locations prior to THSP development, maintaining the markings throughout the development process, and installing final markings after the work is complete.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		5. Coordinate with the pipeline operators when development calls for excavation or utility trenching near the pipelines. 6. All contractors must initially pothole or hand dig to the proposed depth of the utility trench or excavation if working within 25 feet of the pipeline easements. 7. Consult with the pipeline operators on whether heavy construction vehicles with axle loads greater than 15,000 pounds would create stress on the pipelines at their current burial depths when crossing the lines and/or easements. Establish temporary fill or other protective measures as needed and establish permanent crossing areas for vehicles in excess of 15,000 pounds. 8. Avoid placing new utilities and services within the pipeline easements and minimize utility crossings over the pipeline easements to the extent feasible. 9. Select landscaping vegetation with shallow root structures within the setback zone to avoid root structures that damage pipeline coatings. 10. Avoid planting trees that prevent direct observation of the pipelines by aerial patrol. 11. Use non-flammable fencing along the pipeline easement. 12. Manage storm water runoff to prevent erosion of the pipeline bedding. 13. Maintain access to the pipelines by pipeline personnel and first responders in the event of an emergency. 14. Future Project Applicants or sales representatives shall disclose to potential occupants regarding the proximity of the natural gas and crude oil pipelines, as required in accordance with Assembly Bill 1511 – Real Property: Disclosures: Transmission Pipeline. 15. Future Home Owners Associations (HOA) shall maintain an emergency contact list with phone numbers of the local police, fire department, and pipeline operators (PG&E, Chevron, Phillips 66, and Shell).	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			16. Coordinate with the pipeline companies so that the property occupants are notified if excavation or maintenance activities for the pipelines are planned along the pipeline easements. 17. Report any roadwork or underground utility work that involves digging in or near the pipelines to the pipeline companies. 18. Report immediately any odors or leakage from the pipelines to the pipeline operator and local emergency response personnel (i.e., the Tracy Fire Department). 19. Future HOAs shall maintain at an appropriate on-site location an emergency response plan that outlines emergency procedures to be followed in the event of a pipeline release. For additional detail refer to the September 2014 *Pipeline Safety Hazard Assessment, Tracy Hills Specific Plan.*	
Impact 4.8-5: Implementation of the proposed school may be subject to a breach or rupture of the California Aqueduct.	S	4.8-5	The Project Applicant shall secure all necessary approvals through the California Department of Education and Department of Toxic Substances Control for the proposed school site in THSP Phase 1.	LTS
Impact 4.8-6: The proposed retention basins could attract wildlife that is hazardous to aircraft associated with the nearby Tracy Municipal Airport.	S	4.8-6	The proposed retention basins have been designed and constructed in accordance with the recommendations outlined in the Federal Aviation Administration Advisory Circular No. 150/5200-33B to control hazardous wildlife. In the event that the basins do not have a drawdown time of 48 hours following a storm event, the Project Applicant shall fund and the City shall use physical barriers, such as bird balls, wires, grids, pillows or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions which shall be approved and inspected by the City. In addition, all vegetation in or around the basins that provide food or cover for hazardous wildlife should be eliminated.	LTS
Impact 4.8-7: Implementation of THSP Project may conflict with the adopted emergency response plan and emergency evacuation plan.	S	Refer to Mitigation Measures 4.12-1, 4.12-2a and 4.12-2b		LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact 4.8-8: Implementation of THSP Project may expose structures adjacent to undeveloped areas to a risk of wildland fires.	S	To mitigate the fire protection hazards associated with wildland fires, the Applicant shall: 4.8-8a Provide a 100-foot firebreak between developed areas and any land that is covered with flammable material such as grass, brush, or forest covered land, including conservation easements (including but not limited to CE 1, CE 2, and CE 3), but excluding conservation corridors. Grasses or weeds including the conservation corridor, that can be expected to burn shall be cattle grazed, disked or mowed to a height of no more than 4 inches pursuant to the terms of the adopted Preserve Management Plan (dated October 2011), and in accordance with City of Tracy Municipal Code in order to minimize the amount of fuel to sustain or allow the spread of fire. 4.8-8b Provide fire department access to all easement corridors and conservation easements (including but not limited CE 1, CE 2, and CE 3) for the purpose of suppressing wildland fires outside of firebreaks. 4.8-8c All new buildings that are located on the south side of I-580 and immediately adjacent to conservation easements (including but not limited to portions of CE 1, Southern CE 2, and CE 3) shall include measures that increase the likelihood that a structure would withstand intrusion by fire. This shall be accomplished by constructing those buildings on the edge of development to the standards of the California Building Code, Chapter 7A, Building and Construction Methods for Exterior Wildfire Exposure.	LTS
Hydrology and Water Quality			
Impact 4.9-1: Implementation of the Project would result in a significant impact to downstream surface water quality during construction.	S	4.9-1a Prior to issuance of a grading or building permit, whichever occurs first, all Project Applicants shall demonstrate to the City of Tracy compliance with NPDES General Construction Activities Storm Water Permit Requirements established by the Clean Water Act (CWA), including the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall identify specific types and sources of stormwater pollutants, determine the location and nature of potential impacts, and specify appropriate control measures to eliminate any potentially significant impacts on receiving water quality from stormwater runoff. The SWPPP shall comply with the	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			most current standards established by the Central Valley RWQCB. Best Management Practices shall be selected from a menu according to site requirements and shall be subject to approval by the City Engineer and Central Valley RWQCB.	
		4.9-1b	Prior to issuance of a grading or building permit, whichever occurs first, all Project Applicants shall submit to the City Engineer for review a draft copy of the Notice of Intent (NOI) and SWPPP. After approval by the City, the NOI and SWPPP shall be sent to the State Water Resources Control Board for approval.	
Impact 4.9-2: Implementation of the Project would result in substantial erosion or sedimentation on- and off- site with the alteration of existing drainage patterns.	S	4.9-2	All Project Applicants shall submit and obtain City approval of a drainage plan to the City of Tracy for on-site post-construction BMP drainage improvements consistent with the *Tracy Hills Storm Drain Master Plan*. Once City approval is received, all Project Applicants shall construct the drainage improvements as necessary and in accordance with the timing described in the *Tracy Hills Storm Drain Master Plan*.	LTS
Impact 4.2-3: Implementation of the Project would provide substantial additional sources of polluted runoff during operation of the Project.	S	4.9-3	All Project Applicants shall implement the following measures: 1. Shall implement sound Integrated Pest Management (IPM) principles and practices in an effort to minimize the use of pesticides in common landscaped areas, open space areas, or park areas. These programs shall include setting acceptable thresholds of infestations and a process for determining the best prevention or treatment method for a given pest. Pest problems in common landscaped areas, open space areas, or park maintenance shall be managed through prevention and treatment using physical, mechanical and biological controls. The use of toxic pesticides will be implemented only after other non-toxic approaches or products have been determined infeasible. Fertilizers shall be applied sparingly, and shall be derived from natural sources, such as fish emulsion or manure. 2. Shall cooperate with the City to create a public education program for future business owners to increase their understanding of water quality protection, which should include but not be limited to:	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			♦ Hazardous material use controls; ♦ Hazardous materials exposure controls; ♦ Hazardous material disposal and recycling. 3. Encourage the use of alternative methods to avoid hazardous materials to the extent feasible, and prohibit the dumping of hazardous materials in open space areas or the storm drain system.	
Impact 4.9-4: Implementation of the Project could place structures within a 100-Year Flood Hazard Area.	S	4.9-4	All Project Applicants within the 100-year floodplain shall submit and obtain approval of grading and building plans that demonstrate that the building's finished floor elevations are a minimum of 1 foot above the 100-year flood elevation for Corral Hollow Creek, and meet the requirements to withstand a 200-year flood per the ULOP Criteria.	LTS
Land Use and Planning				
Impact 4.10-1: The Project may result in a conflict with the existing provisions of the 2009 San Joaquin Airport Land Use Compatibility Plan (ALUCP), or the ALUCP in effect at the time of future project applicant submissions. This is considered a potentially significant impact regarding the Project's consistency with previously adopted land use plans and policies.	S	4.10-1	All tentative and final maps within the THSP shall conform to the provisions of the 2009 ALUCP (or the ALUCP in effect at the time of Project Applicant submissions), including but not limited to: ♦ Land use restrictions of the ALUCP; ♦ All proposed school sites within a 2 mile radius of the airport runway must obtain approval by the State Department of Transportation Division of Aeronautics.	LTS
Noise				

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.11-1: Grading and construction on the Project site could result in a potentially significant temporary noise and/or vibration impacts to nearby noise sensitive receivers.	S	4.11-1	Prior to the issuance of demolition permits or ground disturbing activities (whichever occurs first), the Contractor shall demonstrate to the satisfaction of the City of Tracy Engineering and Building Divisions that the Project complies with the following: ♦ Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. ♦ Property occupants located adjacent to the Project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the Project. A sign, legible at a distance of 50 feet shall also be posted at the Project construction site. All notices and signs shall be reviewed and approved by the City of Tracy Planning Division prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints. ♦ The Contractor shall provide evidence that a construction staff member would be designated as a Noise Disturbance Coordinator and would be present on-site during construction activities. The Noise Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Noise Disturbance Coordinator shall notify the City within 24-hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Planning Division. All notices that are sent to residential units immediately surrounding the construction site and all signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		♦ During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers. ♦ Construction activities shall occur between the hours of 7:00 AM and 10:00 PM daily pursuant to Section 9.12.030 and Section 4.12.820 of the Tracy Municipal Code.	
Impact 4.11-2 Implementation of the Project would result in a potentially significant increase in off-site ambient noise levels due to operational noise impacts.	S	No feasible mitigation measures.	SU
Impact 4.11-3: Implementation of the Project would result in a potentially significant increase in ambient noise levels due to onsite operational noise impacts.	S	4.11-3a Prior to issuance of any Building Permit, the Project Applicant shall demonstrate, to the satisfaction of the City of Tracy, compliance with the following: ♦ To the extent possible, all mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and ♦ All mechanical equipment shall be screened and enclosed to minimize noise or the equipment shall be factory rated at a noise level that would comply with the noise limits set forth in the City's Municipal Code. 4.11-3b Where a commercial zone abuts a residential zone or residential use, all deliveries of goods and supplies; trash pick-up (including the use of parking lot trash sweepers); and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7:00 AM and 10:00 PM, unless otherwise specified in an approved conditional use permit or other discretionary approval. 4.11-3c All feasible sound attenuation shall be incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking area has been minimized to the greatest extent practicable such that parking lot noise would not exceed the standards indicated in Tracy Municipal Code Section 4.12.750 (General Sound Level Limits).	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
		4.11-3d	Prior to the issuance of Building Permits, any residential development within 2,040 feet of the I-580 centerline shall be designed in compliance with the California Building Code (CBC) and an Acoustical Noise Analysis shall be prepared to ensure that the City of Tracy's exterior and interior noise level standards defined in General Plan Figure 9-3, *Land Use Compatibility for Community Noise Environment*, are met at all residential, commercial, and recreational land uses. The analysis shall verify that residences are adequately shielded and/or located at an adequate distance from mobile noise sources. Residential buildings or structures shall be designed to ensure interior noise levels do not exceed 45 dBA. In addition, individual developments shall, to the extent feasible, implement site-planning techniques such as the following: ♦ Increasing the distance between the noise source and the receiver; ♦ Using non-noise sensitive structures such as garages to shield noise-sensitive areas; ♦ Orienting buildings to shield outdoor spaces from a noise source; ♦ Incorporating architectural design strategies, which reduce the exposure of noise-sensitive spaces to stationary noise sources (i.e., placing bedrooms or balconies on the side of the house facing away from noise sources). These design strategies shall be implemented as required by the City to comply with City noise standards; ♦ Incorporating noise barriers, walls, or other sound attenuation techniques, as required by the City to comply with City noise standards; and ♦ Modifying elements of building construction (i.e., walls, roof, ceiling, windows, and other penetrations), as necessary to provide sound attenuation. This may include sealing windows, installing thicker or double-glazed windows, locating doors on the opposite side of a building from the noise source, or installing solid-core doors equipped with appropriate acoustical gaskets.	
		4.11-3e	Prior to the issuance of Grading Permits, any residential development associated with the Specific Plan Buildout (i.e., development other than Phase 1a) located within 260 feet of the Union Pacific Railroad corridor shall have an Acoustical Analysis prepared	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		to fully analyze acoustical impacts and develop measures, if required, to ensure that the City's exterior standards of 70 dBA would be achieved for the proposed land uses that are subject to noise from train pass-bys. The analysis shall conduct detailed train noise modeling to verify that residences are adequately shielded and/or located at an adequate distance from the rail corridor to comply with the City's exterior standards. The analysis shall also ensure that interior noise levels do not exceed 45 dBA.	
Impact 4.11-4: Development facilitated by the Project and other related cumulative projects could result in cumulatively potentially significant noise impacts.	S	Refer to Mitigation Measures 4.11-1 and 4.11-2a through 4.11-2e. No other feasible mitigation measures are available.	SU
Public Services and Utilities			
Impact 4.12-1: Result in potentially significant adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	S	4.12-1 As part of the application process for each individual development under the Specific Plan, the Project applicant shall be required to pay the applicable development impact fees. 4.12-2 Prior to issuance of the first building permit, the developer shall construct an all-whether, emergency vehicle access to all points of the project site from Lammers Road (including crossings of the Delta Mendota Canal, Union Pacific Railroad, and California Aqueduct). The emergency vehicle access shall be available to police, fire, and all other necessary and relevant emergency responders. The design, location, and maintenance of the access shall meet City standards to the satisfaction of the Fire Chief. The access shall be continuously maintained by the developer until permanent access is developed and accepted for maintenance by the City. 4.12-3 Prior to final inspection or certificate of occupancy for the 289th house within Tracy Hills, a fire station and all related equipment shall be constructed and operational to serve Tracy Hills in accordance with the Citywide Public Safety Master Plan. Additional station(s) shall subsequently be constructed and operational, the design of which shall be in accordance with the Citywide Public Safety Master Plan, and adopted standards of coverage, to the satisfaction of the Fire Chief.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.12-2: Result in potentially significant adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, or result in the need for new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service levels, response times, or other performance objectives.	S	4.12-4a	The Project Applicant of individual projects within the THSP Project Area shall consult with the Police Department during preliminary stages of site design to review safety features, determine their adequacy, and suggest design and/or physical improvements to the proposed site plan. This is achieved through the City's development review process, which currently is coordinated with various City Departments' review of new development proposals.	LTS
		4.12-5b	As part of the application process for each individual development under the Specific Plan, the Project applicant shall be required to pay the applicable development impact fees.	
Impact 4.12-3: Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause potentially significant environmental effects.	S	4.12-6	Developers of subsequent phases of the Project (beyond Phase 1a) will be required to prepare SB 221 analysis for each subsequent phase of development..	LTS
Impact 4.12-5: Generate a demand for wastewater treatment capacity that is currently not available and thus potentially significant.	S	4.12-7a	As part of the development process for each individual site-specific development under the Specific Plan, the City shall review flow monitoring, at the applicant's cost, to determine available capacity. If the City determines, based on technical and legal constraints and other relevant data, that existing capacity is available to serve the development at issue, then no further mitigation is required. However, if the City determines, based on technical and legal constraints and other relevant data, that existing capacity is not available to serve the development at issue, then the improvements as identified in the Master Plan must be constructed that are necessary to create the additional capacity required, subject to any applicable credit and/or reimbursement provisions, as determined by the City.	LTS
		4.12-8b	As part of the development process for each individual site-specific development under the Specific Plan, the applicant shall pay its applicable development impact fees for wastewater facilities prior to issuance of building permits.	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Traffic and Circulation				
Impact 4.13-2: Implementation of the THSP Project would result in potentially significant impacts to bicycle and pedestrian modes.	S	4.13-2	To achieve compliance with CIR-3 Policy P4 and P6, the bicycle and pedestrian improvement connections from the THSP to the Citywide Network shall be implemented when the roadway infrastructure is required as determined at approval of each final map or issuance of building permits by the City Engineer. The pedestrian and bicycle facilities are included in the City of Tracy's typical cross sections and in the City TIF. Bicycle and pedestrian facilities within the THSP area shall be implemented with each building permit application/final map approval. Widening Corral Hollow Road and constructing and widening Lammers Road shall be in place when the project generates 2,588 AM peak hour trips.	SU
Impact 4.13-5a: Development within the THSP Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.	S	4.13-5a	As shown in Table 4.13-20, *Existing Plus Project 2035 Intersection Delay & LOS Mitigations* the following mitigations are required to obtain acceptable LOS based on development of the Project as assumed for year 2035. Triggers based on the volume of traffic generated by the Project in year 2035 are identified in Table 4.13-68 at the end of the chapter: ♦ Intersection #1 (Corral Hollow Road / I-580 EB Ramps) Signalize the intersection and widen the I-580 overcrossing to four through lanes. The northbound approach shall be reconstructed to include two northbound through lanes and a northbound right-turn lane. The southbound approach shall include two southbound through lanes and a southbound left-turn lane, and the eastbound approach shall include a shared eastbound through/right-turn lane and an eastbound left-turn lane. This mitigation is beyond the scope of improvements identified in the adopted TMP. The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Interchange (as identified in the adopted TMP). Either of these options will fully mitigate the impact. The TMP improvement includes only the reconstruction of the northbound approach to include a northbound through lane and a shared northbound through/right-turn lane. On the southbound approach, only the reconstruction to include a southbound left-	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		turn lane and two southbound through lanes. And on the eastbound approach, only the reconstruction to include an eastbound left-turn lane, a shared eastbound left/through lane, and an eastbound right turn lane. This intersection shall be interconnected with Intersection #2: Corral Hollow Road / I-580 WB Ramps. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements for Corral Hollow Road and Lammers Road. The PSR shall commence immediately following the approval of this Project Application by the City of Tracy and the Interchange shall be improved when the project will generate its 2,588 AM peak hour trip, which would be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval in collaboration with the City Engineer. If the trip generation indicates 2,588 AM peak hour trips or more, the interchange shall be improved before issuance of such building permit and/or final map approval. The intersection falls under Caltrans jurisdiction. ♦ Intersection #2 (Corral Hollow Road/ I-580 WB Ramps) - Signalize the intersection, widen the I-580 overcrossing to four through lanes, and construct a westbound loop on-ramp to accommodate Project 2035 conditions. The northbound approach shall be reconstructed to include two northbound through lanes and two northbound right-turn lanes which lead to the loop on-ramp. The southbound approach shall include two southbound through lanes and one southbound right-turn lane, and the westbound approach shall include one shared westbound through/left-turn lane and one westbound right-turn lane. This mitigation is beyond the scope of improvements identified in the adopted TMP. The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Interchange (as identified in the adopted TMP). Either of these options will fully mitigate the impact. The TMP improvement	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		includes only the reconstruction of the northbound approach to include a northbound left-turn lane and a northbound through lane. On the southbound approach, only the reconstruction to include a southbound right-turn lane and two southbound through lanes. And on the westbound approach, only the reconstruction to include a shared westbound through/left-turn lane and a channelized westbound right-turn lane. This intersection shall be interconnected with Intersection #1: Corral Hollow Road / I-580 EB Ramps. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements for Corral Hollow Road and Lammers Road. The PSR shall commence immediately following the approval of this Project Application by the City of Tracy and the Interchange shall be improved when the project will generate its 2,588 AM peak hour trip, which would be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval as directed by the City Engineer. If the trip generation indicates 2,588 AM peak hour trips or more, the interchange shall be improved before issuance of such building permit and/or final map approval. The intersection falls under Caltrans jurisdiction. ♦ Intersection #3 (Corral Hollow Road /Spine Road) – Signalize the intersection and improve the northbound approach to include a northbound left-turn lane, two northbound through lanes, and a northbound right-turn lane. The southbound approach shall include two southbound left-turn lanes, two southbound through lanes, and a southbound right-turn lane. The eastbound approach shall include an eastbound left-turn lane, an eastbound through lane, and an eastbound right-turn lane. The westbound approach shall include two westbound left-turn lanes, a westbound through lane, and a westbound right-turn lane. The construction of Corral Hollow's approaches to four through lanes is within the scope of improvements identified in the adopted TMP, while Spine Road and the north and southbound turn lanes into the Project site from Corral Hollow Road are not, and thus, are the responsibility of the Applicant. If the	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Applicant chooses to also construct the Lammers Road Interchange, the mitigation decreases as follows: Construct the northbound approach to include a northbound right turn lane, a northbound through lane and a shared northbound through/right-turn lane. Construct the southbound approach to include a southbound left-turn lane, two southbound through lanes, and a southbound right-turn lane. The westbound approach shall be constructed to include a westbound left-turn lane, a westbound through lane, and a westbound right-turn lane. No decreased mitigations would be triggered for the eastbound approach. Either of these options will fully mitigate the impact. The intersection shall be improved at the issuance of the first building permit. ♦ Intersection #4 (Corral Hollow Road / Linne Road) – Signalize the intersection and reconstruct the northbound approach to include a northbound right-turn lane and a northbound through lane. The southbound approach shall include a southbound left-turn lane and a southbound through lane, and the westbound approach shall remain a shared westbound left/right-turn lane. This signal shall be interconnected with the controller at the railroad crossing and improvements shall be constructed at the railroad crossing gates Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. Approval of the railroad crossing improvements falls under the jurisdiction of UPRR and the CA PUC. The Applicant shall, in collaboration with the City Engineer and UPRR/CA PUC, commence with a preliminary and final design process for the intersection and railroad crossing improvements. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved when the project will generate its 468 PM peak hour trips, which could be generated by a mix of office, retail, industrial and	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval as directed by the City Engineer. If the trip generation indicates 468 PM peak hour trips or more, the intersection shall be improved before issuance of such subsequent building permit and/or final map approval.. Approval of the railroad improvements falls under the jurisdiction of UPRR and CA PUC. ♦ Intersection #5 (Tracy Boulevard / Linne Road) – Signalize the intersection and reconstruct the southbound approach to include a shared southbound through/left-turn lane and a southbound right-turn lane. Construct the eastbound approach to include an eastbound left-turn lane and a shared eastbound through/right-turn lane. The westbound approach shall remain a shared westbound left/through/right-turn lane and the northbound approach shall remain a shared northbound through/left/right-turn lane. This signal shall be interconnected with the controller at the railroad crossing and improvements shall be constructed at the railroad crossing gates. Approval of the railroad improvements falls under the jurisdiction of UPRR and CA PUC. The applicant shall, in collaboration with the City Engineer and UPRR/CA PUC, commence with a preliminary and final design process for the intersection improvements. Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved when the project will generate its 469 PM peak hour trips, which could be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval as directed by the City Engineer. If the trip generation indicates 469 PM	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		peak hour trips or more, the intersection shall be improved before issuance of such building permit. ♦ Intersection #7 (Corral Hollow Road / Valpico Road) – Signalize the intersection and reconstruct the southbound, eastbound, and westbound approaches to each include a left-turn lane and a shared through/right-turn lane. Reconstruct the northbound approach to include one left-turn lane, one through lane, and one right-turn lane. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The intersection shall be improved at the issuance of the first building permit. ♦ Intersection #9 (Corral Hollow Road / New Schulte Road) - Reconstruct the westbound approach to include a westbound left-turn lane, one westbound through lanes and right turn lane, and a one westbound right-turn lane. The northbound, southbound, and eastbound approaches are to remain as they are in Existing Conditions. Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved at the issuance of the first building permit. ♦ Intersection #10 (Lammers Road / Old Schulte Road) - Signalize the intersection and reconstruct the northbound approach to include a northbound left-turn lane and a northbound through lane. Reconstruct the southbound approach to include a southbound right-turn lane and a southbound through lane. The eastbound approach shall remain as it is in Existing Conditions. However, the City has established a CIP Project for this interim improvement and partial funds have already been collected from other development projects as fair share	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		payments and these other development projects funded the addition of the northbound left-turn lane only. The Applicant shall fund the addition of the southbound right-turn lane and signal modifications required to accommodate Project 2035 Conditions. Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved at the issuance of the first building permit. A portion of the ROW required for widening this intersection falls with San Joaquin jurisdiction. ♦ Intersection #13 (Mountain House Parkway / I-580 EB Ramps) – Signalize the intersection. The City has approved the Medline, FedEx, and Building 1 and 2 projects which have been conditioned to implement this improvement to mitigate their respective impacts. With anticipated installation of the signal, the Project will have no additional impact at this intersection. This intersection falls under Caltrans jurisdiction. ♦ Intersection #14 (Mountain House Parkway / I-580 WB Ramps) – Signalize the intersection. The City has approved the Medline, FedEx, and Building 1 and 2 projects which have been conditioned to implement this improvement to mitigate their respective impacts. With anticipated installation of the signal, the Project will have no additional impact at this intersection and thus the Applicant is not responsible for this mitigation. This intersection falls under Caltrans jurisdiction. ♦ Intersection #23 (Internal Intersection along S. Tracy Hills Road) – Signalize the intersection and construct the northbound approach to include a shared northbound through/left-turn lane and a channelized northbound right-turn lane. The southbound approach shall include dual southbound left-turn lanes	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			and a shared southbound through/right turn lane. The eastbound approach shall include an eastbound left-turn lane and a shared eastbound through/right-turn lane. The westbound approach shall include a westbound left-turn lane, two westbound through lanes, and a westbound right-turn lane. This improvement is the responsibility of the Applicant and shall be implemented at the time this area and roadways develop, and before the first building permit for this area is issued. ♦ Intersection #36 (Corral Hollow Road / Tennis Lane) – Construct a median along Corral Hollow Road and allow only left –in's and right-in-right-out turns on both approaches of Tennis Lane. This improvement shall be added to the City TMP and TIF. The Project will have no impact after implementation of this improvement. The City shall implement this improvement.	
Impact 4.13-5b: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the roadway segments.	S	4.13-5b	Construct the first two lanes of the future four lane arterial along Corral Hollow Road between Linne Road and the railroad tracks south of Golden Leaf Lane. Construct new street segments along Corral Hollow Road to a four lane arterial from S. Tracy Hills Road to Linne Road. This mitigation also requires the construction of Lammers Road as a four lane expressway/parkway between I-580 and Kimball High School. Operational analysis at the intersections of Corral Hollow Road with Linne Road and Valpico Road indicate that one through lane in each direction along Corral Hollow Road would maintain acceptable intersection LOS standards of D or better. Intersections govern street network operations in an urban environment, and the roadway segment capacity analysis omits intersection operations. Thus, widening of the street segments beyond the required capacity at the intersections is not required. The construction of two lanes of the future four lane facility is required to extend the current design life of Corral Hollow Road. The portion of this widening between Linne and Golden Leaf Lane is a City project and fully funded by the City TIF. The Applicant shall, through payment of the City TIF, contribute its fair share towards this improvement. The roadway shall include either a Class I or a Class 2 bicycle facility and pedestrian facilities. Roadway improvements must be completed prior to the project generating 2,588 AM peak hour trips. Sections of Corral Hollow and Lammers Road fall within the jurisdiction of San Joaquin County. The Applicant shall, in collaboration with the City Engineer, UPRR/PUC, the Department of	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			Reclamation, and San Joaquin County, commence with a preliminary and final design process for the roadway improvements at the issuance of the first building permit for the Project.	
Impact 4.13-6a: Buildout of the THSP Project would add traffic on the existing roadway, potentially impacting the existing Caltrans intersections.	S	4.13-6a	As shown in Table 4.13-27, *Existing Plus Project Buildout Intersection Delay & LOS Mitigations* the following mitigations are required, triggers are identified in Table 4.13-68 at the end of the chapter: ♦ Intersection #1 (Corral Hollow Road / I-580 EB Ramps) – Signalize the intersection and widen the I-580 overcrossing to four through lanes. In addition, reconstruct the eastbound approach to include an eastbound left-turn lane, a shared eastbound left/through lane, and two eastbound right-turn lanes. Reconstruct the northbound approach to include two northbound through lanes and a northbound right-turn lane. Reconstruct the southbound approach to include a southbound left-turn lane and two southbound through lanes to accommodate Project Buildout conditions. This mitigation is beyond the scope of improvements identified in the adopted TMP. The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Road Interchange (as identified in the adopted TMP). Either of these options will fully mitigate the impact. The TMP improvement includes only the reconstruction of the northbound approach to a northbound through lane and a shared northbound through/right-turn lane. On the southbound approach, only the reconstruction to a southbound left-turn lane and two southbound through lanes, and on the eastbound approach, the reconstruction to an eastbound left-turn lane, a shared eastbound left/through lane, and an eastbound right turn lane. This intersection shall be interconnected with Intersection #2: Corral Hollow Road / I-580 WB Ramps. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements when the Project Application is approved by the City of Tracy. The intersection falls under Caltrans jurisdiction. ♦ Intersection #2 (Corral Hollow Road / I-580 WB Ramps) - Signalize the intersection, widen the I-580 overcrossing to four through lanes and construct a	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			westbound loop on-ramp. Reconstruct the northbound approach to include two northbound through lanes and two northbound right-turn lanes leading into the loop on-ramp. Reconstruct the southbound approach to include two southbound through lanes and a southbound right-turn lane, and reconstruct the eastbound approach to include a shared eastbound through/left-turn lane and an eastbound right-turn lane to accommodate Project Buildout conditions. This mitigation is beyond the scope of improvements identified in the adopted TMP. The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Road Interchange (as identified in the adopted TMP). Either of these options would fully mitigate the impact if timed concurrent with the triggers identified above. The TMP improvement includes only the reconstruction of the northbound approach to a northbound left-turn lane and a northbound through lane. On the southbound approach, the reconstruction to a southbound right-turn lane and two southbound through lanes, and on the westbound approach, the reconstruction to a shared westbound through/left-turn lane and a channelized westbound right-turn lane. This intersection is interconnected with Intersection #1: Corral Hollow Road / I-580 EB Ramps. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements. The intersection falls under Caltrans jurisdiction. ♦ Intersection #13 (Mountain House Parkway / I-580 EB Ramps) – Refer to Mitigation 4.13-5a. ♦ Intersection #14 (Mountain House Parkway / I-580 WB Ramps) – Refer to Mitigation 4.13-5a	
Impact 4.13-6b: Buildout of the THSP would add traffic onto the existing roadway and potentially impact the roadway segments.	S	4.13-6b	Implement Mitigation Measure 14.13-5b.	SU
Impact 4.13-7a: Development within the THSP would result in additional traffic on the City-wide roadway	S	4.13-7a	Mitigation measures below are feasible, but have no identified or committed funding mechanism, and thus the impact is considered *significant and unavoidable*. As shown in	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
network and would result in cumulatively considerable impacts to intersections under the Cumulative Plus Project 2035 scenario.			Table 4.13-40, *Cumulative Plus Project 2035 Intersection Delay & LOS Mitigations* the following mitigations are required, triggers are identified in Table 4.13-68 at the end of the chapter: ♦ Intersection #35 (Linne Road / MacArthur Drive) – Signalize the intersection and reconstruct the southbound approach to include one southbound left-turn lane, one southbound through lane, and one southbound right-turn lane, reconstruct the eastbound approach to include an eastbound left-turn lane and a shared eastbound through/right-turn lane, reconstruct the westbound approach to include a westbound left-turn lane, one westbound through lane, and one westbound right-turn lane. No additional lanes are required on the northbound approach. This signal shall be interconnected with the controller at the railroad crossing and improvements shall be constructed at the railroad crossing gates. This intersection falls under the jurisdiction of San Joaquin County and UPRR/ CA PUC and no CIP project is identified. The Applicant shall pay a fair share contribution to the improvement and the improvement shall be implemented by the time the Project generates 1,420 trips. The Applicant shall in collaboration with the City Engineer, UPRR/ CAPUC, and San Joaquin County, commence with a preliminary and final design process for the intersection improvements before issuance of the first building permit. ♦ Intersection #36 (Corral Hollow Road / Tennis Lane) – Signalize the intersection or construct a median along Corral Hollow Road and allow only left-ins and right-in-right-out turns on both approaches of Tennis Lane. This improvement shall be added to the City TMP and TIF. The Project will have no impact after implementation of this improvement. The City will implement the improvement as part of their CIP program.	
Impact 4.13-7b: Development within the THSP would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable	S	4.13-7b	The Applicant shall pay the applicable City TIF, County TIF, SJCOG RTF, the JPA TIF, and any other applicable transportation fees that may be in place when individual projects are processed under the THSP in accordance with applicable laws and regulations.	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
impacts to the roadway segments under the Cumulative Plus Project 2035 scenario.				
Impact 4.13-8b: Buildout of the THSP Project would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to the 2035 roadway segments.	S	4.13-8b	The Applicant shall pay the applicable City TIF, County TIF, SJCOG RTF, the JPA TIF, and any other applicable transportation fees that may be in place when individual projects are processed under the THSP in accordance with applicable laws and regulations.	SU
Impact 4.13-8d: Buildout of the THSP Project would trigger individual roadway and intersection improvements.	S	4.13-8d	The Applicant shall submit site-specific trip generation and traffic assignments to determine triggers warranting improvements as identified in the City TMP and this EIR.	LTS
Impact 4.13-9a: Development within the THSP Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.	S	4.13-9a	As shown in Table 4.13-28, *Existing Plus Buildout Intersection Delay & LOS Mitigations*, the following mitigations are required to obtain acceptable LOS. ♦ Intersection #L1 (Greenville Road / Patterson Pass Road) - The City of Livermore has identified the installation of a signal at this intersection and the reconstruction of all approaches to include left-turn lanes. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. ♦ Intersection #L2 (Greenville Road /Tesla Road) - The City of Livermore has identified the installation of a signal at this intersection. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars,	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		$1,288 per residential unit to the JPA TIF partially to mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. ♦ Intersection #L3 (Concannon Boulevard / Livermore Avenue) - The City of Livermore has not identified any improvements at this intersection; however, optimization of signal timing improves the operating conditions to acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. ♦ Intersection #L5 (Isabel Avenue / Vallecitos Road) - The City of Livermore has identified the reconstruction of the westbound approach at the intersection to include a left-turn lane and a shared left/right-turn lane. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	
Impact 4.13-9b: Development within the THSP Project would add traffic on the existing Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.	S	4.13-9b	Per the Settlement Agreement, as referred to on pages 4.13-6 through 4.13-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. These roadways would continue to operate at unacceptable conditions.	LTS
Impact 4.13-9c: Development within the THSP Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.	S	4.13-9c	Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			be overseen by the City Engineer. The freeway would however continue to operate at unacceptable conditions.	
Impact 4.13-10a: Development within the THSP Project would add traffic on the cumulative roadway network and would potentially impact the following existing intersections.	S	4.13-10a	As shown in Table 4.13-28, *Existing Plus Buildout Intersection Delay & LOS,* the following mitigations are required: ♦ Intersection #L1 (Greenville Road / Patterson Pass Road) - Even with implementation of the identified improvements in Cumulative conditions, the intersection would continue to operate at an unacceptable LOS. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. The cumulative impact would not be fully mitigated through payment of the JPA TIF. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. ♦ Intersection #L2 (Greenville Road / Tesla Road) - Even with implementation of the identified improvements in Cumulative conditions, the intersection would continue to operate at an unacceptable LOS. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. The cumulative impact would not be fully mitigated through payment of the JPA TIF. A dollar for dollar credit up to $644 for payment of the SJCOG fee and	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. ♦ Intersection #L4 (Isabel Avenue / Concannon Boulevard) - Even with implementation of the identified improvements in Cumulative conditions, the intersection would continue to operate at an unacceptable LOS. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition,the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. The cumulative impact would not be fully mitigated through payment of the JPA TIF. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	
Impact 4.13-10b: Development within the THSP Project would add traffic on the future Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.	S	4.13-10b	Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	
Impact 4.13-10c: Development within the THSP Project would add traffic onto the cumulative freeway network and potentially impact the freeway facilities.	S	4.13-10c	Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to mitigate its impact. In addition,the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	SU
Impact 4.13-14a: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the existing intersections.	S	4.13-14a	As shown in Table 4.13-60, *Existing Plus Phase 1a Intersection Delay & LOS Mitigations* the following mitigations are required to be installed by the Project Applicant, triggers are identified in Table 4.13-68 at the end of the chapter: ♦ Intersection #1 (Corral Hollow Road / I-580 EB Ramps) – Install an all-way stop controlled intersection as an interim improvement once development is approved to generate 196 PM peak hour trips to mitigate the interim impact. Signalize the intersection at the time development is approved to generate 832 PM peak hour trips to accommodate Project Phase 1a conditions and fully mitigate their impact. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with an Encroachment Permit application to install the all-way stop sign and signal immediately following approval of this Project Application by the City of Tracy.	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		♦ Intersection #3 (Corral Hollow Road / Spine Road) – Signalize the intersection and improve the northbound approach to include a northbound left-turn lane and one northbound through lane. The southbound approach to include one southbound through lane and one southbound right-turn lane, and the eastbound approach to include two eastbound left-turn lanes and one eastbound right-turn lane. The construction of Corral Hollow's approaches to four through lanes is within the scope of improvements identified in the adopted TMP, while Spine Road and the north and southbound turn lanes into the site from Corral Hollow are not, and thus, are the responsibility of the Applicant. The improvement shall be installed before issuance of the first certificate of occupancy. ♦ Intersection #4 (Corral Hollow Road / Linne Road) – Install a signal at the intersection that will have interconnect with the railroad crossing controller. Improvements shall be constructed at the railroad crossing gates. The signalization is a Public Utilities Commission requirement because vehicle queues will spill across the railroad tracks and cause safety concerns for train traffic. The signal shall be installed when 396 PM peak hour trips would be generated by the Project. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The Applicant shall, in collaboration with the City Engineer and UPRR/PUC, commence with an engineering design process to install the improvements identified. This design shall commence immediately following the approval of this Project Application by the City of Tracy. ♦ Intersection #5 (Tracy Boulevard / Linne Road) – Reconstruct the eastbound approach to an eastbound left-turn lane and eastbound through lane, and the westbound approach to a westbound right-turn lane and westbound through lane. Allow the northbound and southbound approaches to remain as they are in existing conditions. This improvement is a partial TMP improvement and	

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			shall be partially funded by the City TIF. The City has funding for the expansion of Corral Hollow Road to four lanes from Parkside Drive to Linne Road, including the improvement and signalization of the Valpico Road/Corral Hollow Road intersection. The City is proceeding and currently in the planning stage of the expansion and signalization project and expects to begin construction in 2016/2017. With anticipated road expansion and installation of the signal, the Project will have no additional impact at this intersection and thus the Applicant is not responsible for this mitigation. ♦ Intersection #13 (Mountain House Parkway / I-580 EB Ramps) – Refer to Mitigation 4.13-5a. ♦ Intersection #14 (Mountain House Parkway / I-580 WB Ramps) –Refer to Mitigation 4.13-5a	
Impact 4.13-14b: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the roadway segments.	S	4.13-14b	The Applicant shall coordinate with the City Engineer to fund and implement the overlay of the existing two lanes of Corral Hollow Road between I-580 and Linne Road. Operational analysis at the intersection of Corral Hollow Road and Spine Road and Corral Hollow Road and Linne Road indicate that one through lane in each direction along Corral Hollow Road would maintain acceptable intersection LOS standards of D or better. Turn lanes will be provided at the intersection of Corral Hollow/Spine Road. Intersections govern street network operations in an urban environment, and the roadway segment capacity analysis omits intersection operations. Thus, widening of the street segments beyond the required capacity at the intersections is not required. The overlay of the two existing lanes is required to extend the current design life of Corral Hollow Road and is required before issuance of the first building permit. The roadway may include Class I or Class II bicycle and pedestrian facilities.	LTS
Impact 4.13-14d: Development within the Phase 1a THSP Project would add traffic on the existing Phase 1a	S	4.13-14d	The Applicant shall provide roadways to the school that meet acceptable on and off-site storage for drop-off/pickup queuing per the City Engineer Standard Plans and requirements and/or tentative map, safety considerations, vehicular	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
street network and potentially impact the streets surrounding the school site.		circulation, and bike and pedestrian access. Details are further specified in the Existing Plus Phase 1a Trip Generation section of this Draft SEIR.	
Impact 4.13-15a: Development within the THSP Phase 1a Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.	S	4.13-15a ♦ Intersection #L1 (Greenville Road / Patterson Pass Road) - The City of Livermore has identified the installation of a signal at this intersection and the reconstruction of all approaches to include left-turn lanes. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. ♦ Intersection #L2 (Greenville Road / Tesla Road) - The City of Livermore has identified the installation of a signal at this intersection. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. ♦ Intersection #L5 (Isabel Avenue / Vallecitos Road) - The City of Livermore has identified the reconstruction of the westbound approach at the intersection to include a left-turn lane and a shared left/right-turn lane. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
			the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	
Impact 4.13-15b: Development within the THSP Phase 1a Project would add traffic on the existing Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.	S	4.13-15b	Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.13-15c: Development within the THSP Phase 1a Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.	S	4.13-15c	Per the Settlement Agreement, (pages 6-9), the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.	SU

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.13-15d: Development of the THSP Phase 1a School and Interim School Site would add traffic to onto the Phase 1a roadway network and potentially impact operations and safety of pedestrians, cyclists and vehicles on the adjacent roadway facilities.	S	4.13-15d	The Applicant shall provide roadways to the school meeting acceptable on and off-site storage for drop-off/pickup queuing, safety considerations, vehicular circulation, and bike and pedestrian access, per the City Standard Plans and /or Tentative Map. Details are further specified in the EIR. Though final school site design is subject to review and approval of the State Architect, prior to final Tentative Map approval and/or when the first student from Phase 1a attends either schools listed here, the Project Applicant shall demonstrate that the following planning and design considerations are addressed to the satisfaction of the City Engineer: ♦ School driveways are located directly opposite proposed streets entering the residential neighborhood to maximize traffic and student safety ♦ Pedestrian and bicycle (Class I) paths, sidewalk, and crosswalks are provided ♦ A Safe Routes To School Program is initiated in coordination with the School District. The Safe Routes to School Program shall be funded by the Applicant. ♦ The Project applicant shall fund the development of a Traffic Management Plan that will be prepared to the satisfaction of the City Engineer, the Police Department, and the Jefferson School District for the interim conditions when additional traffic would be generated to the interim school adjacent to the Tracy Hills Elementary School. The Traffic Management Plan shall identify techniques (such as: assignment of a traffic control staff member from the school to flag and manage drop off and pick-up, to control efficient ingress and egress to the school site, and coning off lanes for efficient circulation) to maintain traffic and student safety, and provide efficient pick-up and drop off procedures. The Traffic Management Plan shall be implemented when the temporary school building opens up for attendance.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.13-15e: Development of the temporary off-site school for 450 students would add traffic to onto the City roadway network and potentially impact safety and operations on the adjacent roadway facilities.	S	4.13-15e	The City shall work with Tom Hawkins Elementary School and Jefferson School District to develop a Traffic Management Plan for interim conditions. The Project Applicant shall fund the development of a Traffic Management Plan to the satisfaction of the City Engineer, the Police Department, the Tom Hawkins Elementary School and the Jefferson School District for the interim conditions when additional traffic would be generated to the school. The Traffic Management Plan shall identify techniques (such as: assignment of a traffic control staff member from the school to flag and manage drop off and pick-up, to control efficient ingress and egress to the school site, and coning off lanes for efficient circulation) to maintain traffic and student safety, and provide efficient pick-up and drop off procedures. The Traffic Management Plan shall be implemented when the first student from the Phase 1a area attend the Tom Hawkins Elementary School. The City Engineer shall approve the Traffic Management Plan.	LTS
Impact 4.13-15f: Development of the temporary on-site school would add traffic onto the Phase 1a roadway network and would potentially impact the roadway facilities.	S	4.13-15f	The Applicant shall develop a Traffic Management Plan to the satisfaction of the City Engineer, Police Department, and the Jefferson School District for Interim Conditions which is inclusive of the determination of the modular school at the business park location.	LTS

Table 1-2: Draft EIR Summary of Impacts and Mitigation

Environmental Impacts	Significance Before Mitigation	Mitigation Measures		Significance With Mitigation
Impact 4.13-15g: Phase 1a of THSP does not indicate a bicycle and pedestrian connection from Spine Road along Corral Hollow Road.	S	4.13-15g	The Applicant shall construct a Class I or a Class II bicycle facility and a pedestrian facility from Spine Road to connect to the existing bicycle and pedestrian facilities just north of Linne Road. This improvement shall be included in the expansion of the first two lanes of Corral Hollow Road as indicated in the TMP. This improvement shall be in place when the Project generates 2,588 AM peak trips. The Applicant may fund these improvements up front and enter into a reimbursement agreement with the City for a credit against their proportionate fair share of the improvement.	SU

LTS-Less Than Significant
SU-Significant and Unavoidable
S-Significant

1A SUMMARY OF NOP COMMENT LETTERS RECEIVED

Table 1A summarizes the comments received in response to the NOP/IS. The summary of the comment is followed by a reference to the location in the Draft EIR where the topic is discussed or analyzed. Copies of the original comments are included in Appendix A.

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
San Joaquin Council of Governments **September 10, 2013**	*Comment:* A minor amendment was approved January 2011 to allow the Tracy 580 BP Project to participate in the SJMSCP. Prior to ground disturbance, the Tracy 580 BP Project is required to mitigate the entire project in endowment fees for a total of 705.95 acres. Requests that applicant schedule a SJMSCP Biologist to perform a pre-construction survey prior to any ground disturbance. Request that applicant to sign and return incidental take minimization measures to SJMSCP staff (given to project applicant after pre-construction survey is completed). Requests the applicant pay appropriate fee based on SJMSCP findings. *Response:* Refer to Section 4.4 of the Draft EIR for a description of the 3,500 acre conservation easement dedication as part of the minor amendment to the SJMSCP. In addition, Mitigation Measure 4.4-2a in this same section outlines the pre-construction surveys required under the SJMSCP.
San Joaquin Air Pollution Control District **September 17, 2013**	*Comment:* The San Joaquin Air Pollution Control District (District) requested that the EIR consider the following items in the Scope: ♦ Project Emissions should be identified and quantified. Permitted (stationary sources) and non-permitted (mobile sources) should be analyzed separately. The analysis should identify pre and post project emissions. *Response:* Refer to Section 4.3.3 of the Draft EIR for quantified construction and operation emissions from the Project. Also refer to Mitigation Measures 4.3-1a through 4.3-2 for measures that reduce construction and operational emissions. ♦ Nuisance Odors should be discussed as to whether the project would create objectionable odors affecting a substantial number of people. *Response:* Refer to Section 4.3.3 of the Draft EIR for a description of odor impacts from the Project. ♦ Toxic Air Contaminants (TACs) – if the project is located near residential/sensitive receptors, the proposed project should be evaluated to determine the health impact of TACs to the nearby rectors. If an HRA is to be performed, it is recommended that the project proponent contact the

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
San Joaquin Air Pollution Control District September 17, 2013	District to review the proposed modeling approach. *Response:* Refer to Section 4.3.3 of the Draft EIR for a description of TAC emissions and impacts from the Project. Additionally, Mitigation Measures 4.3-4a and 4.3-4b have been identified to minimize impacts in this regard. ♦ If an EIR is to be prepared, the document should include a discussion of 1) the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality, 2) A discussion of the components and phases of the project and the associated emission projections, including ongoing emission from each previous phase 3) mitigation measures, if preliminary review indicates that the project would have a significant adverse impact on air quality. *Response:* Refer to Section 4.3.3 of the Draft EIR for a description of the emissions quantification methodology and assumptions. ♦ The Project is subject to District Rule 9510 which is intended to mitigate a project's impact on air quality through project design elements or by payment of applicable off-site mitigation fees. Any applicant subject to District Rule 9510 is required to submit an Air Impact Assessment application to the District no later than applying for final discretionary approval. *Response:* Refer to Section 4.3.3 of the Draft EIR for a description of the Project's Rule 9510 requirements. Compliance with Rule 9510 is also required in Mitigation Measures 4.3-1c and 4.3-2.
San Joaquin County Public Works, November 20, 2013	*Comment:* The San Joaquin County Department of Public Works noted that a County Watercourse Encroachment Permit shall be required for all work done on Corral Hollow Creek, its banks and within 25 feet of the top of its banks. *Response:* Refer to Section 4.9.1, *Floodplain Areas* of the Draft EIR for a description of any work to be conducted within the Corral Hollow Creek, and any required permits.
Alameda County Transportation Commission November 25, 2013	*Comment:* Alameda CTC requested that the EIR consider the following items in the Scope: ♦ Impacts to the interregional transportation facilities including: Interstate 580 through the Altamont Pass and the Tri-Valley Area and BART Station Parking capacity in the Tri-Valley area ♦ The EIR should be consistent with adopted plans and policies and planning efforts underway. Future transportation network assumptions should be consistent with the investment priorities documents in the plan Bay Area and
Alameda County	the Alameda County Transportation Plan.

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Transportation Commission **November 25, 2013**	♦ Any assumptions in the THSP about future transit service between Tracy and the Bay Area should be consistent with the efforts analyzed in the BART to Livermore extension Draft EIR, and ACE programmatic system enhancement and expansion analysis as part of the ACEforward program. ♦ If the EIR finds impacts to Interstate 580 in Alameda County, mitigation measures that seek to maximize existing mega-regional transit and high occupancy vehicle connections should receive strong consideration. Improvements that enable residents and businesses of the THSP area to better take advantage of ACE service between Tracy and Alameda County as well as shuttle or bus services that take advantage of the growing express lane network through the Ti-Valley area may constitute suitable mitigation for impacts to Interstate 580. *Response:* Refer to Section 4.13 of the Draft EIR for a description of the Alameda County traffic impacts including analysis along potentially impacted highways, roadways, intersections, and transit facilities. Refer to the following analysis tables and the mitigation section for recommended improvements. Table 4.13-13: Parking Occupancy at ACE Tracy Station Table 4.13-14: Parking Occupancy at West Dublin/Pleasanton BART Station Table 4.13-15: Parking Occupancy at East Dublin/Pleasanton BART Station
California Department of Fish and Wildlife **November 26, 2013**	*Comment:* California Department of Fish and Wildlife (CDFW) requested the EIR consider the following items in the Scope: ♦ **Fish and Wildlife**: The project has the potential to impact nesting birds, migratory birds and state special status or listed wildlife species (see Appendix A for list of species). CDFW recommends that focused biological surveys be conducted by qualified biologists during the appropriate survey periods prior to any ground-disturbance to determine if these species are present and if they could be impacted by the proposed Project and the results of these surveys should be provided to CDFW. *Response:* Refer to Table 4.4-1, *Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area* and Section 4.4.1, *Focused Surveys* of the Draft EIR for a list of all biological surveys conducted for the Project. ♦ **Streambed Alteration:** The project has the potential to impact the riparian area and floodplain of Corral Hollow Creek. The area should be zoned to provide appropriate and adequate stream setbacks necessary to offset any

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
California Department of Fish and Wildlife **November 26, 2013**	future impacts. The unnamed tributaries and stream systems in the northwest portion of the project should also be given the same considerations in developing the appropriate setback to allow systems to persist. CDFW may require a Lake and Streambed Alteration Agreement for any activity that will divert or obstruct natural flow or alter the streambed. The CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate mitigation, monitoring and reporting commitments. *Response:* Refer to Section 4.4.1, *Jurisdictional Areas*, Section 4.4.3, *Wetlands* and Mitigation Measure 4.4-4 of the Draft EIR for a description of the jurisdictional areas within the THSP and any required permits. ♦ **Wildlife Corridors/Open Space Preserves:** the southeast portion of the project proposes a significant barrier to Corral Hollow Creek from the other areas of proposed open space planned. The appropriate wildlife corridors and open space preserves in the southeast portion of the project should be designated to allow for more open space near the creek system. Adequate consideration should also be given to the installation of the appropriate sized culverts and pathways underneath major roads and through areas of development to allow increased wildlife movement. *Response:* Refer to Figure 4.4-2 in Section 4.4 of the Draft EIR for a description of the conservation easements which abut the Project to the south. In addition, Section 4.4.3, *Wildlife Habitat and Movement Corridors* describes the wildlife corridors along the I-580 and the canal corridors. ♦ **SEIR:** The majority of the project is outside the coverage area of the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (Plan). The SEIR should identify impacts to natural resources including impacts on creeks, streams, and drainages, riparian areas, upland areas, and open space that could result from development of this area. The SEIR should focus on specific impacts to special-status species, and specify the appropriate avoidance, minimization and mitigation measures appropriate for those areas and species covered under the Plan and not covered under the Plan. *Response:* The Project has been divided into three areas defined by the physical characteristics of the site: Area A; Area B; and Area C. Refer to Section 4.4.1 of the Draft EIR for a description of the coverage under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan for each of these areas. Refer to Section 4.4.3, *Special Status Species or Sensitive Status Species* for a description of the Project's impacts to sensitive species, their coverage under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan and proposed measures to mitigate those impacts.

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
California Department of Fish and Wildlife **November 26, 2013**	♦ **SEIR**: New impacts from the installation of new structures and zoning changes should also be discussed (construction of new school, communications tower, implementation of newly proposed Tracy Hills Business Park, amendments to stormwater drainage master plans, phasing plans, general land use plans, residential subdivision map changes, etc.) *Response:* Refer to Section 3.3 of the Draft EIR for a description of new structures, zoning and land use changes proposed for the Project as well as their relationship to applicable Master Plans, and phasing of improvements. ♦ **SEIR:** Long-term effects related to increased human activity (traffic, pedestrians, etc.) in the area that may have an impact on special-status species populations, the effects of fragmentation of habitat, and the effects that could result from the introduction of exotic and invasive species to the area by increased human activity. The impacts domestic pets and possible feral pet populations could have on special-status species populations should also be considered. *Response:* Refer to Section 4.4.1 *Preserve Management Plan for the Tracy 580 Business Park Preserve* of the Draft EIR for a description of the fencing requirement for the conservation easements to ensure that domestic animals and humans do not impact those areas being conserved.
California Department of Transportation **December 3, 2013**	*Comment:* The California Department of Transportation (Department) had the following comments: ♦ A Traffic Impact Study (TIS) will need to be prepared according to the "Guide for the Preparation of Traffic Impact Studies" published by Caltrans December 2002. ♦ Recommends the Lead Agency arrange a pre-consultation meeting to review the draft scope of the TIS. The Department is available to discuss assumptions, data requirements, study scenarios and methodologies prior to beginning the TIS. ♦ The TIS needs to include the following at a minimum: o Traffic Impact Study Area o The following intersections and ramp intersection should be included: - I-580/Corral Hollow Road Interchange - I-580 Mountain House Pkwy/Patterson Pass Road o The following mainline freeway segments need to be evaluated: - I-580 from I-205/580 connector to Mountain House

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
California Department of Transportation December 3, 2013	- Pkwy/Patterson Pass Road - I-580 from Mountain House Pkwy/Patterson Pass Road to Corral Hollow Road - I-580 from Corral Hollow Road to I-580/SR-132 connector\ o Traffic Data – ITE Trip Generation manual (9th Edition) should be used to derive the proposed project trip generation forecasts. o Traffic Counts – collected traffic data needs to consider seasonal variations in traffic volume counts, including percentage of truck/heavy vehicle volumes in subsequent analysis. o Provide AM and PM peak hour volumes during weekdays (Tuesday, Wed, or Thurs) and the weekend (Saturday). o Traffic Impact Analysis Methodologies (signalized intersections, unsignalized intersections, freeway and highway segments, weaving areas, ramp metering analysis, and STAA design vehicles) per the recommendations outlined in the letter (see Appendix A). The Traffic Study Scenarios should identify impacts under the following scenarios: o Existing Condition (existing condition plus other approved and pending projects o Opening year (Near-Term) with and without project conditions plus other approved and pending projects. o Opening year for the various Phases with and without Project o plus other approved and pending projects. o Cumulative Conditions with and without Project o The TIS needs to address the proposed mitigation measures relative to the future improvement projects by Caltrans and the City of Tracy. o The TIS should include the technical analysis report. o The TIS should include a project executive summary and project description, existing data collection, transportation model, travel forecasting, planning and RTP Conformity Information. *Response*: Refer to the letter prepared by the City's traffic consultant dated April 15, 2014 in Appendix H-6 in response to each comment detailing the then current and additional traffic analysis performed on the THSP. The City wanted to reinforce close collaboration with Caltrans. o The SEIR will need to calculate runoff peak discharges for 10 and 100 year storm events for Pre and Post construction to ensure that the existing state drainage facilities will not be significantly impacted by the project. *Response:* Refer to Section 4.9 of the Draft EIR for a description of the design criteria

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
California Department of Transportation **December 3, 2013**	used for the sizing of the proposed terminal retention/percolation basins and other drainage facilities. ♦ Requests the fair share amount of funds that this project would be responsible for toward the construction of the interchange at Lammers Road and Interstate 580. ♦ Requests information on pedestrian and bicycle access to and through the subject site, as well as Transportation Demand Management strategies. The Department encourages the applicant to incorporate design features and site proximities that encourage walking and bicycling, public transit options, and accessibility. If the project construction activities encroach into Caltrans right of way, the project proponent must submit an application for an encroachment permit to the Caltrans Permit Office. This will require appropriate environmental studies to be submitted. *Response*: Refer to the letter prepared by the City's traffic consultant dated April 15, 2014 in Appendix H-6 and to Section 4.13 in response to each Caltrans comment. The number of Project trips utilizing the Caltrans interchanges is provided in a table within the April 15th letter which serves as an appropriate fair share calculation of Project trips to Cumulative traffic contingent on City review. Specific information concerning pedestrian and bicycle circulation through the Project site can be found in the Project Level Bicycle and Pedestrian Facilities subsection in Section 4.13.5 and Impact 4.13-2. Specific information concerning construction activity on the Project site can be found in the Construction Traffic and Hazards subsection in Section 4.13.5 and Impact 4.13-3a.
San Joaquin Valley Air Pollution Control District **December 20, 2013**	*Comment:* San Joaquin Valley Unified Air Pollution Control District (District) requested that the EIR consider the following items in the Scope: ♦ Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions, and construction related emissions vs. operational emissions. The District also recommended mitigation measures for construction and operational emissions. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR provides quantified construction and operation emissions from the Project. Also refer to Mitigation Measures 4.3-1a through 4.3-2 for measures that reduce construction and operational emissions.
San Joaquin Valley Air	The project should be evaluated to determine the likelihood that the project would result in nuisance odors.

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Pollution Control District December 20, 2013	*Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR provides a description of odor impacts from the Project. ♦ Project related health impacts should be evaluated to determine if emissions of toxic air contaminants will pose a significant health risk to nearby sensitive receptors. It is recommended that the project proponent contact the District to review the proposed modeling approach, since the project would be considered to have a significant health risk if the HRA demonstrates that project related health impacts would exceed the District's significance threshold of 10 in a million. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR includes description of TAC emissions and impacts from the Project. Additionally, Mitigation Measures 4.3-4a and 4.3-4b have been identified to minimize impacts in this regard. ♦ A discussion of the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality. Requests that the modeling outputs be provided as appendices in the EIR. Also requests that the District be provided with an electronic copy of all input and output files for all modeling. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR includes a description of the emissions quantification methodology and assumptions. ♦ A discussion of the components and phases of the project and the associated emission projections, including ongoing emission from each previous phase *Response:* Refer to Section 4.3.3 of the Draft EIR. The emissions from each year of Project construction are quantified. Additionally, the analysis calculates operation emissions from Phase 1a as well as buildout of the entire Project. ♦ A discussion of project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the project.
San Joaquin Valley Air Pollution Control District	*Response:* Project design elements and mitigation measures are described throughout Section 4.3.3 of the Draft EIR. Additionally, Draft EIR Section 4.7.3 describes projectdesign elements that would reduce greenhouse gas (GHG) and criteria pollutant emissions. Implementation of mitigation measures are also quantified in these sections.

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
December 20, 2013	♦ The project is subject to District Rule 9510 which is intended to reduce a project's impact on air quality through project design elements or mitigate its impact by payment of applicable off-site mitigation fees. Any applicant subject to District Rule 9510 is required to submit an Air Impact Assessment (AIA) application to the District no later than applying for final discretionary approval, and to pay any applicable off-site mitigation fees before issuance of the first building permit. Recommends the applicant submit an AIA application to the District prior to the City's adoption of the EIR and paying all applicable fees before issuance of the first grading/building permit. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR provides a description of the Project's Rule 9510 requirements. Compliance with Rule 9510 is also required in Mitigation Measures 4.3-1c and 4.3-2. ♦ Recommends that a copy of the District's comments be provided to the project proponent. *Response:* The District's comments have been provided to the project proponent.
Comments from 2013 NOP	
Comments Received from General Public:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Mark V. Connolly-Connolly Law Building **September 10, 2013**	Comment: Concerned that Tracy Hills has not mitigated for environmental impacts identified in the FEIR for the Specific Plan approved in 1998. Specifically, it has not satisfied the mitigation requirements which were conditions of that approval. A Specific Plan that is void due to failure to implement required mitigation measures cannot be amended. In summary, the writer is concerned that the mitigation described in both the FEIR and Specific Plan of 1998 was never implemented. The writer also believes the prior EIR is outdated due to more current wildlife information as well as new General Plans and projects. Concerns that over the course of the last 15 years, the need to preserve the entire corridor west along I-580 has become more important given the conservation easements that now exist on either side of the old proposed project. The writer comments that a new EIR and Specific Plan are required.

Table 1A: Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2013 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Mark V. Connolly-Connolly Law Building **September 10, 2013**	*Response:* This Project proposes similar and in some cases new mitigation to adequately address the current proposal. Refer to Chapters 4.1 through 4.13 of the Draft EIR. All mitigation measures were re-evaluated and updated to reflect the current Project. This Draft EIR is a new subsequent document that analyzes the current proposed Specific Plan. For additional detail, refer to Section 2.5, *EIR Scope, Issues, Concerns* in the Draft EIR which describes the purpose of this Draft EIR and its relationship to the 1998 THSP. Also refer to Figure 4.4-2 of the Draft EIR for a description of the conservation easements which abut the Project and Section 4.4.3, *Wildlife Habitat and Movement Corridors* which describes the wildlife corridors along the I-580 and the canal corridors.
Juliann and Juliana Bitter **November 18, 2013**	*Comment:* The writers had concerns about the following issues: ♦ Where will the development receive water from? Concerned that if the new development is on its own well that it will cause the water table to be lowered. If the water is coming from Tracy, where will the water line run? Will it require tearing up their front yard at 30015 S. Corral Hollow Rd? ♦ Concerned about their permits for their dogs, and if they are required to move, not being able to get their permit renewed at a new location in San Joaquin County. ♦ Concerned about getting complaints from new tenants regarding their pigs, chickens, turkeys, and dogs. *Response:* Refer to Section 4.12, Public Services and Utilities, of the Draft EIR for a description of existing and future water supplies. *Response:* Water supply discussions are located in Chapter 4.12, Section 4.12.3 of the Draft EIR. Concerns about the owners' future permits for dogs and complaints pertaining to farm animals are not within the scope of the analysis in the Draft EIR. The Draft EIR analyzes the potential impacts associated with project implementation.

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Office of Planning and Research State Clearinghouse and Planning Unit **April 21, 2014**	OPR provided the City of Tracy with their NOP cover sheet and distribution list, as well as their notification to State Agencies that transmittal of their comments on the scope and content of the NOP is due within 30 days of receipt of the NOP. No further comment was provided.
SJCOG, Inc., April 24, 2014	*Comment:* This project and all sequential projects may be subject to the SJMSCP. Phase 1a and 1b are covered, Phase 2, 3, and 4 are not eligible for SJMSCP coverage and Phase 5 may be subject to SJMSCP participation. As individual projects are processed by the City of Tracy within the Tracy Hills Specific Plan, the project proponents should be advised to contact SJCOG, Inc. staff as to appropriate processes under the SJMSCP. After this project is approved by the Habitat Technical Advisory Committee and the SJCOG, Inc. Board, the following process must occur to participate in the SJMSCP: schedule a SJMSCP Biologist to perform a pre-construction survey prior to any ground disturbance, implement SJMSCP Incidental take Minimization Measures and mitigation requirements, and receive the Certificate of Payment and release the required permit. *Response:* Mitigation Measure 4.4-2a in Section 4.4 of the Draft EIR outlines the pre-construction surveys required under the SJMSCP.
California State Department of Transportation May 13, 2014	*Comment:* CalTrans provided a letter thanking Mr. Frederik Venter, from Kimley-Horn and Associates, Inc. for responding to their initial comments dated December 3, 2013. CalTrans responded with some additional comments to Mr. Venter's letter dated April 15, 2014. Each comment has been responded to in a separate letter prepared by the City's traffic consultant, as the City wanted to reinforce close collaboration with Caltrans. See Appendix A for the response letter. ♦ *Comment:* Requests that the most current Travel Demand Model, General Plan, Regional Transportation Plan, FTIP and related EIR be used. *Response*: Refer to Section 4.13.1 for a description of the Cumulative scenario (2035) and the description of the Horizon Year 2035 within the current City TMP. ♦ *Comment:* Requests the construction date of the proposed future I-580/Lammers Road interchange, and to incorporate it into the appropriate traffic study conditions. *Response:* Refer to Table 4.13-21, Existing Plus Project 2035 Intersection Delay & LOS Trigger Analysis which indicates the equivalent number of SFU to be built before mitigations at the Corral Hollow Ramps are needed which could prompt construction of the Lammers Road interchange

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
California State Department of Transportation May 13, 2014	♦ *Comment:* Requests the construction date of the proposed future I-580/Lammers Road interchange, and to incorporate it into the appropriate traffic study conditions. *Response*: Refer to Table 4.13-21, Existing Plus Project 2035 Intersection Delay & LOS Trigger Analysis which indicates the equivalent number of SFU to be built before mitigations at the Corral Hollow Ramps are needed which could prompt construction of the Lammers Road interchange. ♦ *Comment:* Requests that the current AM peak hour (0600-0800) on I-580 and I-205 be used to collect freeway mainlines, ramp intersections and close by ramp intersection traffic counts instead of 7-9AM to account for the expected high number of future residents commuting to the Bay Area for work in the morning. *Response*: Refer to Section 4.13.4 for a description of the Existing Conditions including specifications of the assumed peak hours. *Comment:* CalTrans does not agree that "No merge and diverge analysis is required for this level of analysis," since the proposed project will generate significant additional traffic using the ramps at I-580. If the TIS ignores the merge/diverge analysis, the project's impacts will not be identified. Therefore, the TIS needs to include merge and diverge analysis under all of the analysis scenarios using HCS 2010. *Response*: Refer Section 4.13.5 for the Ramp Merge/Diverge & LOS tables for all scenarios. *Comment:* Requests that a weave and ramp metering analysis be completed to help identify if additional traffic impacts generate the necessity for improvements. Concerned that the data presented thus far does not prove that additional traffic generated by the project does not warrant a weaving or ramp metering analysis. Also commented that the interchanges of I-580/Corral Hollow Road and I-580/Proposed Lammers Road need to accommodate STAA truck turning radius. *Response*: Refer to Section 4.13.5 in the Cumulative Impact Analysis subsection for a description of the assumed cumulative roadway network inclusive of the recent

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Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
California State Department of Transportation May 13, 2014	indicated improvements and analysis concerning project study reports. Also Refer to the description of Existing Plus Phase 1A. ♦ *Comment:* Requests that the TIS analyze the STAA off-tracking analysis and provide improvements. *Response*: Refer to Section 4.13.5 in the Cumulative Impact Analysis subsection for a description of the assumed cumulative roadway network inclusive of the recent indicated improvements and analysis concerning project study reports. Also Refer to the description of Existing Plus Phase 1A. ♦ *Comment:* Requests that the TIS includes an "Existing Plus Phase 1" condition as part of its proposed study scenarios. The various study scenarios need to include other currently approved projects in the area such as Ellis SP and Cordes SP. Omitting the traffic generated from these already approved projects from the traffic analysis will provide incorrect and inadequate traffic mitigations. Thus, the TIS needs to include a scenario for an "Existing Plus Approved/Pending Projects Plus Phase 1" condition into its traffic analysis scenarios. If any subsequent development beyond Phase 1 begins before 2035, then the full project needs to be analyzed in a scenario to cumulative 2035. *Response*: Refer to Section 4.13.5 in the Existing Plus Phase 1a subsection for a description of Existing Plus Phase 1a. ♦ *Comment:* Requests that the various traffic study conditions fully analyze the impacts to intersections, merge/diverge/mainline, etc. The TIS should not ignore areas of analysis such as intersections analysis and merge/diverge analysis in the Cumulative conditions to avoid having to disclose potential significant impacts. The TIS needs to provide analysis year for each traffic study condition. *Response*: Refer to Section 4.13.5 for Cumulative conditions analysis including merge/diverge analysis. ♦ *Comment:* Requests the electronic files for Syncro/Sim Traffic, HCS, Sidra, etc. for Traffic Operations review. *Response*: Refer to Appendix H-2.

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Comments from 2014 NOP	
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San Joaquin County Public Works **May 16, 2014**	*Comment:* The San Joaquin County Public Works Department noted that they had no additional comments beyond those provided on November 20, 2013. *Response:* Refer to Section 4.9 of the Draft EIR for a description of any work to be conducted within the Corral Hollow Creek, and any required permits.
California Water Boards-Central Valley Regional Water Quality Control Board **May 16, 2014**	*Comment:* Requests that the project comply with all applicable water quality standards and regulations including: a Construction Storm Water General Permit, Phase I and II Municipal Separate Storm Sewer System (MS4) Permits, Industrial Storm Water General Permit, Industrial Storm Water General Permit, Clean Water Act Section 404 Permit and Water Quality Certification, a Waste Discharge Requirement to be issued by Central Valley Water Board, and a Low or Limited Threat General NPDES Permit. *Response:* Refer to Section 4.9 of the Draft EIR for a description of any required permits associated with water quality.
San Joaquin Valley Air Pollution Control District **May 20, 2014**	*Comment:* San Joaquin Valley Unified Air Pollution Control District (District) requested that the EIR consider the following items in the Scope: Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions, and construction related emissions vs. operational emissions. The District also recommended mitigation measures for construction and operational emissions. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR provides quantified construction and operation emissions from the Project. Also refer to Mitigation Measures 4.3-1a through 4.3-2 for measures that reduce construction and operational emissions. The project should be evaluated to determine the likelihood that the project would result in nuisance odors. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR provides a description of odor impacts from the Project. Project related health impacts should be evaluated to determine if emissions of toxic air contaminants will pose a significant health risk to nearby sensitive receptors. It is recommended that the project proponent contact the District to review the proposed modeling approach, since the project would be considered to have a significant health risk if the HRA demonstrates that project related health impacts would exceed the District's significance threshold of 10 in a million.

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Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
San Joaquin Valley Air Pollution Control District **May 20, 2014**	*Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR includes description of TAC emissions and impacts from the Project. Additionally, Mitigation Measures 4.3-4a and 4.3-4b have been identified to minimize impacts in this regard. ♦ A discussion of the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality. Requests that the modeling outputs be provided as appendices in the EIR. Also requests that the District be provided with an electronic copy of all input and output files for all modeling. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR includes a description of the emissions quantification methodology and assumptions. ♦ A discussion of the components and phases of the project and the associated emission projections, including ongoing emission from each previous phase *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated December 20, 2013, above. Section 4.3.3 of the Draft EIR provides emissions from each year of Project construction. Additionally, the analysis calculates operation emissions from Phase 1a as well as buildout of the entire Project. ♦ A discussion of project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the project. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated December 20, 2013, above. Project design elements and mitigation measures are described throughout Section 4.3.3 of the Draft EIR. Additionally, Draft EIR Section 4.7.3 describes project design elements that would reduce greenhouse gas (GHG) and criteria pollutant emissions. Implementation of mitigation measures are also quantified in these sections. ♦ The project is subject to District Rule 9510 which is intended to reduce a project's impact on air quality through project design elements or mitigate its impact by payment of applicable off-site mitigation fees. Any applicant subject to District Rule 9510 is required to submit an Air Impact Assessment (AIA) application to the District no later than applying for final discretionary approval, and to pay any applicable off-site mitigation fees before issuance of the first building permit. Recommends the applicant submit an AIA

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
San Joaquin Valley Air Pollution Control District **May 20, 2014**	♦ application to the District prior to the City's adoption of the EIR and paying all applicable fees before issuance of the first grading/building permit. *Response:* Refer to the response to the letter from San Joaquin Valley Air Pollution Control District dated September 17, 2013, above. Section 4.3.3 of the Draft EIR provides a description of the Project's Rule 9510 requirements. Compliance with Rule 9510 is also required in Mitigation Measures 4.3-1c and 4.3-2. ♦ Recommends that a copy of the District's comments be provided to the project proponent. *Response:* The District's comments have been provided to the project proponent. [Please Confirm]
State of California – The Natural Resources Agency, Department of Fish and Wildlife **May 21, 2014**	Comment: When the THSP was adopted in 1998; the 2,732-acre development envelop was annexed into the City of Tracy while the 3,552-acre conservation open space area was not. The current Project proposes to update and modify the previously approved 1998 THSP to include changes in zoning districts and development standards for the annexed 2,732-acres, but does not include the annexation of the 3,552 acres that were previously designated conservation open space. The CDFW is concerned the development in these areas could prevent future colonization or expansion opportunities of biological resources into their historic range, create significant barriers for wildlife access to creek and riparian habitat, render wildlife movement corridors impermeable, and impede access to and pinch key linkage areas. The Project also has the potential to significantly impact several threatened and endangered species not originally contemplated to be present on the Project site in the 1988 THSP, as well as those biological resources already discussed. *Response:* Refer to Section 4.4.1 *Preserve Management Plan for the Tracy 580 Business Park Preserve* of the Draft EIR for a description of the approximately 3,500-acre open space area within conservation easements. Comment: The Project is not located within the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) and therefore, take coverage cannot be extended for the state and federally listed species covered by the SJMSCP. As a result, development of the 2,732-acre Project will necessitate separate compliance with requirements including, but not limited to, the acquisition of a state incidental Take Permit (ITP) pursuant to Section 2081 (b) of the Fish and Game Code. *Response:* The Project has been divided into three areas defined by the physical characteristics of the site: Area A; Area B; and Area C. Refer to Section 4.4.1 of the Draft EIR for a description of the coverage under the San Joaquin Multi-Species

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
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Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
State of California – The Natural Resources Agency, Department of Fish and Wildlife **May 21, 2014**	Habitat Conservation and Open Space Plan for each of these areas. Refer to Section 4.4.3, *Special Status Species or Sensitive Status Species* for a description of the Project's impacts to sensitive species, their coverage under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan and proposed measures to mitigate those impacts. Comment: It is recommended that a reconnaissance level biological survey be conducted by a qualified wildlife biologist and botanist during the appropriate season(s) and the results of the survey be included in the draft EIR and use to inform the analysis of direct, indirect, and cumulative impacts to biological resources. The Project has the potential to impact nesting birds, migratory birds and state special-status, fully protected or listed, threatened and endangered species. Impacts to State species of special concern that are known to the Project area vicinity should be fully considered in the environmental analysis for the Project. California red-legged frog, western pond turtle, and American badger are species that have all been identified to occur within or on adjacent sites of the Project. Please be advised that a California Endangered Species Act (CESA) Permit must be obtained if the Project has the potential to result in take of species of plants or animals listed under CESA, either during construction or over the life of the project. Issuance of a CESA Permit is subject to CEQA documentation; therefore, the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit. *Response:* Refer to Table 4.4-1, *Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area* and Section 4.4.1, *Focused Surveys* of the Draft EIR for a list of all biological surveys conducted for the Project. Refer to Section 4.4.3, *Special Status Species or Sensitive Status Species* for a description of the Project's impacts to sensitive species, and proposed measures to mitigate those impacts. Comment: CDFW is a Trustee Agency with responsibility under CEQA for commenting on projects that could impact plant and wildlife resources. CDFW is the Responsible Agency when a subsequent permit or other type of discretionary approval is required from CDFW, such as an ITP, pursuant to CESA, or a Lake and Streambed Alteration Agreement (LSAA) issued under Fish and Game Code Sections 1600 et seq. *Response:* Refer to Mitigation Measure 4.4-2b of the Draft EIR for a description of the required incidental take permits for State and/or federally listed species in THSP Area C. Refer to Mitigation Measure 4.4-4 of the Draft EIR for a description of any required permits as they pertain to jurisdictional wetlands and other waters of the U.S and State.

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
City of Livermore, June 17, 2014	Comment: The City of Livermore requested that the EIR should analyze and report on the following impacts of the Project: ♦ On roadways leading into Alameda County, including I-580, Tesla Road, ♦ Patterson Pass Road, and Altamont Pass. ♦ On congested interchanges and intersections downstream along these routes. ♦ On Transit systems (ACE, BART ridership and parking availability. Mitigation measures should be identified to reduce any impacts to a less than significant level. ♦ The Settlement Agreement requires the City of Tracy to impose a new condition of approval on the Specific Plan (See Appendix A for full text of the Settlement requirement as restated by the City of Livermore). *Response:* Refer to Section 4.13 of the Draft EIR for a description of the City of Livermore traffic analysis and identification of impacts along roadways and intersections. Refer to the following analysis tables and measures for identified improvements in the mitigation section. Table 4.13-7: Existing Intersection Delay & LOS - Livermore Table 4.13-9: Existing Roadway Segment Volumes, Capacities, and v/c Ratios - Livermore Table 4.13-11: Existing Freeway Segment Volumes & LOS - Livermore Table 4.13-26: Existing Plus Buildout Intersection Delay & LOS - Livermore Table 4.13-28: Existing Plus Buildout Intersection Delay & LOS Mitigations - Livermore Table 4.13-30: Existing Plus Buildout Roadway Segment Volumes, Capacities, & v/c Ratios - Livermore Table 4.13-32: Existing Plus Buildout Freeway Segment Volumes & LOS - Livermore Table 4.13-52: Cumulative 2040 No Project Intersection Delay & LOS - Livermore Table 4.13-53: Cumulative 2040 No Project Roadway Segment Volumes, Capacities, & v/c Ratios - Livermore Table 4.13-54: Cumulative 2040 No Project Freeway Segment Volumes & LOS - Livermore Table 4.13-55: Cumulative Plus Buildout Intersection Delay & LOS - Livermore Table 4.13-56: Cumulative Plus Buildout Roadway Segment Volumes & LOS - Livermore Table 4.13-57: Cumulative Plus Buildout Freeway Segment Volumes & LOS - Livermore Table 4.13-62: Existing Plus Phase 1a Intersection Delay & LOS Mitigations Table 4.13-64: Existing Plus Phase 1a Roadway Segment Volumes, Capacities, & v/c Ratios - Livermore Table 4.13-66: Existing Plus Phase 1a Freeway Segment Volumes & LOS - Livermore Comment: The EIR should analyze and report on how the Project can be served with water without impacting the supply for existing water users.
City of Livermore, June 17, 2014	*Response:* Refer to Section 4.12 Public Services and Utilities of the Draft EIR for discussion on existing and future water supplies. Refer to subsections 4.12.1 and 4.12.3

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
San Joaquin Council of Governments (SJCOG), October, 2014	Comment: SJCOG, acting as the Airport Land Use Commission (ALUC) requests that the DEIR contain a complete consistency analysis of the proposed land uses relative to the 2009 ALUCP zones for Tracy Municipal Airport as well as an analysis of environmental effects. The ALUC is particularly concerned about the area located along Coral Hollow Road directly south of the Delta Mendota Canal, which is designated M-1-TH Light Industrial. A portion of this area lies within the Inner Approach/Departure Zone and Inner Turning Zone as specified in the 2009 ALUCP for Tracy Municipal Airport. The uses specifically prohibited in these zones are all business and personal services, manufacturing, and industrial uses. Additionally, the California Education Code (Section 17215) requires the California Department of Transportation, Division of Aeronautics, to conduct a site investigation for the acquisition of every proposed public and charter school within two nautical miles of an existing or planned runway. *Respons*e: Refer to Section 4.10, page 4.10-15 for the discussion of the project's consistency with the ALUCP and Section 4.10, page 4.10-19 for the discussion of potential impacts and identification of mitigation measures. Refer to Section 4.10, page 4.10-20 for the mitigation measure which requires all proposed school sites within a two miles radius of the airport runway to obtain approval by the State Department of Transportation Division of Aeronautics.
Comments from 2014 NOP	
Comments Received from Comments Received from General Public:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Coates Field Service, Inc., representing Chevron Pipe Line Company April 23, 2014	Comment: Provided letter explaining that Chevron operates one active pipeline in the vicinity of the project. This 18-inch buried pipeline appears to be within the M1 Light Industrial portion of the project and is a high pressure pipeline that transports crude oil. Chevron requests that extreme caution should be used when excavating, drilling, or grading around this pipeline. The letter also outlines the restrictions on development over the pipelines, and requests that the use of heavy vibratory equipment be prohibited over the pipelines. Chevron must review and approve all construction plans that involve right of way encroachments. Chevron recommends that the potholing of the pipeline be done before construction plans are completed so conflicts between the proposed road reconstruction project and their pipeline can be avoided. Chevron requires that
Coates Field Service, Inc., representing	arrangements for potholing of its pipelines be made at least forty-eight hour in advance with Jeremy Gross at 925-753-2003. Chevron will provide a Facility Inspector to locate the pipelines and assist with the potholing. All work that would affect the pipeline needs

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Chevron Pipe Line Company April 23, 2014	to be coordinated with their office at 2360 Buchanan Rd. Pittsburg, CA 94565. Requests to notify Underground Service Alert (USA) at 800-227-2600 at least 48 hours prior to any excavation work. *Response:* Refer to Mitigation Measure 4.8-4 in Section 4.8 of the Draft EIR, which requires the proposed development be sited and designed in accordance with the recommendations outlined in the *Pipeline Safety Hazard Assessment, Tracy Hills Specific Plan* prepared by PlaceWorks dated September 2014 (included as Appendix E-2 of the Draft EIR).
Mark V. Connolly-Connolly Law Building May 14, 2014	Comments: Concerned that the Land Use Diagram (Figure 2, Zoning Districts attached to the Notice) shows significant differences from the Land Use Diagram, Figure 3.1 and the UMP General Plan Land Use, Figure 2.3, contained in the 1998 Tracy Hills Specific Plan ("1998 THSP"). Particularly concerned that there is a discrepancy in the amount of acres in open space in the 1998 THSP and the proposed Land Use Diagram, and is unsure if the designated open space would allow public access. Also concerned that mitigation required by the prior EIR has not been implemented. *Response:* The 3,552 acre conservation easement was included within the project boundaries evaluated in the 1998 Tracy Hills Specific Plan. This Draft EIR evaluates a revised Specific Plan that does not include the 3,552 acre conservation easement within its boundaries. However, the 3,552 acre conservation easement is still a mitigation requirement of the current proposed plan, but is located outside of the Project's boundaries. Refer to Figure 3-3 in Section 3.2 in the Draft EIR for a depiction of the proposed land use concept and Figure 4.4-2 of the Draft EIR for a depiction of the conservation easements, which abut the Project to the south. The conservation easements do not allow public use. The writer also cites a previous letter he wrote on September 10, 2013, where he was concerned that the original FEIR was based on the assumption that there would be a HMP for Tracy Hills. In this letter the writer was concerned that the EIR for the Updated THSP needs to determine the status of previous mitigation required by the FEIR including documentation from regulatory agencies. Particularly, that Mitigation Measures M 21.2, M 21.3, M 21.4, M 21.7 were never implemented from the 1998 THSP EIR. The writer believes the updated Tracy Hills Specific Plan may increase impacts or reduce open space and requests these issues be addressed in the EIR. *Response:* This Project proposes similar and in some cases new mitigation to adequately address the current proposal. Refer to Chapters 4.1 through 4.13 of the Draft EIR. All mitigation measures were re-evaluated and updated to reflect the current Project. This Draft EIR is a new subsequent document that analyzes the current proposed Specific
Mark V. Connolly-	Plan. For additional detail, refer to Section 2.5, *EIR Scope, Issues, Concerns* in the Draft EIR which describes the purpose of this Draft EIR and its relationship to the 1998 Tracy Hills Specific Plan. Also refer to Figure 4.4-2 of the Draft EIR for a description of the

Table 1A. Summary of Written Comments on Notice of Preparation/Initial Study

Comments from 2014 NOP	
Comments Received from Agencies:	
Commenter	**Summary of Comment & Location in Draft EIR Where Comment is Addressed**
Connolly Law Building **May 14, 2014**	conservation easements which abut the Project and Section 4.4.3, *Wildlife Habitat and Movement Corridors* which describes the wildlife corridors along the I-580 and the canal corridors.
Horizon Planet **May 21, 2014**	*Comment:* Horizon Planet requests that the following concerns be addressed in the SEIR. ♦ The potential for urban decay as a result of the project *Response:* Refer to Section 4.14 of the Draft EIR for an analysis of urban decay. ♦ Environmental effects produced by "hot spots" e.g. urban heat island effects. *Response:* Refer to Section 4.3 of the Draft EIR for an analysis of "hot spots". *Response:* Refer to Section 4.7-3 of the Draft EIR for a description of the environmental effects produced by the urban heat island effect. ♦ The conversion of agricultural land and loss of open space *Response:* The potential impacts related to the conversion of agricultural land are discussed in Section 4.2, page 4.2-9 through 4.2-12 of the Draft EIR. This section identifies applicable mitigation measures to reduce impacts related to the conversion of agricultural land. Refer to Section 4.4.3, *Development of THSP Area A and Area B* and *Development of THSP Area C* of the Draft EIR for a discussion of the impacts associated with the conversion of existing habitat to urban development.. ♦ The environmental impact of global warming *Response*: Refer to Section 4.3 of the Draft EIR for an analysis of greenhouse gas emissions resulting from implementation of the Project. *Response:* Refer to Section 4.7-3 of the Draft EIR for a description of the environmental effects global warming from greenhouse gas emissions. ♦ The potential for gas line explosion *Response*: Refer to Section 4.8.3, *Pipeline Safety* of the Draft EIR for a discussion of potential gas line explosions and their impact to the proposed development.

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2 INTRODUCTION

NOTE TO READER:

The City of Tracy previously circulated for public review and comment the December 23, 2014 Draft Subsequent Environmental Impact Report (Draft SEIR) for the proposed Tracy Hills Specific Plan Project. Subsequent to the close of the public comment period for the Draft SEIR (which extended from December 23, 2014 through March 3, 2015), both the City and Project Applicant completed additional technical analysis for the Project. While most of the aforementioned conclusions did not change, the City did identify several transportation improvements that, while identified in the City's Transportation Master Plan (TMP), are not within complete control of the City to implement. Thus, in these cases, the City has identified these impacts as significant and unavoidable until such time as these improvements are constructed. In an effort to provide full disclosure of all potential impacts of the proposed Project and provide additional opportunity for public input, the City has elected to recirculate the Draft SEIR in its entirety for an additional 45 days of public review.

The City of Tracy has elected to recirculate the Draft SEIR for public review and comment pursuant to Section 15088.5 of the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3). As identified in Section 15088.5 (a), "a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft SEIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement."

This Draft Recirculated SEIR includes chapters that have been completely rewritten in an effort to provide a better understanding and clarification of Project impacts. The chapters that have been rewritten include the following:

- Table 1-2 within the *Executive Summary*
- Chapter 4.4, *Biological Resources*
- Chapter 4.5, *Cultural Resources*
- Chapter 4.13, *Traffic and Circulation*

The remaining chapters of the Draft Recirculated SEIR have been updated in a manner that clearly identifies changes and/or deletions from the December 23, 2014 chapters. Added or modified text is shown by underlining (example) while deleted text is shown by striking (~~example~~) where appropriate.

The following chapters remain unchanged from the original Draft Subsequent EIR. They are as follows:

- Chapter 4.1, *Aesthetics*
- Chapter 4.6, *Geology, Soils, and Seismicity*
- Chapter 4.7, *Greenhouse Emissions*

- Chapter 4.8, *Hazards and Hazardous Materials*
- Chapter 4.9, *Hydrology/Water Quality*
- Chapter 4.10, *Land Use and Planning*
- Chapter 4.11. *Noise*
- Chapter 4.14, *Urban Decay*
- Chapter 5, *Other CEQA Required Topics*
- Chapter 6, *Effects Found Not to Be Significant*
- Chapter 7, *Alternatives*
- Chapter 9, *Report Preparers*
- Chapter 10, *Glossary*

As identified in Section 15088.5 (f) (1), "when an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period. The lead agency shall advise reviewers, either in the text of the revised EIR or by an attachment to the revised EIR, that although part of the administrative record, the previous comments do not require a written response in the final EIR, and that new comments must be submitted for the revised EIR. The lead agency need only respond to those comments submitted in response to the recirculated revised EIR." However, as previously stated, the City is committed to providing every opportunity for public input. Although the City is not required to publish responses to comments when the SEIR is being recirculated in its entirety, the City has elected to include all comment letters and responses to those comments that were previously submitted during the Draft SEIR public comment period with the Draft Recirculated SEIR. Responses to the comment letters also include the location within the Draft Recirculated SEIR where the additional and/or updated information can be located, where appropriate. Refer to Chapter 11 of this Draft Recirculated EIR. Additionally, the City will respond to all new comments submitted on this Recirculated Draft SEIR.

Pursuant to Section 15088.5 (f) (2) of the State CEQA Guidelines, the City does request that reviewers limit their comments to the revised chapters of the recirculated Draft SEIR (because even though the City has elected to recirculate the Draft SEIR in its entirety, the Draft SEIR has only been revised in part). As noted above, the City will however, respond to all new comments received on the Recirculated Draft SEIR.

The California Environmental Quality Act (CEQA) requires all public agencies to consider the environmental consequences of projects for which they have discretionary authority. The public agency with the principal responsibility for carrying out or approving a project is the "lead agency". CEQA requires the lead agency to prepare an environmental impact report (EIR) if there is substantial evidence, in light of the whole record, that a project may have a significant effect on the environment. A significant effect is defined in CEQA as a substantial, or potentially substantial, and adverse physical change in the environment. The City of Tracy (City) is the lead agency for the Project.

This ~~Draft EIR~~Recirculated Draft SEIR has been prepared to assess the potential environmental impacts of approving the Tracy Hills Specific Plan Project (the "Project" or "THSP Project"). It is a public informational document, which describes the existing environmental setting of the area in which the Project would be developed ("Specific Plan Area" or "Project area") and vicinity, discusses the Project's proposed characteristics, and identifies the Project's potential environmental impacts. Additionally, the ~~Draft EIR~~Recirculated Draft

SEIR identifies feasible mitigation measures and a reasonable range of alternatives that would avoid or reduce significant impacts... This ~~Draft EIR~~Recirculated Draft SEIR is intended to inform City decision-makers, and responsible, trustee and other interested agencies, and the public of the Project's potential environmental impacts. This ~~Draft EIR~~Recirculated Draft SEIR has been prepared in accordance with California Environmental Quality Act (CEQA) requirements.

2.1 PROPOSED ACTION

The Project Applicant has prepared a comprehensive update to the previously approved Tracy Hills Specific Plan (THSP). As a result of the extent of modifications to the previously approved document, the Specific Plan is being treated as a "new" Specific Plan for purposes of environmental review. The analysis contained in this ~~Draft EIR~~Recirculated Draft SEIR compares impacts associated with implementation of the Project to current existing conditions, and not to conditions identified in the 1998 THSP. Actions to implement the Specific Plan will require various amendments to or actions to rescind resolutions and/or ordinances pertinent to the 1998 THSP and corresponding approvals. The THSP establishes land uses, zoning districts, development standards, urban design concepts and architectural design guidelines for the Specific Plan Area, which are combined with an organized structure for circulation and infrastructure improvements to support future development. The Project is described in greater detail in Chapter 3, *Project Description.*

2.2 REPORT ORGANIZATION

Pursuant to *CEQA Guidelines,* Section 15120(c), this EIR contains the information and analysis required by Sections 15122 through 15131. This ~~Draft EIR~~Recirculated Draft SEIR is organized into the following chapters:

- **Chapter 1**: Executive Summary provides a brief summary of the proposed actions and their consequences, including the significant environmental impacts of the Project, describes recommended mitigation measures, indicates the level of significance of impacts before and after mitigation, and identifies alternatives that would reduce or avoid the significant impacts. The summary also identifies areas of controversy and issues to be resolved.
- **Chapter 2**: Introduction provides an introduction and overview of the document.
- **Chapter 3**: Project Description describes the Project in detail, including the location, surrounding uses, characteristics, and objectives.
- **Chapter 4**: Environmental Analysis provides an analysis of the potential environmental impacts of the Project and presents recommended mitigation measures to reduce their significance.
- **Chapter 5**: Other CEQA Required Topics evaluates and describes the following CEQA required topics: significant and unavoidable environmental effects, growth-inducing impacts, significant and irreversible changes, and potentially significant energy implications of the Project.
- **Chapter 6**: Effects Found Not to be Significant identifies those impacts that were found to be not significant during the environmental scoping process (refer to Section 2.5 of this Chapter)
- **Chapter 7**: Alternatives includes an analysis of all alternatives to the Project.
- **Chapter 8**: References lists sources of information used in the preparation of the ~~Draft EIR~~Recirculated Draft SEIR
- **Chapter 9**: Report Preparation Personnel identifies the preparers of the ~~Draft EIR~~Recirculated Draft SEIR.
- **Chapter 10**: Glossary

- **Chapter 11**: Responses to Comments on Draft SEIR
- **Appendices:** The appendices include the IS and NOP for the ~~Draft EIR~~Recirculated Draft SEIR, comments received in response to the IS and NOP and the City's scoping activities, and background technical studies.

Table 2-1, *CEQA Required Sections and Location in ~~Draft EIR~~Recirculated Draft SEIR*, identifies the sections of the ~~Draft EIR~~Recirculated Draft SEIR that are required and their location within the document.

Table 2-1: CEQA Required Sections and Location in this ~~Draft EIR~~Recirculated Draft SEIR

Required EIR Section	Location in this ~~Draft EIR~~Recirculated Draft SEIR	
	Chapter/Section	Page
Table of Contents (Section 15122)	Same	i
Summary (Section 15123)	Chapter 1	1-1
Project Description (Section 15124)	Chapter 3	3-1
Environmental Setting (Section 15125)	Chapter 4	4-1
Significant Environmental Effects of the Project (Section 15126(a))	Chapter 4	4-1
Significant Unavoidable Environmental Effects of the Project (Section 15126(b))	Chapter 4 Chapter 5	4-1 5-1
Significant Irreversible Environmental Changes of the Project (Section 15126(c))	Chapter 5	5-1
Growth-Inducing Impact of the Project (Section 15126 (d))	Chapter 5	5-2
Mitigation Measures (Section 15126 (e))	Chapter 1 Chapter 4	1-1 4-1
Alternatives to the Proposed Project (Section 15126(f))	Chapter 7	7-1
Effects Found Not to Be Significant (Section 15128)	Chapter 6	6-1
Organizations and Persons Consulted (Section 15129)	Chapter 9	9-1
Cumulative Impacts (Section 15130)	Chapter 4	4-1
Technical Appendices and other materials, including the Initial Study, Notice of Preparation, and comment Letters	Appendices	--

Source: Kimley-Horn and Associates

2.3 ENVIRONMENTAL REVIEW PROCESS

As previously discussed, the City of Tracy previously circulated for public review and comment the December 23, 2014 Draft Subsequent Environmental Impact Report (Draft SEIR) for the proposed Tracy Hills Specific Plan Project. Subsequent to the close of the public comment period for the Draft SEIR (which extended from December 23, 2014 through March 3, 2015), both the City and Project Applicant completed additional technical

analysis for the Project While most of the aforementioned conclusions did not change, the City did identify several transportation improvements that, while identified in the City's Transportation Master Plan (TMP), are not within complete control of the City to implement. Thus, in these cases, the City has identified these impacts as significant and unavoidable until such time as these improvements are constructed. In an effort to provide full disclosure of all potential impacts of the proposed Project and provide additional opportunity for public input, the City has elected to recirculate the Draft SEIR in its entirety for an additional 45 days of public review.

Prior to the preparation of the December 23, 2014 Draft SEIR, the City of Tracy contacted affected agencies, organizations, and persons who the City has identified as having an interest in this Project in accordance with the State CEQA Guidelines. For a discussion of the Notice of Preparation process, refer to Section 2.5, below.

This ~~Draft EIR~~ Recirculated Draft SEIR, with an accompanying Notice of Completion (NOC), is being circulated to the State Clearinghouse, trustee agencies, responsible agencies, other government agencies, and interested members of the public for a 45-day review period as required by CEQA. The City has elected to extend the review period to 50 days given that the 45-day public review period falls within the end of a holiday weekend. The review period for this ~~Draft EIR~~Recirculated Draft SEIR will extend between ~~December 23, 2014~~October 15, 2015 and ~~February 10, 2015~~December 3, 2015. During this period, public agencies and members of the public may provide written comments on the analysis and content of the ~~Draft EIR~~Recirculated Draft SEIR. Further, the City will hold a public hearing on the ~~Draft EIR~~Recirculated Draft SEIR during the review period identified above. All interested parties are invited to attend the public hearing to provide either verbal or written comments on this ~~Draft EIR~~Recirculated Draft SEIR. The time and location of the public hearing will be noticed in accordance with applicable noticing requirements and procedures. In reviewing a ~~Draft EIR~~Recirculated Draft SEIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and on ways in which the significant effects of the Project might be avoided or mitigated.

Comments on the Recirculated Draft SEIR may be submitted in writing to:

Mr. Bill Dean, Assistant Director of Development Services
Development Services Department
City of Tracy
333 Civic Center Plaza
Tracy, CA 95376
Fax: 209.831.6439
Email: william.dean@ci.tracy.ca.us

In order to elicit a written response, all comments must be received by ~~February 10, 2015.~~ December 4, 2015. Following the close of the public comment period, a Final EIR will be prepared to respond to all substantive comments related to environmental issues surrounding the content of the Recirculated Draft EIR.~~Project.~~ Pursuant to Section 15088.5(f)(2) of the CEQA Guidelines, the City is requesting that reviewers limit their comments to the content of the Recirculated Draft EIR and will respond to comments made during the recirculation period to the Recirculated Draft SEIR.

The Final EIR will be available prior to Planning Commission and City Council public hearings to consider this Recirculated Draft SEIR and the Project.

Concurrent with the City's consideration of the Final EIR, the Council will also consider the merits of the Project itself. This consideration may render a request to revise the Project, or an approval or denial. If the Project is approved, the Council may require mitigation measures specified in this ~~Draft EIR~~ Recirculated Draft SEIR as conditions of Project approval. Alternatively, the Council could require other mitigation measures deemed to be effective mitigations for the identified impacts, or it could find that the mitigation measures cannot be feasibly implemented. For any identified significant impacts for which no mitigation measure is feasible, or where mitigation would not reduce the impact to a less than significant level, the Council will be required to adopt a finding that the impacts are considered acceptable because specific overriding considerations indicate that the Project's benefits outweigh the impacts in question.

2.4 INTENDED USES OF THIS RECIRCULATED DRAFT SEIR

The City of Tracy has prepared this Recirculated Draft SEIR for public review and comment pursuant to Section 15088.5 of the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3). ~~This Draft SEIR has been prepared in accordance with CEQA and its implementing regulations.~~ This Recirculated Draft SEIR will be used by the City and other responsible and trustee agencies in their consideration of the various Project approvals within their respective jurisdictions in order to identify and evaluate the Project's significant environmental impacts. As mandated by *CEQA Guidelines* §15124(d), this section contains a list of agencies that are expected to use this Draft SEIR in their decision-making, and a list of the actions (both discretionary and ministerial) necessary to implement the Project.

Implementation of the Project may require permits or approvals from the following local, regional, state, and federal agencies:

- San Joaquin County
- San Joaquin Valley Air Pollution Control District
- Byron-Bethany Irrigation District
- Central Valley Regional Water Quality Control Board
- California Department of Fish and Wildlife
- California Department of Transportation
- State Department of Conservation
- State Department of Water Resources
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- U.S. Bureau of Reclamation

2.5 EIR SCOPE, ISSUES, CONCERNS

In May, 2013, the Applicant requested certain amendments to the 1998 THSP, and on October 23, 2013, the City published a Notice of Preparation for the Project, titled the "Tracy Hills Specific Plan Amendment Project." On November 6, 2013, the City conducted a scoping meeting for the Tracy Hills Specific Plan Amendment Project. Because the number of requested modifications to the 1998 THSP was substantial, it was determined that an entirely re-written Specific Plan would provide greater clarity and definition and more contemporary policy direction, and would reduce the possibility of inconsistencies and confusion that could be created by separately amending numerous individual sections of the 1998 THSP. As a result, and even though the 1998 THSP had already been the subject of a full and comprehensive EIR, the City and the Project Applicant have agreed that the environmental analysis for the re-written Specific Plan should take the form of

a new subsequent EIR, consistent with Section 15162 of the CEQA Guidelines, rather than utilizing any streamlined or tiered form of environmental review that could be available under CEQA and the CEQA Guidelines. To document this change in approach to the environmental review for the Project, the City published an Updated Notice of Preparation (NOP) on April 21, 2014. Per Section 15125 of the CEQA Guidelines, baseline conditions from which this EIR evaluates impacts were established at the time the NOP, and will cover the entire Specific Plan Area and address the full range of environmental topics identified in Appendix G of the State CEQA Guidelines.

Chapter 1A of this Draft EIR details the comments received during the public scoping process.

Through the IS and NOP scoping process, the City determined that the Project would have no significant impact on certain environmental issues, or the impact could be feasibly mitigated with identified mitigation measure(s); these issues have been excluded from further analysis in this ~~Draft EIR~~Recirculated Draft SEIR. Refer to Chapter 6, *Effects Found Not to be Significant,* and Appendix A for a discussion of the effects found not to be significant as identified in the IS.

Full build out of the THSP is not expected to be complete for twenty years or more. At the present time, detailed development plans have been prepared for only a portion of the Project, referred to herein as Phase 1a. Because sufficient information is available now, this ~~Draft EIR~~Recirculated Draft SEIR includes a detailed analysis of the potential environmental effects from Phase 1a. However, similarly-detailed development plans have not yet been prepared for the subsequent phases of the THSP. Given the nature of the Project, the analysis in this ~~Draft EIR~~Recirculated Draft SEIR discusses the Phase 1a development as well as full buildout to ensure that entire Project is described and evaluated. Construction of the THSP, whether in Phase 1a or subsequent phases, may require additional discretionary approvals (i.e. parcel-specific development applications, Conditional Use Permits, Specific Plan Amendment, etc.,) and could therefore require subsequent environmental review in compliance with the State CEQA Guidelines.

2.6 INCORPORATION BY REFERENCE

Pertinent documents relating to this Draft Recirculated SEIR have been cited and incorporated by reference, in accordance with Section 15150 of the State CEQA Guidelines, as a means of reducing the redundancy and length of this environmental report. The following documents are available for public review at the City of Tracy Planning Division, located at 333 Civic Center Plaza, Tracy, CA 95376, and are hereby incorporated by reference into this Draft Recirculated SEIR:

CITY OF TRACY GENERAL PLAN UPDATE (STATE CLEARINGHOUSE NO. 2008092006)

The City approved an update to the General Plan on February 1, 2011. The General Plan provides a vision for the future and establishes a framework for how the City of Tracy should grow and change over the next two decades. The General Plan establishes goals, objectives, policies, and actions to guide this change in a desired direction. The General Plan presents existing conditions in the City, including physical, social, cultural, and environmental resources and opportunities. The General Plan looks at trends, issues, and concerns that affect the entire City and sphere of influence.

CITY OF TRACY GENERAL PLAN FINAL EIR (STATE CLEARINGHOUSE NO. 2008092006)

The General Plan EIR assesses the potential environmental consequences of adoption and implementation of the City of Tracy General Plan and Sustainability Action Plan. The assessment is designed to inform City of Tracy decision-makers, other responsible agencies, and the public-at-large of the nature of the General Plan and Sustainability Action Plan and their effects on the environment. The General Plan EIR has been prepared in accordance with and in fulfillment of CEQA requirements. The General Plan EIR consists of the ~~Draft EIR~~Draft ~~S~~EIR, the Final EIR, and its various amendments and supplements.

The General Plan EIR is a Program EIR. As a Program EIR, the General Plan EIR is not project-specific and does not evaluate the impacts of specific projects that may be proposed under the General Plan. Such projects would require separate environmental review to secure the necessary discretionary development permits. While subsequent environmental review may be tiered off the General Plan EIR, the General Plan EIR is not intended to address impacts of individual projects. Information from the General Plan EIR is incorporated herein, as it contains extensive information pertaining to impacts associated with the implementation of City policies and objectives.

CITYWIDE WATER SERVICE MASTER PLAN

The City of Tracy approved a Citywide Water Service Master Plan (WSMP) in December, 2012 as the means to provide an evaluation of potable and recycled water systems required to serve buildout of the City's General Plan. The WSMP includes the infrastructure required to serve the Project in its analysis and evaluation.

CITYWIDE WASTEWATER MASTER PLAN

In December 2012 the Tracy City Council adopted the Tracy Wastewater Master Plan (WWMP) which outlines wastewater generation factors and present future wastewater flows and loadings to be used within the City and its future service areas. The Project was considered as a future service area within the WWMP. Conclusions and recommendations in the plan assume the implementation of the Project.

CITYWIDE PUBLIC SAFETY MASTER PLAN

The Citywide Public Safety Master Plan (CPSMP) was prepared by the City in 2012 to guide the provision of public safety facilities, both fire and police services, needed to serve the existing and future public safety needs in the City of Tracy. The CPSMP considers a build out scenario that includes the THSP in its evaluation and projections.

CITYWIDE PUBLIC FACILITIES MASTER PLAN

The Citywide Public Facilities Master Plan (CPFMP) serves to guide the provision of public facilities need to serve the existing population and future planned growth for the City of Tracy. The CPFMP provides for the development of new public facilities building space totaling approximately 126,400 square feet, including a new Community Recreation Building, to accommodate the planned growth. The facilities are planned to be constructed as needed, over time, and as development impact fees are collected.

CITYWIDE PARKS MASTER PLAN

The Citywide Parks Master Plan (CPMP) was adopted by the City Council in April 2013 and serves to identify infrastructure needs for parks and public facilities in the City. The CPMP provides policies, design guidelines,

and includes analysis of the existing park system, and forecasts demographic and recreation trends to identify future needs. Specifically, the CPMP addresses the demand for park land and recreation facilities spurred by new residential development in future service areas (including the Project area) and as such, calls for the provision of 4 acres of park space per 1,000 population.

CITY OF TRACY URBAN WATER MANAGEMENT PLAN

The City's most recent UWMP (2010) was adopted by the Tracy City Council in May 2011. The City's 2010 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's General Plan SOI through buildout (estimated to occur in 2040). The water demand projections in the City's 2010 UWMP included existing City water demands (based on 2007 demands), future water demands for developments with approved water supplies (e.g., those projects which have already been approved by the City but have not yet begun construction or have not yet built out), and future water demands for future service areas.

The potable water demands of the 1998 Specific Plan (1,076 acre feet per year) were included in the City's 2010 UWMP future water demands for development with approved water supplies. Recycled water facilities recommended in the Citywide Water System Master Plan have been sized to accommodate additional recycled water demands beyond those included in the City's 2010 UWMP, and adequate recycled water supplies are anticipated to be available in the future to accommodate the recycled water demand associated with the Project.

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3 PROJECT DESCRIPTION

3.1 PROJECT BACKGROUND

The following Project Ddescription is provided in conformance with CEQA Guidelines Section 15124. It discusses the geographic setting, Project location, Project setting, current City of Tracy land use and zoning designations, Project characteristics, Project objectives, and discretionary actions required to implement the Project. This information will be the basis for analyzing the Project's impacts on the existing physical environment in Chapter 4 of the EIR.

BACKGROUND

The Tracy Hills Specific Plan ("THSP") was approved by the City Council in 1998. In addition to the approval of the Tracy Hills Specific Plan, the "Project" that was examined in the certified Tracy Hills Final Environmental Impact Report (SCH No. 95122045) also included corresponding amendments to the City's General Plan and Zoning Ordinance, and annexation into the City. The 1998 THSP study area included approximately 2,732 acres of developable area for development of up to 5,499 residential units in a mix of low, medium and high density neighborhoods, and over five million square feet of non-residential land uses including office, commercial, and light industrial uses, in addition to parks, schools, and additional open space.

Following the 1998 Project approvals, the City updated its General Plan with a comprehensive update in 2011. The General Plan was the subject of a certified FEIR, City of Tracy General Plan Final EIR, State Clearinghouse No. 2008092006 (the "General Plan EIR"), and established land use designations for the Project site.

As part of the 1998 Project approvals, Project specific infrastructure studies for the THSP Project Area were required, including traffic, water, wastewater, and storm drainage. Since adoption of the General Plan in 2011, implementation of the General Plan has led to the preparation and adoption of the Citywide Infrastructure Master Plans. Each of the following plans include provisions to service the Project:

- Citywide Public Safety Master Plan (adopted 2013) Parks Master Plan, Citywide Public Facilities Master Plan, and Citywide Public Safety Master Plan Mitigated Negative Declaration (SCH 2013022031, adopted 2013)
- Citywide Wastewater Master Plan (adopted 2012) and Citywide Water System Master Plan/Tracy Wastewater Master Plan Mitigated Negative Declaration (SCH 2012122035, adopted 2013)
- Citywide Water System Master Plan (adopted 2012) and Citywide Water System Master Plan/Tracy Wastewater Master Plan Mitigated Negative Declaration (SCH 2012122035, adopted 2013)
- Citywide Roadways and Transportation Master Plan (adopted 2012) and Citywide Transportation Master Plan EIR (SCH 2012012032, certified 2012)

OVERVIEW

This Recirculated Draft Environmental Impact Report (EIR) was prepared by the City of Tracy to evaluate potential environmental impacts that could result from the approval and implementation of the Project. The Project includes a comprehensive update to the previously adopted 1998 Tracy Hills Specific Plan. The 1998

THSP established land use and development standards for approximately 2,732 acres located near the existing interchange around Corral Hollow Road and the proposed Lammers Road interchange on Interstate 580. The current Specific Plan area consists of the incorporated portion of the 1998 THSP, which is the approximately 2,732 acres described here (hereinafter referred to as the "THSP Project Area"). The Specific Plan was prepared pursuant to the provisions of California Government Code, Title 7, Article 8, Section 65450 et seq., which grants local planning agencies the authority to prepare a specific plan for any area covered by a General Plan for the purpose of establishing systematic methods for implementation of the General Plan.

As identified under the Project background (above), the Tracy Hills Specific Plan was initially approved by the Tracy City Council in 1998 (the "1998 THSP"). The Applicant has requested certain modifications to the 1998 THSP which would require formal amendments. Because the proposed text modifications (including the Project goals, zoning and development standards, and zoning districts), graphics and format to the previously approved Tracy Hills Specific Plan are substantial, the applicant, in consultation with City Staff, has decided to submit a comprehensive update to the Specific Plan as opposed to submitting amendments to sections of the 1998 THSP. Though the THSP has few land use changes (compared to what was previously approved), it was determined that an entirely re-written Specific Plan would provide for greater clarity, definition and contemporary policy direction, and would result in greater clarity and reduce the possibility of confusion created by separately amending sections. The amended and restated Tracy Hills Specific Plan is referred to herein as the "THSP" or "Specific Plan." While this comprehensive update would achieve a more contemporary organizational presentation and layout, the development contemplated by the THSP would remain largely the same as that authorized by the 1998 THSP.

The comprehensive update to the THSP also makes necessary modifications to bring the 1998 THSP Plan into consistency and compliance with the City's updated Infrastructure Master Plans and the General Plan, referenced above. The Project would involve the adoption of a General Plan Amendment and the amendment of the 1998 Tracy Hills Specific Plan in the form of the comprehensive update to the 1998 THSP; the approval and implementation of a development agreement(s); approval of a vesting tentative map application for Phase 1a; approval of the Tracy Hills Storm Drainage Master Plan; subsequent implementation of the THSP including subdivision maps, improvement plans and building permits, and other development within the THSP Project Area consistent with the standards specified within the THSP. It should be noted that approximately 3,500 acres adjacent to the Project Site that have been set aside for conservation (and are subject to recorded conservation easements). This set aside occurred as a previous Project design feature to preserve higher quality habitat areas in the foothills of the Diablo Mountains, and to concentrating e development in the low-lying, highly disturbed, low quality habitat areas of the Project site.~~3,500 acres of land previously included in the 1998 THSP have been removed from the current THSP. This land has been set aside for the conservation of wildlife habitat. A conservation easement was recorded on the open space in July 2012 and granted to San Joaquin Council of Governments (SJCOG). The conservation easement ensures that the lands will be preserved for habitat in perpetuity and will be subject to a management plan administered by SJCOG.~~

Following the City's 1998 approval of the THSP, various regional and local steps were taken to begin implementing the THSP. For example, as part of a settlement agreement reached between the County of Alameda, the City of Livermore, the City of Tracy, Sierra Club, and the original applicant, the parties agreed to the creating a governing structure in the form of a joint powers authority ("JPA") which would serve as a mechanism to fund needed regional transportation infrastructure improvements. This JPA was ultimately formed and served as the model followed by the San Joaquin COG in subsequent years when it formed a

Regional Transportation Infrastructure Fund to mitigate regional traffic impacts. The City's previous approval of the THSP also resulted in the permanent dedication of the 3,500 acres for wildlife habitat west of I-580. Lastly, in the interim years since the City's approval of the THSP, the City has embarked on numerous planning efforts aimed at ultimately implementing the THSP. These planning efforts have included the adoption of a revised General Plan in 2011 that included the anticipated build out of the THSP. In addition, in order to implement the City's General Plan as it relates to the THSP, the City has adopted numerous city-wide infrastructure plans designed to accommodate the build out of the THSP. These infrastructure plans were analyzed in to their own CEQA review and are now part of the City's adopted infrastructure plans to implement the THSP. The City's previously-certified EIR prepared for the THSP is incorporated by reference into this EIR and is available on the City's website.

An NOP was distributed on April 21, 2014 and indicates that this EIR will cover the entire 2,732 acres of the THSP and address the full range of environmental topics identified in Appendix G of the State CEQA Guidelines (as described in further detail below).

As discussed in Chapter 2, the City of Tracy previously circulated for public review and comment the December 23, 2014 Draft Subsequent Environmental Impact Report (Draft SEIR) for the proposed Tracy Hills Specific Plan Project. Subsequent to the close of the public comment period for the Draft SEIR (which extended from December 23, 2014 through March 3, 2015), both the City and Project Applicant completed additional technical analysis for the Project. While most of the aforementioned conclusions did not change, the City did identify several transportation improvements that, while identified in the City's Transportation Master Plan (TMP), are not within complete control of the City to implement. Thus, in these cases, the City has identified these impacts as significant and unavoidable until such time as these improvements are constructed. In an effort to provide full disclosure of all potential impacts of the proposed Project and provide additional opportunity for public input, the City has elected to recirculate the Draft SEIR in its entirety for an additional 45 days of public review.

In addition, a Vesting Tentative Map application (VTM) has been submitted by the Project applicant for the first proposed phase of development, referred to as Phase 1a.

For purposes of this Draft EIR, the comprehensive update to the previously adopted Specific Plan is being analyzed as if it were a "new" Specific Plan, and thus this EIR will comprehensively evaluate the potential environmental impacts of the THSP herein.

It is the intent of the City of Tracy to use the EIR to analyze the maximum level of development proposed in the THSP Project Area. Future developments that require additional discretionary review (i.e. individual development applications, Conditional Use Permits, Specific Plan Amendment, etc.,) are intended to be within the scope of this EIR unless subsequent environmental analysis is required by CEQA or the CEQA Guidelines.

3.2 PROJECT LOCATION, SETTING AND SURROUNDING LAND USES

REGIONAL LOCATION

The City of Tracy is located in San Joaquin County, which is within the Central Valley region of California. The City is approximately 60 miles east of San Francisco, which is separated from the Central Valley by the Coastal Range. The southwestern portion of San Joaquin County is located within the Diablo Range, and generally

consists of rolling hills cut by drainage channels. The topography in the vicinity of the City of Tracy flattens into the "low alluvial plains and fans" geomorphic units.

The City is regionally connected by three major Interstate Highways: I-580 on the west, I-205 on the north, and I-5 is located approximately eight miles to the east. The nearest urban areas to the City of Tracy are Lathrop, Manteca, and Mountain House. Refer to Figure 3-1, *Regional Location Map*, which shows the City of Tracy's regional location.

The region is characterized as having an "inland Mediterranean" climate (a semi-arid environment with cool winters, dry summers, and moderate rainfall). The climate is characterized by moderate temperatures and comfortable humidity, with precipitation limited to a few storms during the winter season (November through April).

PROJECT LOCATION

The Project site is located within the southwestern portion of the City. The property is bordered by the Delta Mendota Canal to the north, the Union Pacific Railroad to the north, hillsides used for livestock grazing to the west and southwest, Corral Hollow Road to the southeast, and privately owned lands designated and zoned for aggregate extraction to the east; refer to Figure 3-2, *Project Location Map* and Figure 3-3, *Land Use Concept*.

SURROUNDING LAND USES

The recently approved Ellis Specific Plan and Urban Reserve 10 area of the General Plan represent the majority of the land to the northeast of the Project, and, if developed as anticipated, would be made up primarily of low density residential uses, with limited commercial and industrial components. The area northwest of the Project site is characterized by sparse rural residential development. The Union Pacific Rail~~r Ro~~ad Line and the Delta-Mendota Canal both serve as portions of the northern border of the Project site, and the California Aqueduct also traverses the property. Currently, most of the property to the north of the site is in agricultural production.

The land to the west and south of the THSP Area is designated as Open Space in the General Plan and is primarily utilized for agricultural and grazing purposes. The United States Department of Energy (DOE) owns approximately 7,000 acres known as Site 300. Site 300, located approximately 1.5 to 2 miles to the southwest of the THSP Area along Corral Hollow Road, was established in 1955 as a non-nuclear explosives test facility to support Livermore Laboratory's national security mission. Today, work at site 300 supports the laboratory's nuclear weapons program by assessing the operation of non-nuclear weapon components using hydrodynamic testing and advanced diagnostics, such as high speed optics and x-ray radiography. A portion of Site 300 is adjacent to the approximately 3,500-acre habitat conservation easement area which abuts planned residential development. The Corral Hollow Landfill which closed in 1995 borders the southwest side of the site at the intersection of Interstate 580 and Corral Hollow Road. A portion of the land to the east of the Project site is designated by the County of San Joaquin General Plan for Aggregate production. In addition, the Tracy Municipal Airport is located to the east of the THSP Area. A portion of the site is located within the airport Area of Influence which contains restrictions to ensure compatibility and safety between adjacent land uses.

EXISTING LAND USES

The THSP Project Area has ground elevations that begin at approximately 195 feet above sea level on the north east side of the site, and rise to over 1,200 feet in the southwest corner. The area southwest of I-580 is primarily used for grazing. Other uses include row crop agriculture and orchards, with open space on the steep

upland portions. Vegetation that occurs on site is primarily grassland dominated by non-native species and contains little undisturbed habitat in the flatter lowland areas. The riparian woodland along Corral Hollow Creek has been degraded by historical grazing. Scrub grows in areas of rock outcrops and shallow soil. The area between I-580 and the Union Pacific Railroad/California Aqueduct is vacant with an abandoned structure formerly used in relation with the livestock operation. The portion of the site bound by the California Aqueduct, Union Pacific Rail~~-R~~road, Delta Mendota Canal and Corral Hollow Road is partially utilized as agriculture with three existing residences.

A number of linear features also bisect the site. These include a Union Pacific Railroad line, the California and Delta Mendota Canals, multiple underground pipelines and the Interstate 580 corridor; refer to Figure 3-4, *Existing Conditions Plan Area*.

EXISTING CIRCULATION

The THSP Project Area encompasses approximately 2,732 acres along I-580, between the Union Pacific Railroad and I-580 and Corral Hollow Road interchange. Interstate 580 is a four-lane, limited-access interstate highway that bisects the property on a north-to-south axis. Interstate 580 connects to I-205 and the western extension of I-580 on the north and to I-5 to the south. The freeway is also fronted by the 100-foot wide, open space habitat conservation easements. Existing roadways providing access to the THSP Area include I-580, Corral Hollow Road, and Lammers Road. Within approximately four miles from the Project site, I-580 connects I-205 and the western extension of I-580 to the north and with I-5 to the south. Corral Hollow Road is located along the eastern boundary of the site. Corral Hollow Road links I-580 to the western side of the City. Lammers Road extends south from Byron Road and terminates at the Union Pacific Railroad.

EXISTING INFRASTRUCTURE

The Project site is traversed by the following infrastructure easements, transportation lines, and utilities granted to various State, Federal, and regional agencies:

- Interstate 580
- California Aqueduct
- Delta Mendota Canal
- Union Pacific Railroad Line
- Natural Gas Pipeline-Pacific Gas and Electric
- Petroleum Fuel Pipelines-Conoco Phillips 66 Pipeline LLC, Shell Oil Company, and Chevron
- Various water pipeline easements
- Various drainage easements
- Various electrical utility easements

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FIGURE 3.1
REGIONAL LOCATION MAP

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FIGURE 3.2
PROJECT LOCATION MAP

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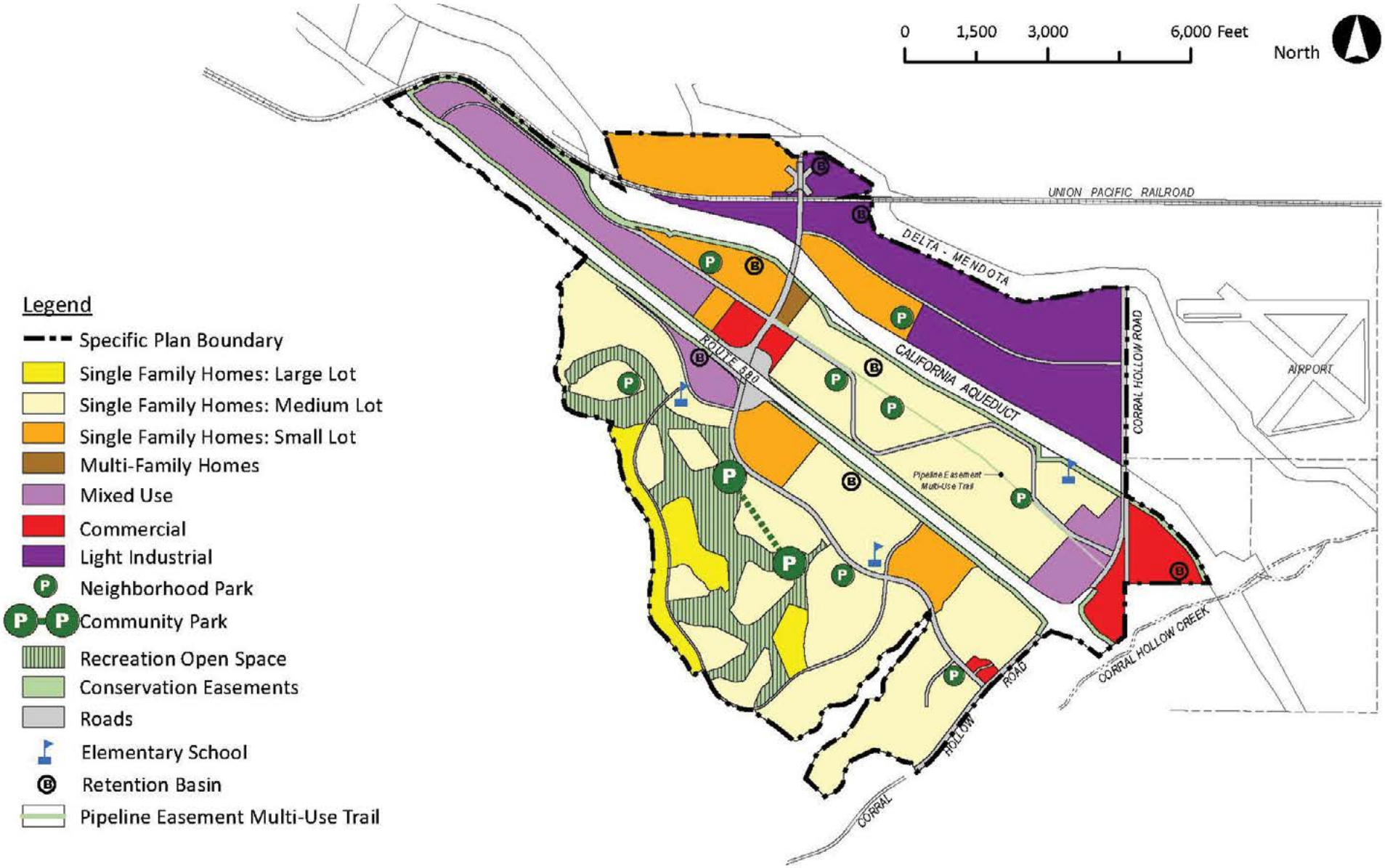

NOTES:
1. The locations, numbers, and configurations of public schools, park sites, and public utilities are conceptual and subject to change.
2. This exhibit is for conceptual purposes to show approximate locations.

FIGURE 3.3
TRACY HILLS LAND USE CONCEPT

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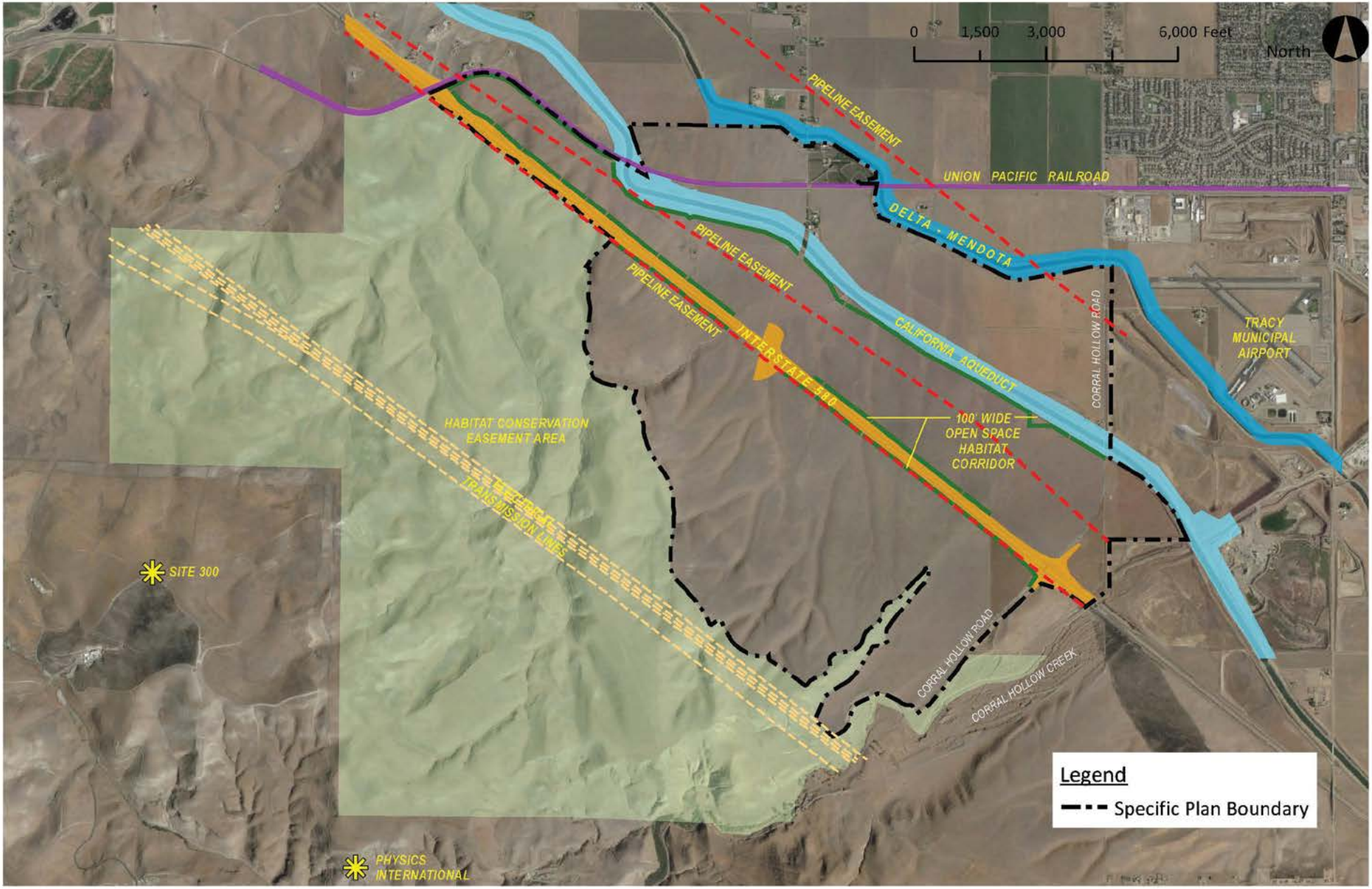

FIGURE 3.4
EXISTING CONDITIONS PLAN AREA

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3.3 PROJECT OBJECTIVES

The goal of the THSP is to implement the City's General Plan and establish a contemporary comprehensive land use policy and regulatory document for the development of the THSP Project Area.

- Implement the City's General Plan Area of Special Consideration Number 8: Tracy Hills Specific Plan Area.
- Create a master planned community that has a unique character and quality with a commitment to exemplary living, working, and recreational environments.
- Protect and enhance environmental features and wildlife habitats within and near the Specific Plan Area through the preservation of large tracts of contiguous open space lands.
- Facilitate development of infrastructure needed to serve the Project through efficient and phased infrastructure design.
- Provide a range of housing opportunities to support a diverse population, lifestyles and family groups.
- Develop residential neighborhoods that respect natural landforms and scenic valley views with a commitment to quality site design, architecture, and landscape design.
- Provide public parks, open space, and an integrated trails network with pedestrian and bicycle amenities, to create passive and active recreational opportunities to serve its residents.
- Provide a comprehensive circulation network with integrated mobility options including pedestrian and bicycle amenities, with enhanced connectivity and safety, as alternatives to automobile use.
- Provide mixed use business park land uses for commercial retail, office, institutional and other services that meet local, community, and regional needs.
- Create opportunities for quality employment-generating uses and economic development opportunities that meet local, community and regional needs.
- Establish a planning/zoning concept that is responsive to the market.
- Enhance the character and quality of I-580 freeway corridor and edge.
- Implement the Circulation Element of the City's General Plan which envisions transportation infrastructure improvements such as the Lammers/580 interchange.
- Implement the City's General Plan which envisions that the geographical area governed by the Tracy Hills Specific Plan will be developed into a mixed use master planned community consisting of a variety of interconnected uses.
- Implement a comprehensive Specific Plan that contains a variety of housing and jobs-producing land uses to achieve a relatively strong jobs to housing balance within the Specific Plan boundaries so as to reduce the vehicle miles traveled in the region.
- Implement the City's Infrastructure Master Plans.

3.3.1 LAND USE CONCEPT

OVERVIEW

The THSP Project Area encompasses approximately 2,732 acres within the southern portion of the City of Tracy surrounding the existing interchange at Corral Hollow Road and the proposed Lammers Road interchange on Interstate 580 (I-580).

The THSP consists of three areas defined by the physical characteristics of the site:

1. The northern portion of the THSP between the Delta-Mendota Canal and the California Aqueduct will include medium density residential areas adjacent to light industrial uses.

2. The central portion of the THSP, south of the California Aqueduct and north of I-580, is planned predominately for single-family homes, open space conservation corridors, mixed use business park, and commercial retail areas. These uses will provide employment opportunities and daily needs and services for residents. Multi-use trails will connect residential neighborhoods, integrated with public park amenities that are within walking distance. Additionally, an elementary school site is planned to serve the neighborhood residents of this area.

3. The southern portion of the THSP Project Area, with rolling and steeper slopes on the southern side of I-580, will be primarily residential neighborhoods with parks and school sites. Consistent with the General Plan, 185 acres of open space, (~~originally~~ shown as a golf course in the 1998 approved Specific Plan), will be integrated into the low density residential areas. A mixed use business park area will be located southwest of the planned Lammers interchange and a commercial retail area will be located along the southeasterly Project boundary at Corral Hollow Road. This area abuts approximately 3,500 acres of open space under a conservation easement; refer to Figure 3-5, *Zoning Districts.* These land uses are identified in Table 3-1, *THSP Land Use Plan Projected Buildout.*

Table 3-1: THSP Land Use Plan Projected Buildout

Zoning District or Land Use	Approximate Gross Acres[1]	Approximate Adjusted Developable Acres[1,2, 3]	Target Density Range or F.A.R.	Projected Dwelling Units or Square Feet[1]
Residential Estate	95.6	81.3	(0.5-2.0 DU's/ac.)	122 DU's
Low Density Residential2	1,216.0	876.3	(2.1-5.8 DU's/ac.)	3,238 DU's
Medium Density Residential	318.1	270.4	(5.9-12.0 DU's/ac.)	2,014 DU's
High Density Residential	9.2	7.8	(12.1-25.0	125 DU's
Mixed Use Business Park	214.6	182.5	0.20 F.A.R.	1,589,069 s.f.
General Highway Commercial	102.4	87.0	0.20 F.A.R.	758,944 s.f.
Light Industrial	363.1	308.6	0.25 F.A.R.	3,360,654 s.f.
Conservation Corridors	119.8		n/a	
Subtotal:	**2,438.8**	**1,813.9**		
Interstate 580 Interchange and ROW	137.5			
California Aqueduct ROW	143.1			
Union Pacific Rail Road	12.2			
Total:	**2,731.6**	**1,813.9**		5,499 DU's 5.7 mil s.f.

Source: Integral Communities, December 2014

1. All Acreages, dwelling units, and square footage examples shown herein are approximate.
2. Adjusted Developable Acres - Residential, Mixed Use Business Park, General Highway Commercial, and Light Industrial acreages have been adjusted to show that an estimated 15% of the land area is used for infrastructure such as roads and utilities, and/or public facilities such as neighborhood parks/amenities, schools, and/or public facilities such as retention basins as noted in the General Plan. Actual numbers will vary depending on site specific characteristics.
3. 180 to 185 acres of General Plan mandated Open Space taken out of Low Density Residential land use category.

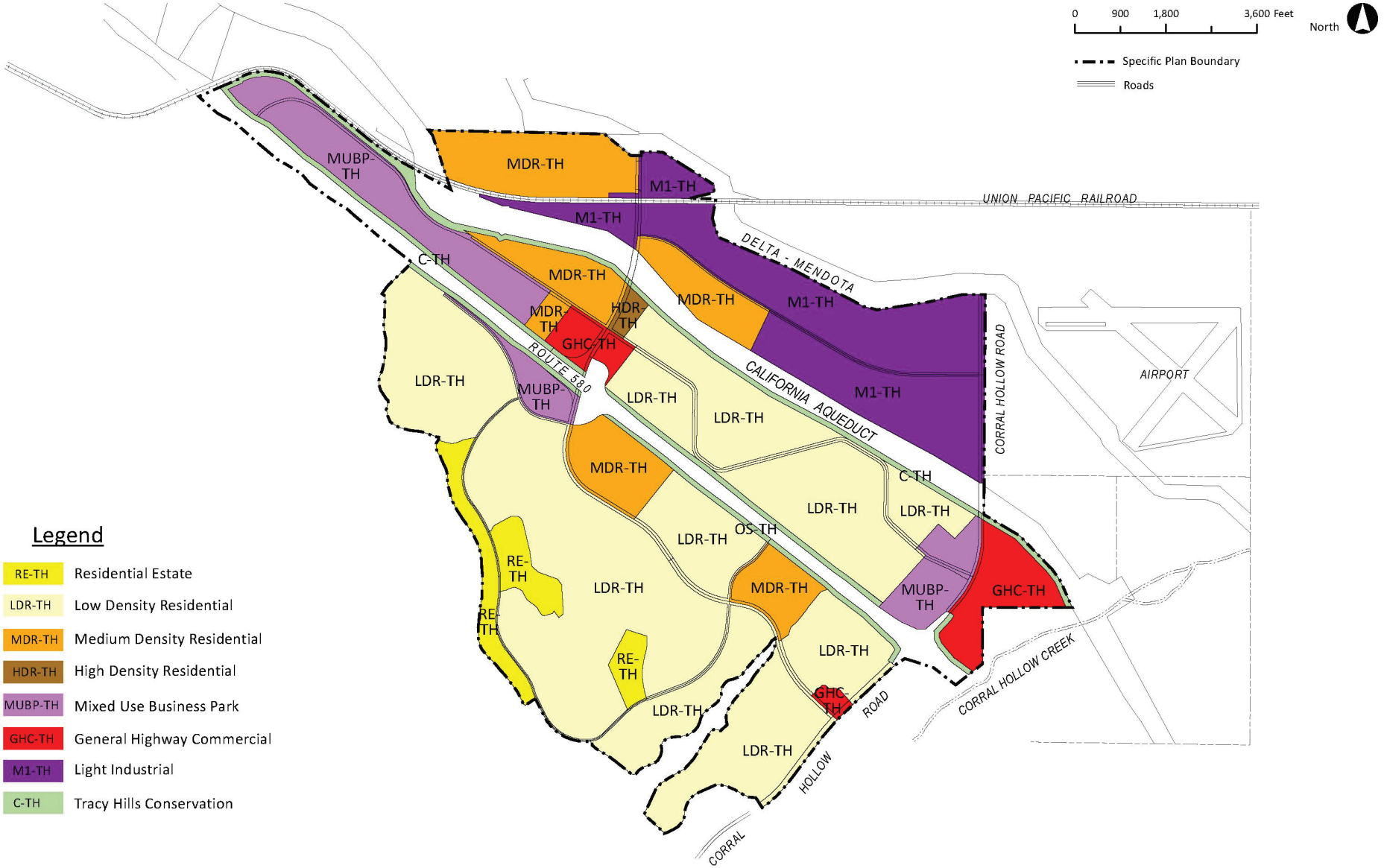

FIGURE 3.5
ZONING DISTRICTS

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The following section describes the overall land use or zoning district mix anticipated by the THSP.

Residential Zoning District

The THSP authorizes the development of a maximum of 5,499 residential units (the same number of units contemplated in the 1998 THSP) and would provide a range of housing types, including single-family, duplex, and multi-family dwelling units. It is estimated that once fully developed, the THSP would have an estimated population of approximately 19,137 people[1]

Proposed zoning districts and their corresponding densities are the following: Residential Estate (RE-TH, 0.5 to 2.0 units per acre), Low Density Residential (LDR-TH, 2.1 to 5.8 units per acre), Medium Density Residential (MDR-TH, 5.9 to 12.0 units per acre), and High Density Residential (HDR-TH, 12.1 to 25.0 units per acre) Table 3-2, *Residential Land Use Summary,* identifies the acres and densities permitted for each residential land use.

Table 3-2: Residential Land Use Summary

Zoning District	Approximate Gross Acres	Approximate Adjusted Developable Acres[1,2,3]	Permitted Density Range	Estimated Units
Residential Estate	95.6	81.3	(0.5-2.0 DU's/Ac.)	122
Low Density Residential	1,216.0	876.3	(2.1-5.8 DU's/Ac.)	3,238
Medium Density Residential	318.1	270.4	(5.9-12.0 DU's/Ac.)	2,014
High Density Residential	9.2	7.8	(12.1-25.0 DU's/Ac.)	125

1 All Acreages, dwelling units, and square footage examples shown are approximate.
2 Adjusted Developable Acres - Residential, Mixed Use Business Park, General Highway Commercial, and Light Industrial acreages have been adjusted to show that an estimated 15% of the land area is used for infrastructure such as roads and utilities, and/or public facilities such as neighborhood parks/amenities, schools, and/or public facilities such as retention basins as noted in the General Plan. Actual numbers will vary depending on site specific characteristics.
3 185 acres of General Plan mandated Open Space taken out of Low Density Residential land use category.

Tracy Hills Conservation Zoning District

One hundred foot wide conservation corridors are recorded within the Specific Plan along most of both sides of I- 580 and the south side of the California Aqueduct, totaling approximately 119 gross acres**.** These corridors were dedicated to San Joaquin Council of Governments in 2012. The purpose of these~~is~~ conservation corridors is to provide permanent wildlife habitat. These conservation corridors will be owned and maintained by the Project's HOA and zoned Tracy Hills Conservation (C-TH). The corridors are permanently recorded as conservation easements and will be landscaped with native trees and also include open areas to provide habitat for species that inhabit nonnative grasslands. No development within these areas will be allowed except for installation of landscape materials, irrigation, and protective fencing.

Adjacent to the Specific Plan's western boundary and outside of the City limits, approximately 3,500 acres of open space has been set aside for the conservation of wildlife habitat.

[1] The Department of Finance (DOF) establishes an average of 3.48 persons per household, as of January 2014.

The Project owner remains committed to proviniding funding to the SJCOG for conservation of the approximate 3,500 acre open space area that is located southwest of this Project site. The Project owner voluntarily recorded a conservation easement over this 3,500 acre area as part of the implementation of the previous 1998 THSP.
~~A conservation easement was recorded on the open space land in July 2012 and granted to San Joaquin Council of Governments (SJCOG). The conservation easement ensures that the lands will be preserved for habitat in perpetuity and will be subject to a management plan administered by SJCOG, through the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).~~

General Highway Commercial Zoning District

Land zoned General Highway Commercial (GHC-TH) total approximately 102 gross acres. One GHC-TH zoning district is located in the central portion of the site, north of I-580. Two additional sites are located on the eastern edge of the Project site, along Corral Hollow Road.

Mixed Use Business Park Zoning District

The Specific Plan includes approximately 214.6 acres zoned Mixed Use Business Park (MUBP-TH). Assuming a 0.20 FAR (floor area ratio), over 1.59 million square feet of business park uses would be generated. The business park area is designated to allow a mix of development to provide opportunity and flexibility for a broad array of commercial, institutional and business uses to serve the community and provide employment. The primary land uses are intended to be focused on job generating land uses such as administrative and corporate offices.

Phase 1a of the Project would include the development of MUBP-TH Zoning District. The MUBP-TH Zone would be located north of I-580 and west of Corral Hollow Road. Potential land uses allowed in the MUBP-TH Zone are professional offices, medical offices, banks, retail, restaurants, hotel/motels, and auto service stations.

Light Industrial Zoning District

Approximately 363 gross acres of Industrial zoning (M-1-TH) are provided within the THSP Project Area. Assuming an FAR (floor area ratio) of 0.25, over 3.3 million square feet of industrial space would be provided.

Public Facilities and Services

The Project provides for the ultimate development of a diverse, mixed- use community area that would require a full range of public services. The Specific Plan addresses the services to be provided by a variety of public and private entities including infrastructure, police and fire protection, educational facilities, civic institutions and cultural support facilities, and parks and recreation. Provisions for the reservation or dedication of land necessary for public facilities and services shall be set forth in Development Agreement or imposed as a condition of approval with tentative subdivision maps.

Locations, alignments, and details of the public facilities are described in detail in Section 3 of the Specific Plan.

Schools

The THSP Project Area is within two school districts. Elementary school facilities are within the Jefferson School District and high school facilities are within the Tracy Unified School District.

The need for school facilities is determined by population trends, residential densities, proximity, and size of existing school facilities, class size standards, and projected enrollment. Phasing of educational facilities will partially depend on where development occurs first. The Project is anticipated to include three potential elementary school (K-8) sites located within the Specific Plan area but the final number and locations of elementary schools will be determined in accordance with the Jefferson School District Facilities Master Plan as the Specific Plan is built out. In the event the School District does not use, purchase and/or develop a school site, these sites may be developed consistent with residential zoning development standards. Phase 1a of the Project includes an elementary school site that lies between I-580 and the California Aqueduct and between Corral Hollow Road and the future Lammers Road extension; refer to the Phase 1a Vesting Tentative Map discussion below.

The THSP may also include the use of two interim school sites to support the development. The purpose of the interim school sites would be to provide school services to the initial residents of the THSP Project Area until the permanent schools are fully developed.

The initial "interim" students for the Project's Phase 1a would be housed in existing facilities at Hawkins Elementary School until the permanent school is constructed in Tracy Hill Phase 1a. Hawkins Elementary is currently utilized for this upcoming school year as the interim school site for the Jefferson Elementary School as it is being reconstructed. The facilities that are being put in place to house the Jefferson Elementary School students on an interim basis will be utilized for the Project's Phase 1a interim students.

If needed, the proposed 2-3 acre interim school site adjacent to the Project's Phase 1a school is intended to serve future phases of the THSP but not the Project's Phase 1a interim students. Specifically, the Project's Phase 1a school would have capacity for approximately 800 students. Once over 800 students are generated, the District would require to have a Project "on-site" interim school site to house students on an interim basis until the future permanent schools are built (e.g. Hawkins would NOT be used as the interim school facility for future Project phases). The interim school site may be used in phases (e.g. the second permanent school in the THCP Project Area will likely also have capacity for approximately 800 students, so once there are 1600+ students generated the interim school site would be utilized until the 3rd permanent school is constructed.

Parks/Open Space

Active and passive park and recreation facilities will be provided within the Specific Plan area in a variety of forms at a rate of three acres of neighborhood park land and one acre of community park land per 1,000 population. After dedication to the City, most park and recreation facilities will be under the jurisdiction of the City Public Works Department and will be operated and maintained by the City for the enjoyment of the residents of Tracy. Parks will include community or neighborhood parks with active and passive recreation. Park acreage and facilities shall occur within the Specific Plan area in a variety of forms as determined by the City. These parks may feature play fields, ball fields, children play areas, picnic areas, tennis courts, open lawn areas, or other amenities. The parks may be interconnected by trails and bikeways within the parkways.

In addition to the community and neighborhood parks, approximately 180 to 185 acres of open space recreation area will be provided to the south of I-580. The final design will occur with the first subdivision map of this area. It is envisioned that the open space recreation area will be designed for scenic and visual enjoyment, provide outdoor recreation opportunities, improve public health and safety, preserve natural resources and control the urban form. The open space recreation area is subject to final design approval by the City and could

include both passive and active features including a nature trail system and pathways that can be used for hiking, walking, biking and jogging, community gardens, water features (e.g. ponds) , picnic and sitting areas, lawn areas, nature viewing areas, outdoor amphitheater, tot lots and playgrounds, sports fields, sport courts, disc golf, dog parks, multipurpose recreation facility, public facilities including parking and restrooms, and/or golf course. In specific areas of the open space, enhancements may be incorporated into the final design through the planting of native landscape as passive open space and for habitat improvement. It is envisioned that a portion of the open space recreation area will be designed and approved by the City as a designated community park.

INFRASTRUCTURE/PUBLIC UTILITIES

Roadway System Concept

The THSP provides for a comprehensive roadway system that includes streets, bikeways, and walks designed to provide and encourage efficient travel within the community.

The roadway system is also intended to enhance the character and identity of the Specific Plan area by specifying right-of- way landscaping requirements. Lammers Road, the backbone of the internal circulation system, connects residential neighborhoods to community facilities, schools, and commercial areas, as well as points of regional circulation. Bikeways and walks provide a non-vehicular travel alternative for the convenience of walkers, joggers, and bicyclists.

Although automobiles will remain the primary transportation mode for most THSP residents in the foreseeable future, the comprehensive circulation system in the Specific Plan is designed to provide a range of transportation options for the efficient movement of people. The circulation system incorporates public streets, pedestrian paths, bikeways, parking areas, and public transit stops.

Circulation

Streets would be designed in accordance with the Transportation Master Plan. A variety of street widths and designs are contained within the Specific Plan area to accommodate the range of anticipated traffic.

Consistent with the Transportation Master Plan, the Specific Plan provides for one north/south expressway, one north/south arterial street, and one east/west arterial, all of which are an important part of the City's overall vehicular transit system. The two north/south roads are Lammers Road and Corral Hollow Road. The east/west arterial is parallel to Interstate 580 between Lammers Road and Corral Hollow Road. Tracy Hills Road extends south from I-205 through the City's western area and eventually connects to Corral Hollow Road. The Tracy Hills Road extension will be a four-lane arterial and south of I-580, will transition to a two lane divided arterial through the plan area. Lammers Road is aligned between the Delta-Mendota Canal and Corral Hollow Road, through the Specific Plan area. Lammers Road will provide direct access to major community facilities as well as provide a central community interchange and access to Interstate 580.

The City of Tracy Transportation Master Plan envisions Lammers Road as an expressway which will extend from I-580 north to I-205, connecting the THSP and Ellis Projects with the job-generating centers of Cordes Ranch and Gateway and providing direct access onto I-580.

Corral Hollow Road will be expanded into a four-lane arterial. This road will be the access point for the initial development of the Project.

The residential collector and minor arterials system intersects Lammers Road at designated locations. The residential collector and minor arterials system shall provide direct access to schools and parks, wherever possible. Residential driveways predominantly face onto local streets. No residential driveways are proposed to face onto or directly access Lammers Road, Corral Hollow Road, or other arterial roads.

An additional system of internal streets will also serve the Mixed Use Business Park and Light Industrial areas. All office and industrial parcels will have defined entries from these streets and will be landscaped according to the Specific Plan Design Guidelines.

The four-lane arterial parallel to and north of the California Aqueduct will be a designated truck route to facilitate efficient movement with minimum impacts. Truck routes will insulate residential areas from excessive truck traffic to the extent possible except for local deliveries.

All circulation related improvements would be constructed as warranted by development and in accordance with City standards. Refer to Figures 3-6a, *Roadway Plan,* 3-6b, *Four Lane Parkway,* 3-6c, *Two Lane Collector,* 3-6d, *Two Lane Major Collector,* 3-6e, *Spine Road/Lammers Extension,* 3-6f, *Four Lane Major Arterial with Median,* 3-6g, *Internal Residential Streets.*

The City of Tracy has collected data on the typical travel patterns of residents and businesses and has developed customized trip generation rates. These trip generation rates are more accurate compared to published ITE rates and are representative of the Tracy community. These customized trip generation rates have been used to develop the City TMP Horizon year (2035) and TMP Buildout Travel Demand Model (TDM); they are used in the evaluation of potential impacts generated by all future development. Land use growth for the model is consistent with the City of Tracy General Plan. In addition, the Tracy Travel Demand Model tiers off the San Joaquin COG Travel Demand Model for regional roadway connections within San Joaquin County as well as travel to and from Alameda County and further west. The Tracy Travel Demand Model trip generation rates are overall higher when compared to ITE trip generation rates. Further discussion is included in Chapter 4.13.

Pedestrian and Bicycle Circulation

The Project provides a network of bikeways and trails throughout the Specific Plan area. These trails may be multi-use, bike and pedestrian travel ways. These trails may be separated from the vehicular roadway and will allow access between neighborhoods.

The Project Design Guidelines provides bikeway and trails concepts. A pedestrian/bike circulation plan identifying circulation patterns, street crossings, access between neighborhoods and walkways shall be prepared with each Tentative Map.

Class 1 bikeways are to be located on Lammers Road from the Delta-Mendota Canal crossing south to the intersection with Corral Hollow. Class 1 bikeways will also be provided on Corral Hollow Road from the Delta-Mendota Canal south and west to the Lammers Road intersection. Additional Class 1 bikeways will be provided on the primary east/west streets that intersect Lammers Road and parallel Interstate 580. Combination pedestrian/bike paths would be a minimum of 10 feet wide.
Sidewalks may be provided on one side of the street when fronted with homes on only one side. The minimum width of sidewalks would be 5 feet in residential, industrial, and commercial areas.

The bikeway and trail system will serve schools, commercial areas, and community facilities. The planning and design of the system will avoid conflicts with roadways as much as possible and keep crossings to a minimum.

~~Public Transportation~~

~~There are several public transit options to serve the residents of the THSP Project Area, accommodating the needs of a wide variety of users for local and regional travel needs. Regional rail service is provided by the Altamont Corridor Express (ACE) which is a passenger rail line running between Stockton and San Jose, with a Bay Area Rapid Transit (BART) connection to the Bay Area from Pleasanton/Dublin. Regional bus service is also available within San Joaquin County provided by the San Joaquin Regional Transit District (SJRTD), County Area Transit, the San Joaquin Commuter bus, Greyhound and Amtrak California.~~

~~Local bus service is provided by the City's TRACER bus system. TRACER offers a Fixed Route and Paratransit services providing local public transportation to most major destinations within Tracy including connecting to other public transportation options such as the City's Multimodal Transit Center and the ACE station. The TRACER Fixed Route is routinely updated and the Project would accommodate extension of the Fixed Route system through reservation of bus stop locations based on demand and, if necessary, bus turnarounds. The type, number, and location of bus facilities, timing of improvements, and developer responsibilities would be determined at the time of Tentative Subdivision Map approval.~~

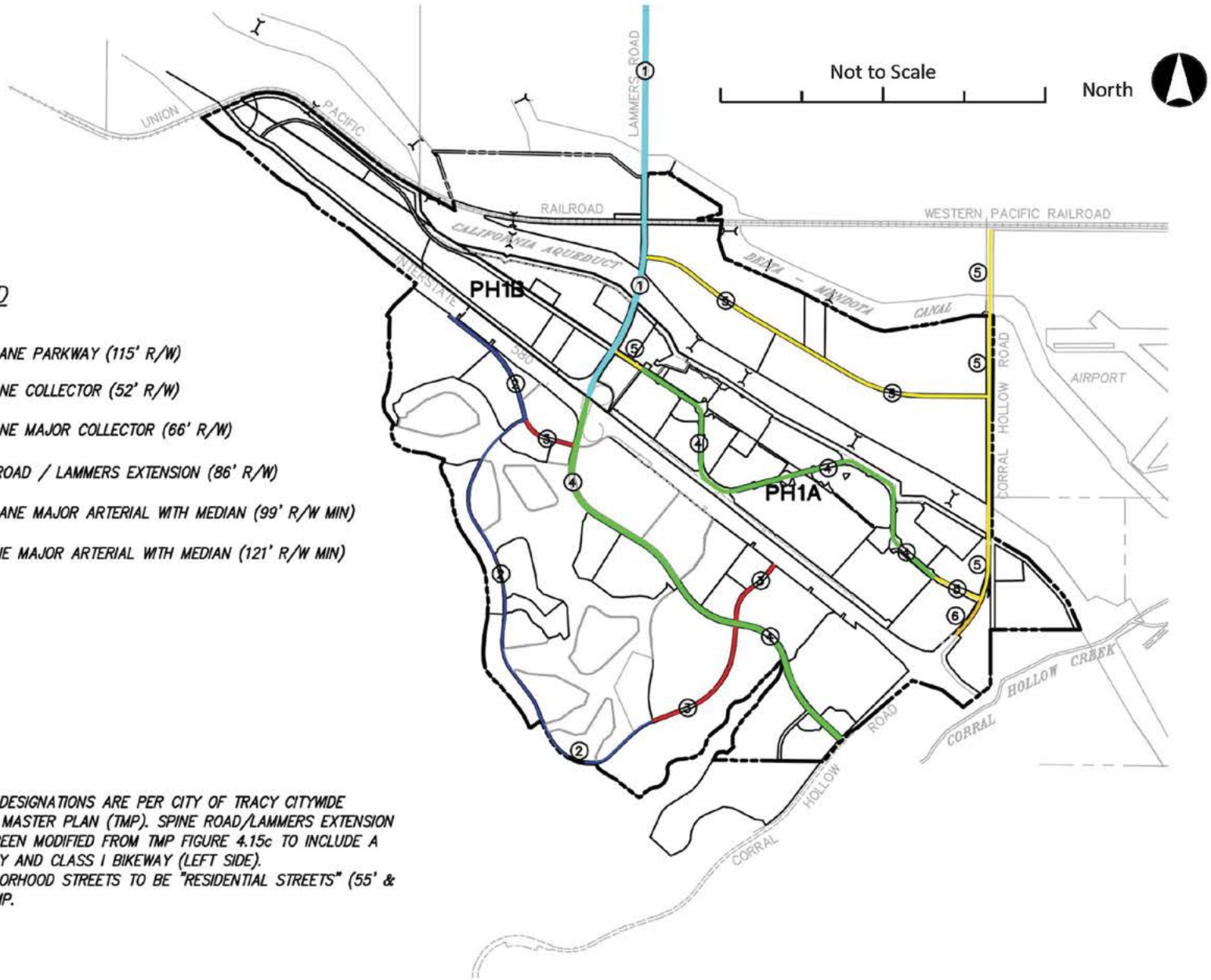
Commuter access to and from the Project would be provided via the ACE Regional Rail service with the closest existing station and a commuter park-and-ride facility at the intersection of Linne Road and Tracy Boulevard. A future park-and-ride facility is proposed in the Tracy TMP on the western half of the THSP Project Area near the intersection of Lammers Road / Spine Road. The THSP indicates bus routes and bus stop locations would be defined per the local transit agency and City standards, with the submission of each Vested Tentative Map application. The TMP identifies all arterials in the THSP plan area as transit routes and the Project would, at a minimum, allocate facilities to these routes for transit service. Additional routes may be designated for transit facilities when the VTM applications are submitted through discussion with the City and the local transit agencies.

UTILITIES

Domestic Water Supply

Project development would be served by the City's water supplies, as defined and in compliance with the Citywide Water System Master Plan. In accordance with State Law, a water supply assessment has been performed to demonstrate the City has adequate water supply to serve the Project. New potable water facilities needed for the Project would include storage tanks and booster pump stations, as identified in the Citywide Water System Master Plan. Potable water from the City's distribution system will be pumped uphill into a series of service zones determined by elevation. The potable water supply for the Project would come from a combination of sources including 4,500af/yr from the Byron Bethany Irrigation District (BBID) pre-1914, and Central Valley Project (CVP) water as well as other City sources. However, this agreement with BBID states the supply from BBID can only be used within the BBID Raw Water Service Area 2, and cannot be used in any other part of the City's water service area.[2]

[2] Revised Water Supply Assessment for Tracy Hills Specific Plan, Final ~~Draft~~ Report, ~~September 2014~~October 2015



NOTES:

1. STREET SECTION DESIGNATIONS ARE PER CITY OF TRACY CITYWIDE TRANSPORTATION MASTER PLAN (TMP). SPINE ROAD/LAMMERS EXTENSION (86' R/W) HAS BEEN MODIFIED FROM TMP FIGURE 4.15c TO INCLUDE A WIDENED PARKWAY AND CLASS I BIKEWAY (LEFT SIDE).
2. INTERNAL NEIGHBORHOOD STREETS TO BE "RESIDENTIAL STREETS" (55' & 57' R/W) PER TMP.

FIGURE 3.6a
ROADWAY PLAN

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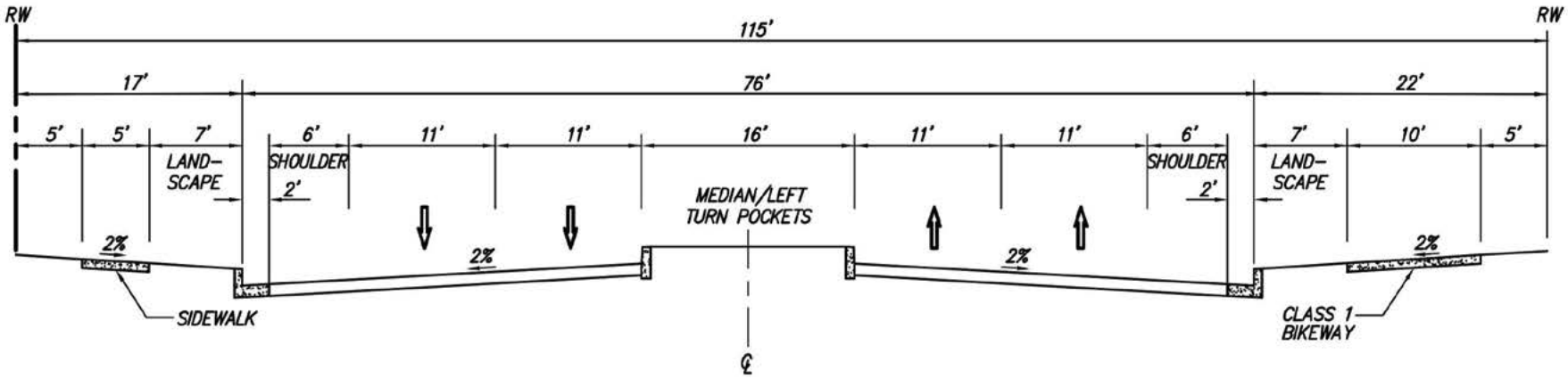

1 FOUR LANE PARKWAY
(EXPRESSWAY)
N.T.S.

NOTE:
SECTION TAKEN FROM FIGURE 4.15a OF
CITY OF TRACY TRANSPORTATION MASTER PLAN

FIGURE 3.6b
FOUR LANE PARKWAY

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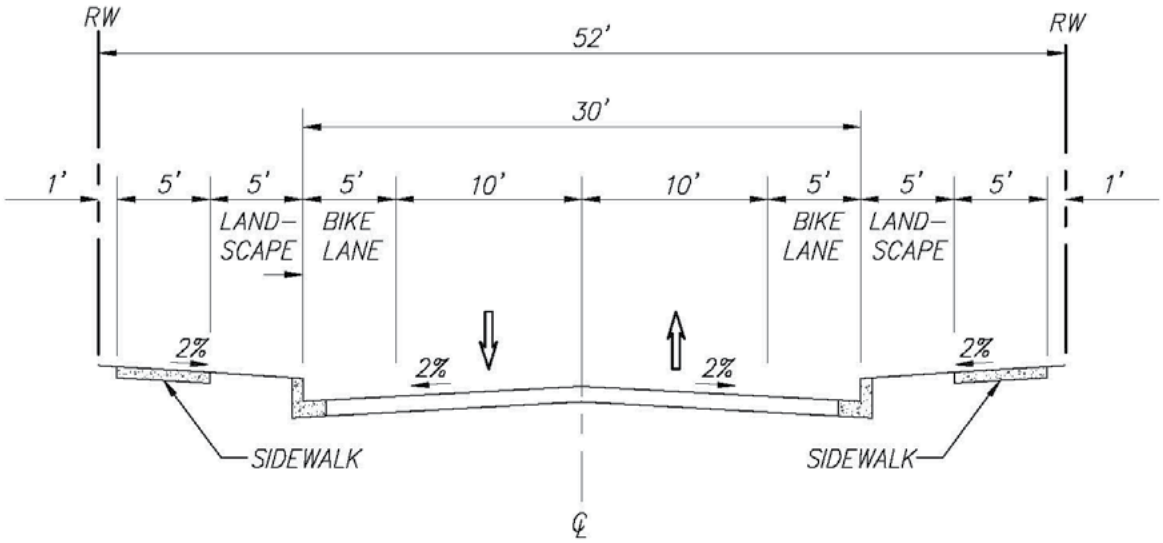

(2) TWO LANE COLLECTOR
(2000 VEHICLES PER DAY
NO SCALE

NOTE:
SECTION TAKEN FROM FIGURE 4.15d OF
CITY OF TRACY TRANSPORTATION MASTER PLAN

FIGURE 3.6c
TWO LANE COLLECTOR

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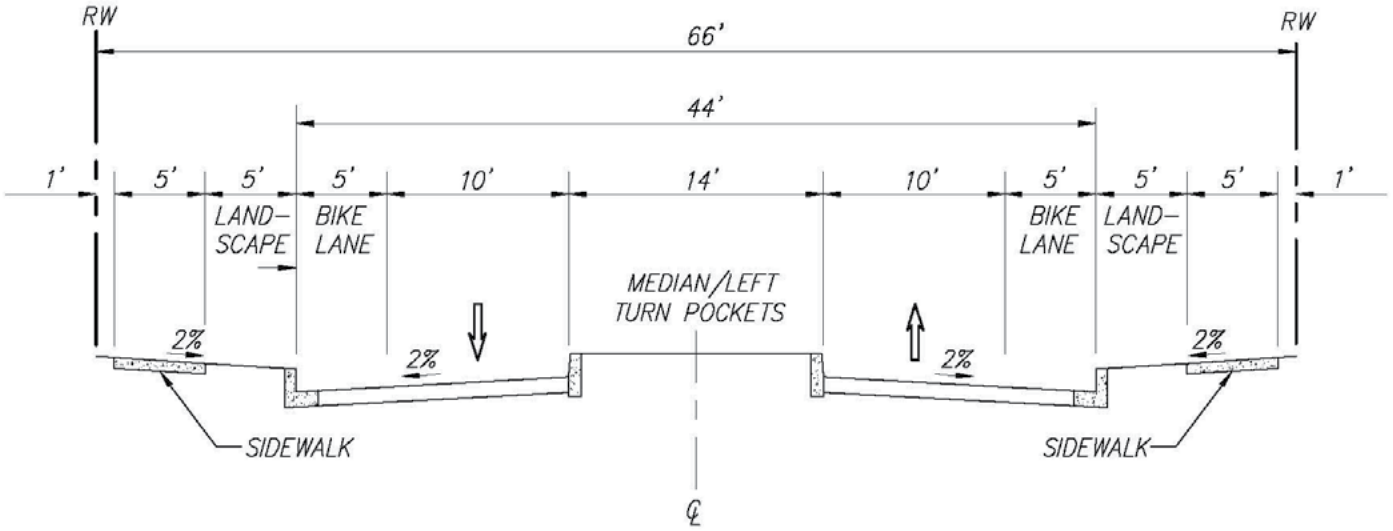

3 **TWO LANE MAJOR COLLECTOR**
2000 TO 5000 VEHICLES PER DAY
NO SCALE

NOTE:
SECTION TAKEN FROM FIGURE 4.15d OF
CITY OF TRACY TRANSPORTATION MASTER PLAN

FIGURE 3.6d
TWO LANE MAJOR COLLECTOR

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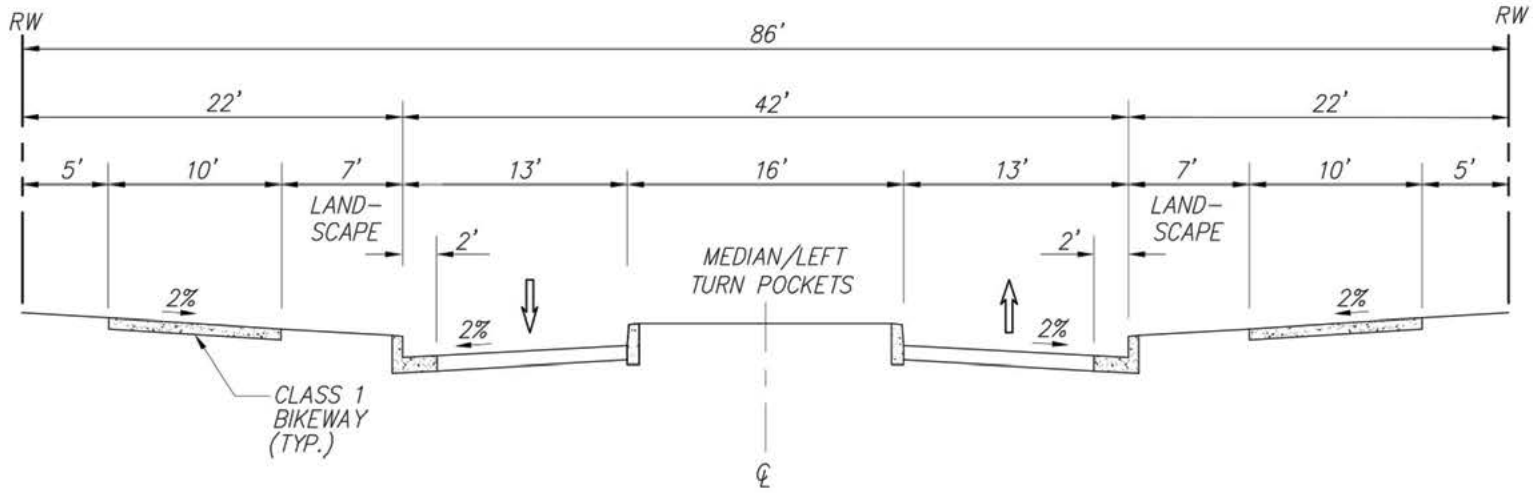

4 SPINE ROAD / LAMMERS EXTENSION

NO SCALE

NOTES:
1. *SECTION TAKEN FROM FIGURE 4.15c OF CITY OF TRACY TRANSPORTATION MASTER PLAN – MODIFIED TO INCLUDE WIDENED PARKWAY & CLASS I BIKEWAY (LEFT SIDE)*
2. *ROAD WIDENS BETWEEN CORRAL HOLLOW ROAD AND THE FIRST ROUNDABOUT TO THE WEST.*

FIGURE 3.6e
SPINE ROAD/LAMMERS EXTENSION

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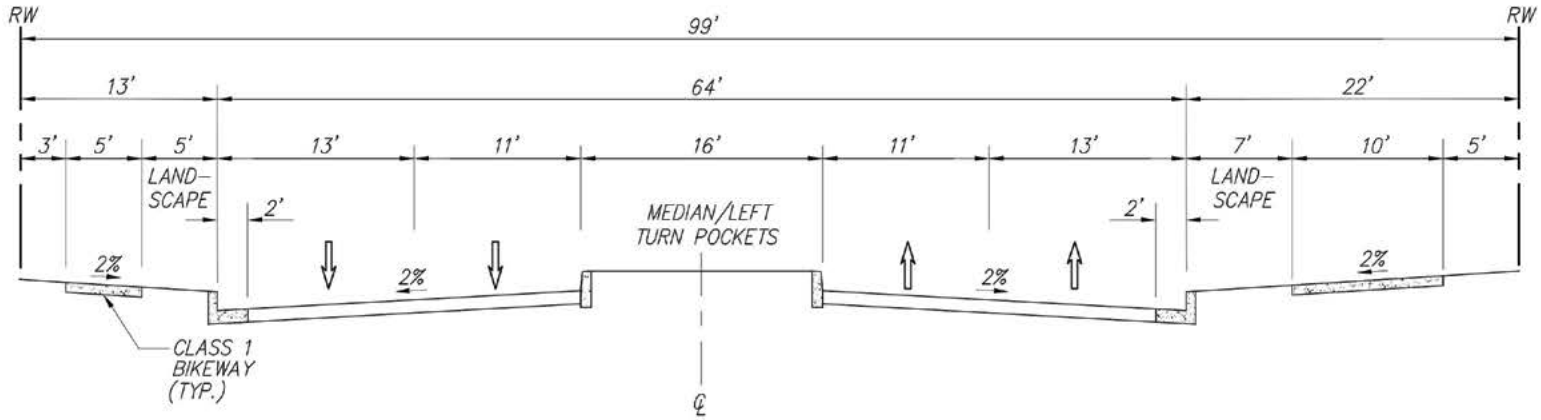

5 FOUR LANE MAJOR ARTERIAL WITH MEDIAN

(NO SCALE)

NOTE:
SECTION TAKEN FROM FIGURE 4.15b OF CITY OF TRACY TRANSPORTATION MASTER PLAN

FIGURE 3.6f

FOUR LANE MAJOR ARTERIAL WITH MEDIAN

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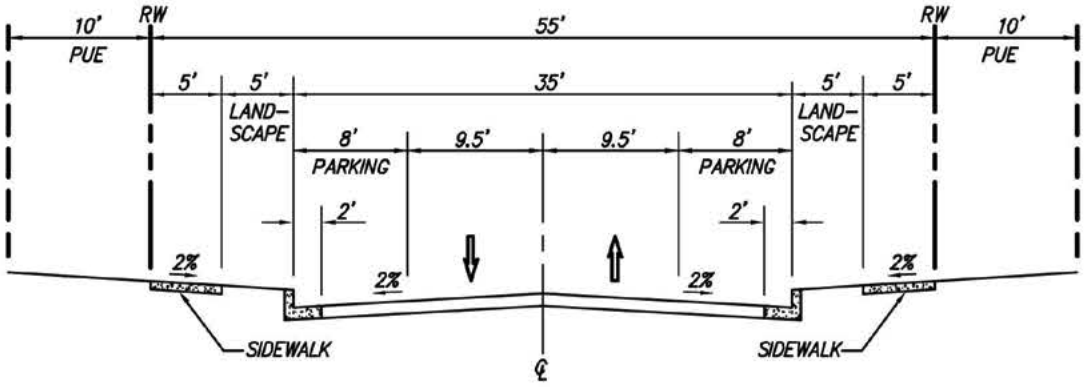
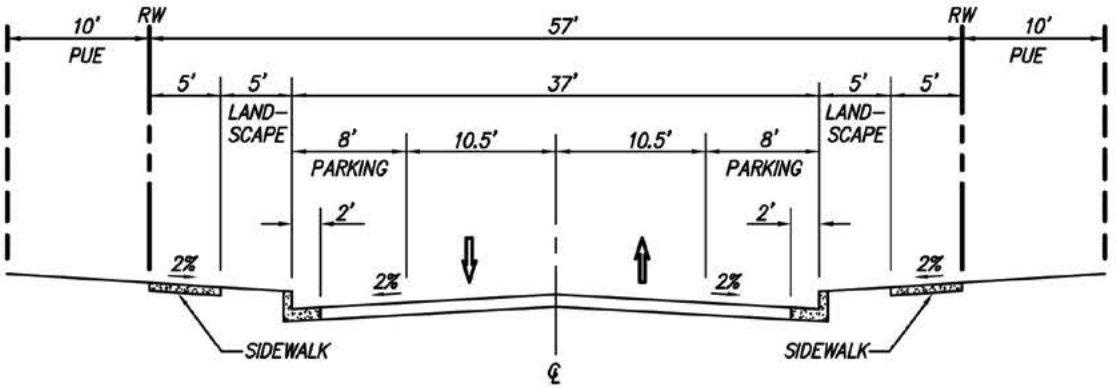


INTERNAL RESIDENTIAL STREET
MAXIMUM BLOCK LENGTH OF 500 FEET
NO SCALE



INTERNAL RESIDENTIAL STREET
NO SCALE

NOTE:
SECTIONS TAKEN FROM FIGURE 4.15e OF
CITY OF TRACY TRANSPORTATION MASTER PLAN

FIGURE 3.6g
INTERNAL RESIDENTIAL STREETS

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The City currently receives water supplies from the following three sources:

- Surface water from the Delta Mendota Canal (Central Valley Project)
- Surface water from the Stanislaus River via the South County Water Supply Project (delivered by the South San Joaquin Irrigation District [SSJID])
- Groundwater pumped from nine groundwater wells located within the City

The water supply for the Project would have the same water supply reliability and high water quality as the water supply available to the City's other existing and future water customers. A proportionate share of required funding would be provided by Project proponents to the City and BBID for the acquisition and delivery of potable and recycled water to the Project.

Domestic Water Distribution and Storage

Distribution facilities will consist of a combination of transmission and distribution facilities constructed during the various phases of the Project. The transmission facilities will consist of mains which will connect the City of Tracy Water Treatment Plant with the two or more storage reservoirs located on the Project. The transmission mains will supply water to the distribution system, with water from the treatment plant or the storage reservoirs, depending upon the amount and location of the demand. Conceptual water tank screening methods are described in the Project Design Guidelines section of the THSP. The Citywide Water System Master Plan provides storage and distribution requirements for the THSP Project Area at buildout. Separate Water Study Technical Memorandums will be prepared in accordance with Project phasing to ensure the water system infrastructure is designed to accommodate both interim and buildout conditions.

The distribution system will be designed in accordance with the City of Tracy Design Standards. All public utility mains will be installed in public rights of way, unless specifically approved by the City Engineer.

Potable water from the City's distribution system will be pumped uphill into a series of service zones determined by elevation. Pressure zones are delineated so that minimum static residual pressures never fall below 30 pounds per square inch (psi). Maximum system pressures are about 100 psi.

Preliminary storage tank sizes per service zone are included in the Citywide Water System Master Plan. Depending upon phasing, zone storage may be concentrated at a single tank or split into two or more locations. The economics of this decision will be determined by Project phasing, tank size, site constraints, and the final transmission and distribution main configuration. Storage reservoirs will be designed to contain fire flow plus operational storage in accordance with City standards.

As with storage tanks, zone pumping may be divided to reduce the size of individual pump stations, provide system redundancy, and accommodate phasing in a cost-effective manner. Each pump station will have one pump in reserve and be equipped with standby power.

Multiple pressure zones may be served from the same tank, with pressure reducing valves used to reduce system pressure where necessary. Pressure zone boundary delineation will depend upon street layout and the availability of utility easements and may change during later stages of planning. Connections between zones through pressure reducing valves can provide a measure of system reliability should it become necessary to feed lower zones from above in the event of a fire or other emergency.

The City's target for level of service for the water supply system is to provide water in sufficient quantity and at a pressure consistent with the Citywide Water System Master Plan. 40 psi will be maintained for peak hour and 30 psi for maximum day plus fire flow demands. Interim facility pressures will not be allowed to fall below this minimum.

Water facility needs for the ultimate buildout of the Project include an expansion and upgrade of the City of Tracy storage and pumping facilities, transmission, and distribution facilities, and use of Byron Bethany Irrigation District (BBID) water conveyed via the Delta- Mendota Canal.

Water storage and distribution facilities will be constructed as required to meet the water demand of the Project. The Project will involve construction of new transmission/distribution facilities. Development will occur at the northwest quadrant of Corral Hollow Road and Interstate 580. Water improvements will include construction of the conveyance pipes from the City Water Treatment Plant. Construction of Zone 3 at grade storage tanks will also occur. To facilitate future phases, some components will be oversized. Additional transmission/distribution and storage facilities will be constructed as needed; refer to Figure 3-7, *Water System Plan*.

Wastewater Collection and Treatment

Using the Project Land Use Plan and aerial topography, an initial delineation of sanitary sewer flow shed areas has been determined. Using these shed areas, the sewer main paths and primary collection locations were established. These collection locations, when evaluated in context with existing topography, dictated the route of the sewer mains towards the proposed sewer pump station.

All public utility mains will be installed in public rights of way, unless specifically approved by the City Engineer.

Layout of the sewer collection facilities is premised upon design of a complete gravity flow system west of I-580. Numerous constraints (I-580, California Aqueduct, Delta-Mendota Canal, and Corral Hollow Creek) exist that complicate gravity service. It will be necessary to provide one pump station between I-580 and the California Aqueduct and the potential for additional lift stations between the Aqueduct and the Delta-Mendota Canal and east of Corral Hollow Road depending on final site design.

Average daily wastewater flows are estimated using the land use summary presented herein and unit generation factors from the City of Tracy Wastewater Master Plan;
~~,~~refer to Figure 3-8, *Wastewater System Plan*.

Sewer generated from the Project development will be treated at the City's Wastewater Treatment plant per the City of Tracy Wastewater Master Plan.

The main sewer conveyance pipelines will be installed from approximately W. Schulte Road, south in Corral Hollow Road to the Project. The entire Project will gravity flow to a proposed sewer pump station within the first phase of development. The pump station will convey wastewater via force main north in Corral Hollow Road to past the California Aqueduct where it will gravity flow north.

Recycled Water System

The Project would participate in the City's recycled water system as defined in the 2012 Citywide Water System Master Plan. Through the participation in the citywide recycled system, the Project would provide funding so that when the City can provide recycled water to the site. The on site distribution network will be constructed with each phase. Off-site facilities are to be constructed by the City. Facilities for the water recycling system would include storage, pumping, and conveyance.

Storm Drainage

Under current conditions at the Project site, runoff from most of the site drains across I-580 and the California Aqueduct via existing drainage structures (culverts and flumes). The majority of this runoff infiltrates into open farmland between I- 580 and the California Aqueduct and between the California Aqueduct and the Delta-Mendota Canal. The remainder flows into the Delta-Mendota Canal. In addition, a small portion of the site currently drains to Corral Hollow Creek.

The U.S. Bureau of Reclamation will generally not allow urban runoff to enter the Delta-Mendota Canal. It will be necessary to mitigate the increase in peak flow and total runoff from the site so that flooding downstream of the site will not become more severe. The concept for handling storm runoff involves intercepting runoff from developed areas for disposal to multiple terminal retention basins within the Project site. Pipes and channels will be used to convey water to these basins. To the greatest extent possible, runoff from the west of the developed areas will be allowed to continue in natural drainage courses and intermittent streams. These stream courses will be relocated, as appropriate, to cross the developed portion of the site. An analysis of impacts associated with the development of both the Project and infrastructure supporting the Project is included in Chapter 4 of this Draft EIR.

Within the Project, runoff will be carried in underground pipes and open channels. Dual use of retention basins for joint use will be subject to approval by the City. Major pipes and channels will be sized to carry 100-year peak flows.

The proposed facility plan is a gravity system utilizing pipes and a channel to carry runoff to the onsite retention basins. Existing structures at the California Aqueduct and Delta-Mendota Canal crossings will continue to be used. Principal mechanisms for disposal of stored runoff include evaporation and percolation. All basins would be designed to drain within 48 hours per Federal Aviation Administration (FAA) regulations.

The Storm Drainage System will be owned, operated, and maintained by the City of Tracy. Details are included in the Project Storm Drainage Master Plan.

Construction of the master drainage facilities will coincide, for the most part, with the construction of the Project phases. As an interim measure, each development within the respective phases may provide its own temporary storm drainage facilities, either on-site or off-site, to retain the runoff until the master storm drainage facilities are constructed and functional.

The first phase of development located north and west of the Corral Hollow/I-580 interchange will be served by both interim and permanent storm drainage facilities. For the most part, storm drainage runoff will be routed

to the first phase retention basin. Additional storm drain facilities will be constructed to route runoff from south of I-580, through the first phase of the development and across the California Aqueduct.

Subsequent phases of development will also be served by storm drainage retention ponds.

Since the Project will be served by terminal retention basins, rather than discharging to a municipal system or natural waterway, separate water quality treatment is not necessary. Sediment control, during and post construction, will still be employed. During the construction phase of the Project, the primary storm water concern is for sedimentation control. Since a fundamental goal of any erosion control plan is to protect the quality of the receiving waters during construction, implementation of an erosion control plan should include the control of ground-disturbing activities during the rainy season. Some of the techniques that will be considered to control the water quality of runoff during construction are temporary vegetation with grasses; spreading mulch over exposed earth and embankments; temporary sediment detention basins constructed in the drainage course; and silt fences or hay bales placed adjacent to channels or drains that would directly discharge into the storm drainage facilities.
Refer to Figure 3-9, *Storm Drain System Plan*.

RELATED INFRASTRUCTURE IMPROVEMENTS

The City is currently conducting environmental analysis for several proposed offsite public utility improvements that would partially service the Project. It was determined that these improvements would be referenced within this document but analyzed separately from this Draft EIR. This is because the improvements are both identified in and required as part of implementation of the City's infrastructure master plans. They have been addressed at a programmatic level in the respective Wastewater, and Water System Master Plan Mitigated Negative Declarations on file with the City of Tracy. They are now in the process of undergoing more detailed environmental review and analysis on a site-specific basis as part of the City's Capital Improvement Program (CIP). The improvements noted below would also be developed to service areas largely outside the THSP Project Area. These offsite improvements are identified below. As noted above, the environmental impacts associated with the following offsite improvements are being analyzed under a separate cover, and are not included in this Recirculated Draft EIR.

New City Zone 3 and Tracy Hills Potable Water Conveyance Facilities

In accordance with the City's Water Systems Master Plan, new potable water conveyance pipelines are proposed to serve both existing urban and municipal needs as well as the planned THSP Project Area. The new pipelines would begin at the existing John Jones Water Treatment Plant (WTP) and continue along the periphery of Tracy Municipal Airport property to Corral Hollow Road. The City Zone 3 pipelines would then continue northward along Corral Hollow Road approximately 1.3 miles to the intersection of Middlefield Drive, and the THSP pipelines would continue southward approximately 1 mile along Corral Hollow Road, cross over the California Aqueduct, and terminate at the entry of Phase 1a the Project development.

New Wastewater Conveyance Facilities

Wastewater generated from the Project would be treated at the City of Tracy Wastewater Treatment Plant, located on Holly Drive. New wastewater conveyance facilities, including a pump station, would be required to convey wastewater generated from the Project development to the existing wastewater collection system. The proposed improvements include a new approximately 4.00 million-gallon per day wastewater pump station (pump station). The pump station would be located in the Project Phase 1 development area.

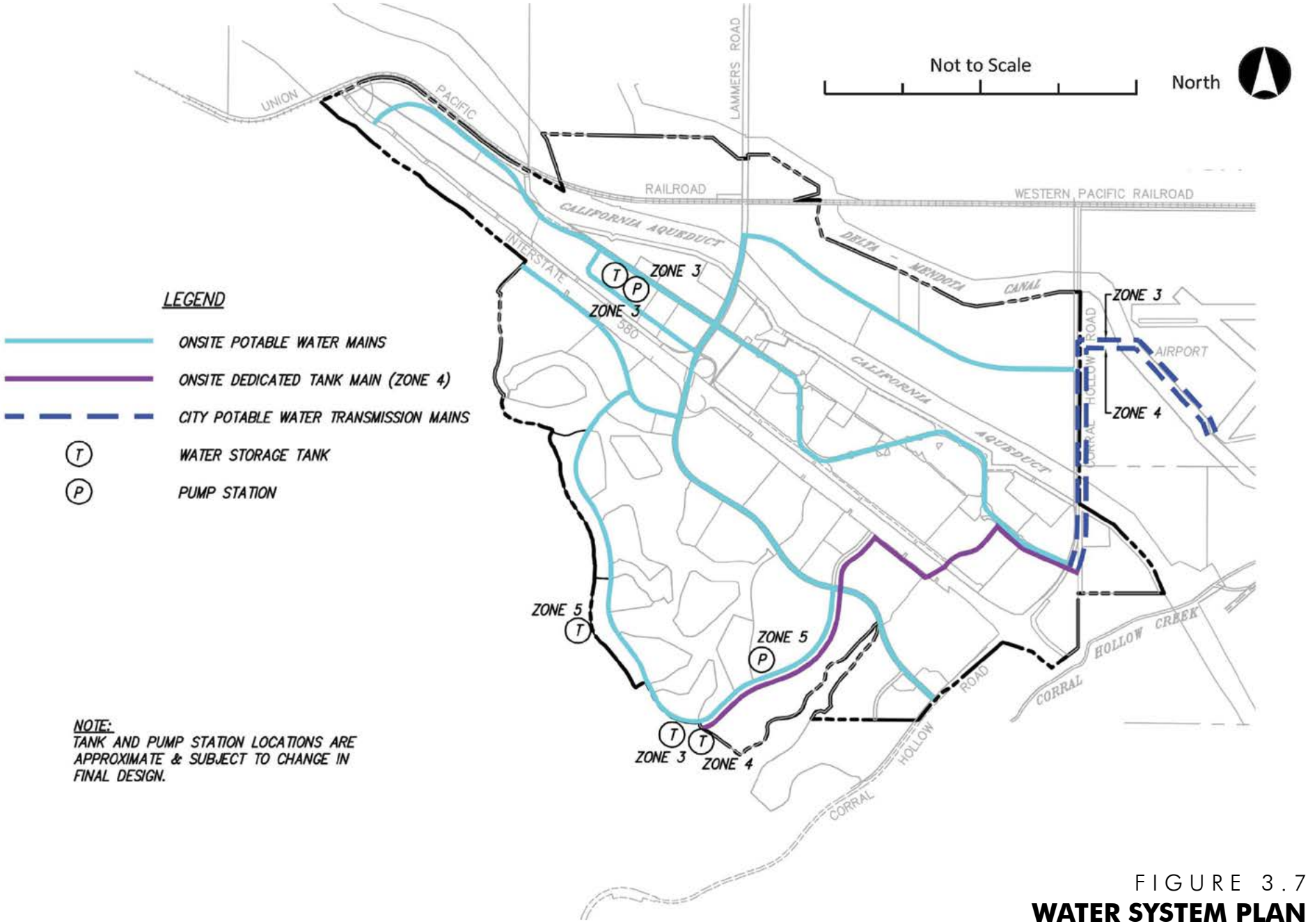

FIGURE 3.7
WATER SYSTEM PLAN

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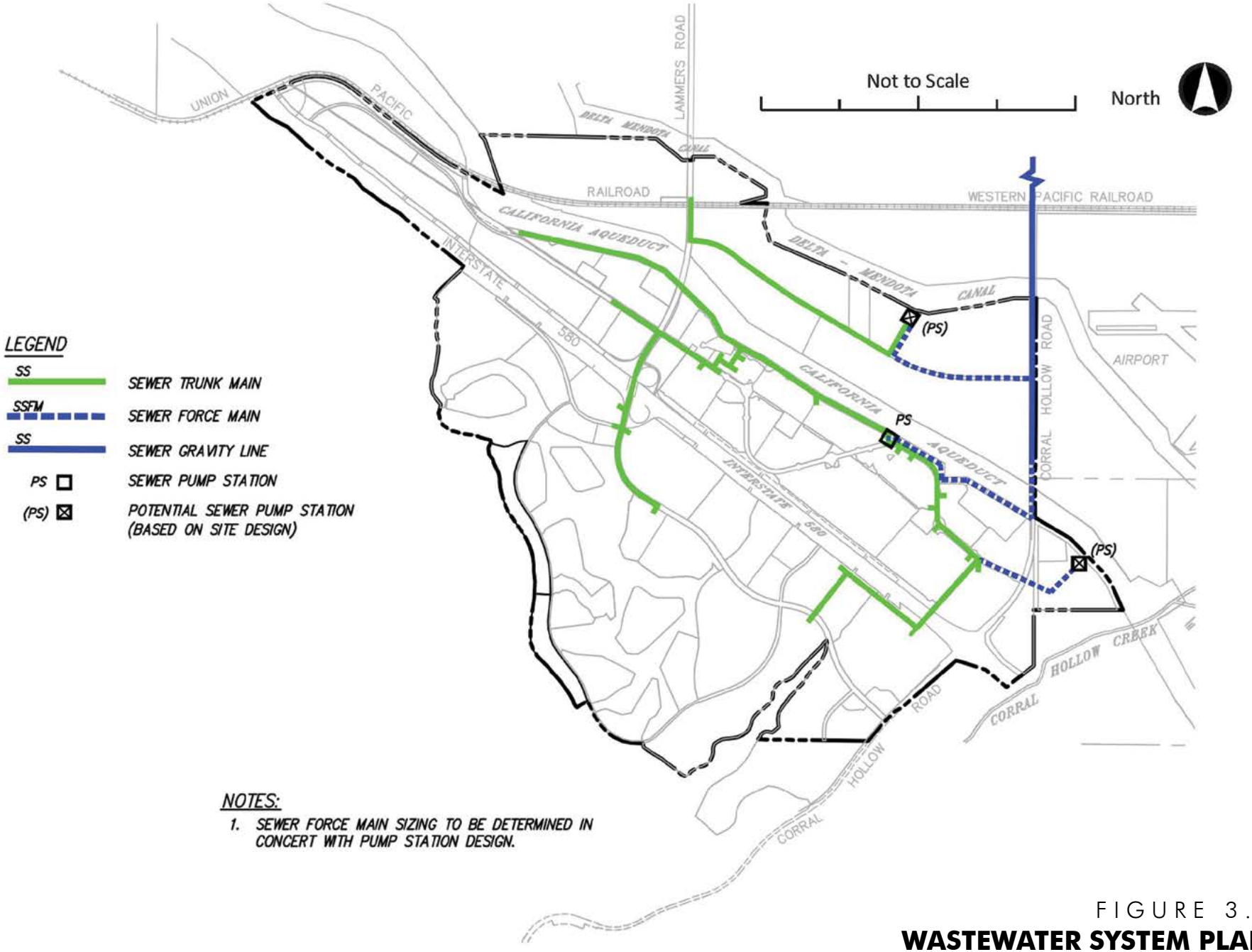

FIGURE 3.8
WASTEWATER SYSTEM PLAN

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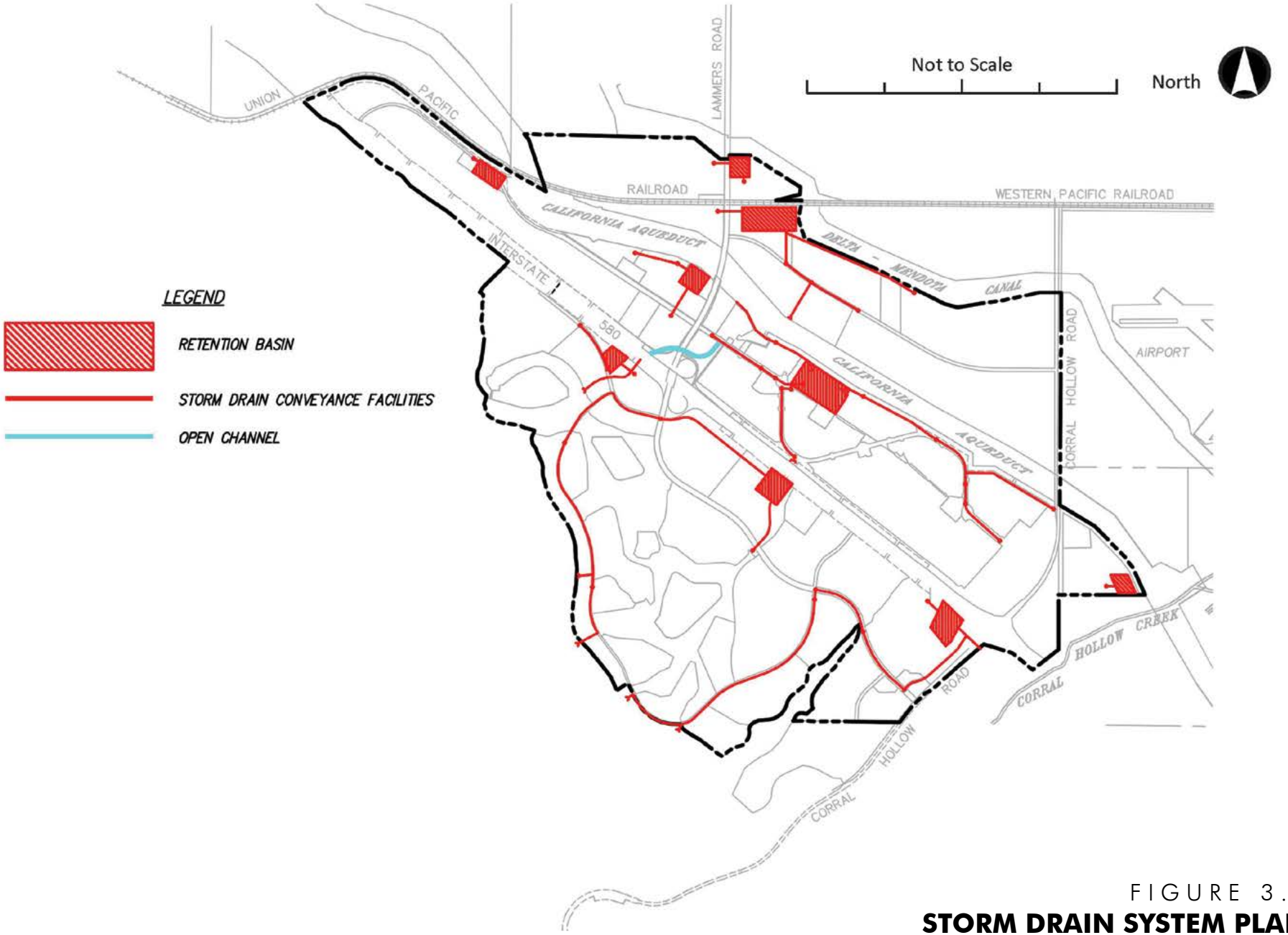

FIGURE 3.9
STORM DRAIN SYSTEM PLAN

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Discharge from the pump station would be directed to a pair of proposed 10-inch diameter force mains (pressurized). The two force mains would extend from the pump station and continue along the northern periphery of the THSP Project Area to Corral Hollow Road. The dual force main alignments would cross over Corral Hollow Road and head north along the east side of Corral Hollow Road under the California Aqueduct in a new permanent easement. On the north side of the California Aqueduct the two force mains will tie into a transition structure (i.e. manhole). One force main crossing of the California Aqueduct would be constructed initially (within two years of Project approval), and the other would be constructed sometime in the future as flow from the THSP Project Area increases.

Additionally, a new gravity trunk sewer, with diameters ranging from 15 to 24 inches, would be constructed along Corral Hollow Road north of the CA Aqueduct crossing under the Delta-Mendota Canal (DMC) and continue north along Corral Hollow Road to Parkside Drive. The sewer will tie into the existing City collection system at this location. The total length of the force main and gravity sewer would be approximately 2.4 miles.

UPGRADES TO EXISTING CORRAL HOLLOW TRUNK SEWER

To accommodate future planned development identified in the City's General Plan, approximately 2 miles of the existing Corral Hollow Trunk Sewer would be upgraded with a larger diameter pipe (generally one diameter larger than the pipe being replaced). The section of trunk sewer to be upgraded extends from West Schulte Road to Interstate-205.

PHASING

Full development of the THSP area may take up to twenty years or more to complete, depending on market conditions. Conceptually, it is envisioned to be developed from east to west, or from Corral Hollow Road to the western portions of the site; Figure 3-10, *Phasing Map*.

Phase 1A

Phase 1A will include the development of the residential neighborhood with three neighborhood parks, open space easements, and an elementary school between I-580 and the California Aqueduct, between Corral Hollow Road and Lammers Road. Also planned for development is the Mixed Use Business Park adjacent to Corral Hollow Road (refer to Figure 3-11, *Phase Ia Vesting Tentative Map*).

Phase 1B

Phase 1B is a continuation of residential development in the areas between I-580 and the California Aqueduct. Mixed Use Business Park development along the I-580 corridor is planned along with commercial development along Lammers Road. Parks, and open space corridor improvements will also be constructed.

Future Phases

Future development phases will include residential, mixed use business park, and general highway commercial development southwest of I-580 and east of Corral Hollow Road, and industrial park and residential development north of the California Aqueduct, as individual land owners submit development applications.

3.3.2 INFRASTRUCTURE MASTER PLAN UPDATES

As previously stated, as part of the 1998 Project approvals, conditions of approval required the preparation of Project specific infrastructure plans for circulation, water, wastewater, and storm drainage. These previously

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FIGURE 3.10
PHASING MAP

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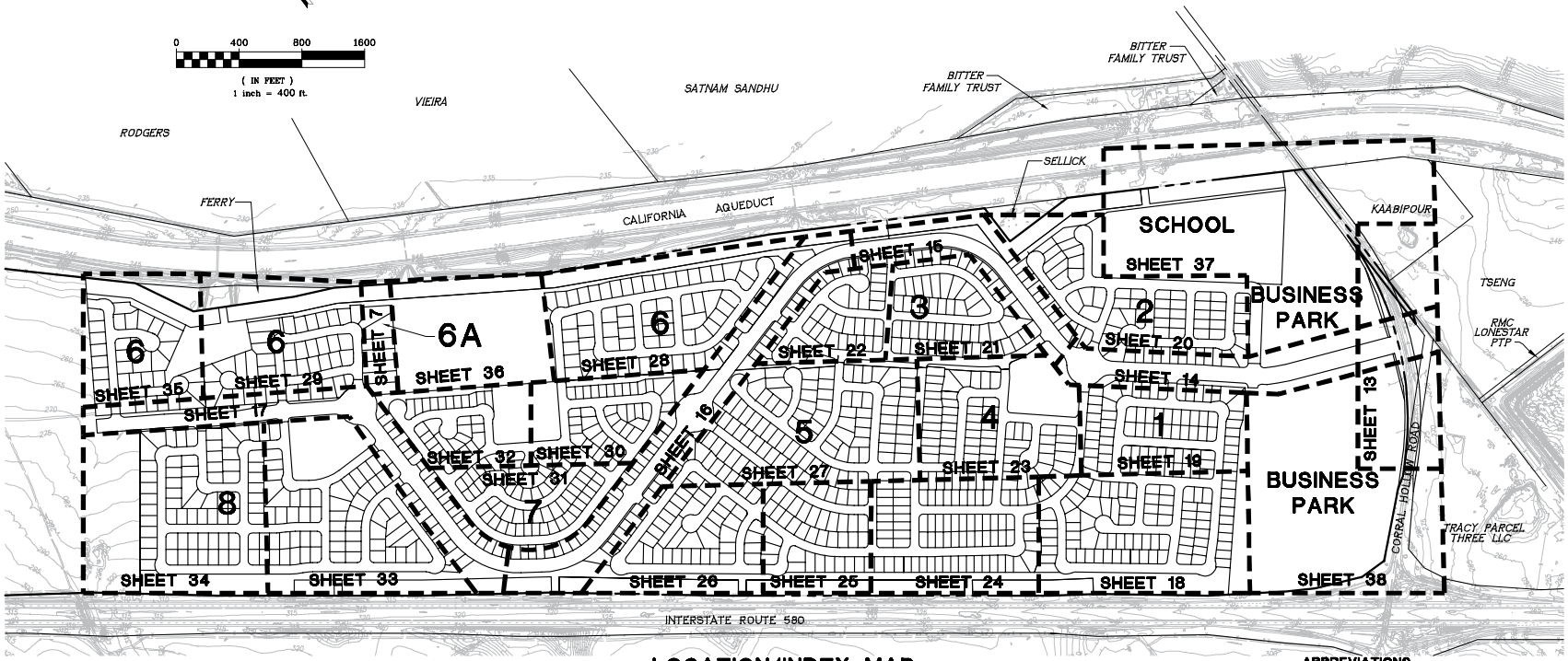

LOCATION/INDEX MAP

SCALE: 1"=400'

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	TRACT BOUNDARY	
	EASEMENT LINE	
	LOT LINE	
	RIGHT OF WAY	
	CENTER LINE	
	FLOW LINE	
12"SD	STORM DRAIN	EX 12"SD
8"SS	SANITARY SEWER	EX 8"SS
8"W	WATER	EX 8"W
8"RCW	RECLAIMED WATER	
	RETAINING WALL	
	SOUND WALL	
	CURB & GUTTER	
	SIDEWALK	
	STORM WATER INLET	
	FIELD INLET	
	MANHOLE	
	FIRE HYDRANT	
	BLOWOFF RISER	
	GATE VALVE	
x x	FENCE	x x
	SLOPE	
130	CONTOUR ELEVATIONS	130
x 525.2	SPOT ELEVATION	+525.2
	MONUMENT	

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITION PLAN
3	STREET SECTIONS
4	STREET SECTIONS
5	RESIDENTIAL LOT AREA SUMMARY
5A	RESIDENTIAL LOT AREA SUMMARY
6	DETAILS
7	DRAINAGE DETAILS
8	STORM DRAIN DETAILS
9	NEIGHBORHOOD PLAN
10	OVERALL SANITARY SEWER PLAN
11	OVERALL STORM DRAIN SYSTEM PLAN
12	OVERALL WATER SYSTEM PLAN
13	INTERIM CORRAL HOLLOW ROAD IMPROVEMENTS
14	SPINE ROAD (STA 1+00 TO 23+10)
15	SPINE ROAD (STA 23+10 TO STA 39+97)
16	SPINE ROAD (STA 39+97 TO STA 71+22)
17	SPINE ROAD (71+22 TO STA 102+09)
18	NEIGHBORHOOD 1
19	NEIGHBORHOOD 1
20	NEIGHBORHOOD 2
21	NEIGHBORHOOD 3
22	NEIGHBORHOOD 3
23	NEIGHBORHOOD 4
24	NEIGHBORHOOD 4
25	NEIGHBORHOOD 5
26	NEIGHBORHOOD 5
27	NEIGHBORHOOD 5
28	NEIGHBORHOOD 6
29	NEIGHBORHOOD 6
30	NEIGHBORHOOD 7
31	NEIGHBORHOOD 7
32	NEIGHBORHOOD 7
33	NEIGHBORHOOD 8
34	NEIGHBORHOOD 8
35	NEIGHBORHOOD 6
36	RETENTION BASIN
37	SCHOOL & BUSINESS PARK
38	BUSINESS PARK
39	LAMMERS EVA ROAD

ABBREVIATIONS

(#)	DENOTES SHEET NOTE NUMBER	JUT	JOINT UTILITY TRENCH
AB	AGGREGATE BASE	LP	LOW POINT
AC	ASPHALT CONCRETE	P	PAD ELEVATION
BLDG	BUILDING	PUE	PUBLIC UTILITY EASEMENT
C & G	CURB & GUTTER	R	RADIUS
CMP	CORRUGATED METAL PIPE	RCW	RECLAIMED WATER
DG	DECOMPOSED GRANITE	RET	RETAINING WALL
DRN	DRAINAGE OPEN SPACE	RW	RIGHT OF WAY
EX	EXISTING	SD	STORM DRAIN
FC	FACE OF CURB	SS	SANITARY SEWER
FSW	FRONT OF SIDEWALK	SSFM	SANITARY SEWER FORCE MAIN
GB	GRADE BREAK	TC	TOP OF CURB
HP	HIGH POINT	W	WATER

FIGURE 3.11

PHASE 1A VESTING TENTATIVE MAP

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required plans were submitted and approved. Because the City has undertaken preparation and adoption of Citywide Master Plan Updates that include provisions to service the Project, the Project Applicant has requested that the previous project specific Master Plan approvals be set aside. The current Citywide Master Plans which include the provisions for the Project will supersede the previous Master Plans (with the exception of the Project Storm Drainage Master Plan, discussed below) and serve as the guiding documents for infrastructure within the Project site.

As noted in Section 3.3.2 above, the Project includes a new Project Storm Drainage Master Plan. The complete update to the Storm Drainage Master Plan includes information on the physical characteristics of the area including existing drainage, floodplains, soils and permeability, groundwater and proposed retention basins. Refer to Section 3.3.~~4~~ 3 below.

The Project also includes an updated circulation plan consistent with the Citywide Roadway and Transportation Master Plan, and infrastructure updates consistent with the Tracy Wastewater Master Plan, the Citywide Water System Master Plan, Tracy Parks Master Plan, and Public Safety Master Plan. These master plans have undergone environmental review and subsequently have been approved by the City of Tracy.

3.3.3 TRACY HILLS STORM DRAINAGE MASTER PLAN

As previously stated, a new Storm Drainage Master Plan has been prepared for the THSP Project Area and would require approval as part of the Project. A separate Storm Drainage Master Plan was previously prepared as part of the 1998 approvals for Tracy Hills by Nolte Associates, Inc. and was titled Tracy Hills Storm Drainage Master Plan, Volumes 1 – 3, December 2000. The original report recommended that existing watersheds and new development areas within the THSP Project Area drain to an existing offsite sand and gravel extraction pit as a point of terminal drainage. Proposed land uses and storm drainage facility approaches have changed since the original Tracy Hills Storm Drainage Master Plan was prepared and are being entirely superseded by the information presented in the new Project Storm Drainage Master Plan. The Project Storm Drainage Master Plan is intended to be utilized as a guidance document for the identification of the primary framework of storm drainage facilities needed to serve future land development under buildout conditions for the THSP Project Area. In general, new development projects within the THSP Project Area will be required to provide site-specific or project-specific storm drainage solutions that are consistent with the overall infrastructure approach presented in the Storm Drainage Master Plan. Modifications and refinements to the Project Storm Drainage Master Plan may be considered by the City during the Specific Plan or Development Review process. However, any significant modifications to the elements of the Storm Drainage Master Plan must be approved by the City and would require that a formal supplemental approval to be adopted by City Council.

3.3.4 GENERAL PLAN AMENDMENT

The Project would require a General Plan Amendment to amend the General Plan Land Use Map to reflect the proposed land use changes described above and related policy changes and updates to descriptive portions of the General Plan related to the THSP.

3.3.5 DEVELOPMENT AGREEMENT

The Project includes a development agreement between the City and applicant that would vest Project approvals for a period of years. The terms of the development agreement do not implicate environmental impacts. The Development Agreement includes the following:

- Term: 25 Years
- A Requirement to make a Public Benefit Payment to the City
- Provisions for Project wastewater conveyance and treatment and funding for such services
- Provisions for funding and construction of reclaimed water infrastructure
- Provisions for funding, construction and maintenance of neighborhood and community parks
- Provisions relating to the funding and construction of traffic infrastructure
- Provisions for funding and construction of public safety infrastructure
- Requirements to implement funding mechanisms to address public service needs of the Project

TRACY HILLS SPECIFIC PLAN APPROVALS AND IMPLEMENTATION ACTIONS

The THSP is a regulatory document authorized by State Planning and Zoning Laws (Gov. Code Section 65450) and seeks to implement the General Plan. The following new approvals are associated with the Project:

- Tracy Hills Specific Plan approval
- Tracy Hills Storm Drainage Master Plan approval
- General Plan Amendment approval
- Zoning Map and Text Amendment approval
- Development Agreement approval
- Phase 1a Vesting Tentative Map approval

Implementation of the THSP includes the following subsequent actions:

- Subdivision maps
- Lot Line Adjustments
- Development Agreement(s)
- Construction of infrastructure
- Construction of elementary school sites
- Discretionary zoning permits, such as but not limited to variances and conditional use permits.
- Development Review Permits
- Grading Permits, Building Permits and other Construction Permits

Upon City Council approval, the comprehensive update to the THSP and its corresponding approvals and subsequent implementing actions (as identified above) would supersede the prior approvals related to the 1998 THSP:

- Tracy Hills Specific Plan adopted by City Council (and Conditions of Approval) June 1998)
- City Council certified Tracy Hills Specific Plan EIR (January 1998)
- City Council adopted Findings of Fact and adopted Mitigation and Monitoring Program (January 1998)
- City Council approved prezoning and General Plan amendment (second reading) January 1998)

4 ENVIRONMENTAL ANALYSIS

This chapter discusses the potential environmental impacts that would result with approval and implementation of the Project. The following environmental topics are evaluated in Sections 4.1 through 4.13: Aesthetics; Agricultural Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions/Climate Change; Hazards and Hazardous Materials; Hydrology, Drainage, and Water Quality; Land Use, Noise; Public Services and Utilities; and Transportation and Circulation.

ENVIRONMENTAL SETTING

Existing conditions are the on-site and (as relevant) regional environmental conditions in existence on April 21 2014 (the time of publication of the Notice of Preparation (NOP), pursuant to the *California Environmental Quality Act* (*CEQA*) *Guidelines* Section 15125.

ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The environmental analysis first specifies the significance thresholds (i.e., the condition or state, which if reached or surpassed by the Project, would signify a negative physical change to the environment [environmental impact]).

Similar terminology has been used in the description of the applicable regulatory framework and development of mitigation measures to provide a reasonable level of consistency between the City's existing, and/or recently approved specific plans and/or development projects.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

IMPACTS

This subsection describes changes that would potentially result to the existing physical environment should the Project be approved, in accordance with State *CEQA Guidelines* Sections 15126 and 15126.2. Pursuant to State *CEQA Guidelines* Section 15143, the discussion focuses on the significant effects that might result if the Project is approved. Impacts are numbered sequentially within each section. For example, impacts discussed in Section 4.1 are numbered 4.1-1, 4.1-2, etc.; impacts in Section 4.8 are numbered 4.8-1, 4.8-2, etc. A discussion that provides supporting analysis and justification for the impact determination is presented first. Impacts are stated second and conclude with a summary description of the level of significance of the impact. If mitigation is required to reduce the significance of the impact, it is stated third. Finally, if mitigation is required, a concluding statement that describes the level of significance of the impact after implementation of mitigation is presented.

MITIGATION

Pursuant to State *CEQA Guidelines* Sections 15002, 15021, and 15126.4, mitigation measures are required (as feasible) when significant impacts are identified. Unless otherwise noted, all mitigation measures contained herein are proposed by the lead agency. If a mitigation measure itself would cause a significant impact, in addition to the impact caused by the Project alone, that impact is also discussed, although at a lesser level of detail than the basic impact (pursuant to State *CEQA Guidelines* Section 15126.4 (A)(1)(d)). "Mitigation

measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments. In the case of adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design" (State *CEQA Guidelines* Section 15126.4(a)(2)).

SIGNIFICANCE DETERMINATIONS

This Draft EIR includes as much detail as is currently available to maximize information available for public review and thus avoid and/or minimize the need for future environmental documentation (see Chapter 2, *Introduction,* of this Draft EIR for further explanation of the EIR Process). This Draft EIR includes information gathered from Notice of Preparation comments (Chapter 1A), available literature and reference documents, and applicable data from preparation of prior City EIR's.

The analysis of the Project's impacts, as contained in this Draft EIR, is presented to clearly indicate the significance determination for each of the impacts by numbering each impact, with a corresponding numbered impact discussion and, if necessary, mitigation measure(s). The significance determinations are based on a number of factors as explained in each impact section. These thresholds are derived from Appendix G of the State *CEQA Guidelines*, General Plan policies, ordinances, generally accepted professional standards, and quantified thresholds established by the City of Tracy or other agencies (such as level-of-service standards for traffic impacts and pollutant emission thresholds adopted by the Air Quality Management District).

The following is an explanation of the different significance determinations made in this Draft EIR:

No Impact: Due to the nature or location of the project, this impact will not occur. For example, underground facilities do not have the potential for long-term visual impacts.

Less Than Significant: Although an impact may occur, it will not be at a significant level based on the standards described above. For example, construction-related air emissions that fall below the adopted standards are less than significant.

Less Than Significant With Mitigation: In this case, there is an impact that may be potentially significant. However, the significance of this impact will be reduced to less than significant levels through adherence to and/or implementation of mitigation measures.

Significant and Unavoidable: This determination is made for a potentially significant impact where there is either no mitigation available, or the recommended mitigation measures are not sufficient to reduce the impact to less than significant levels. This determination requires a Statement of Overriding Considerations, pursuant to CEQA guidelines Section 15093 (this would be adopted by City of Tracy policy makers as part of the resolution, prior to approving the Project).

4.1 AESTHETICS

This section describes the aesthetic and visual resource conditions of the THSP Project Area and discusses the potential individual and cumulative impacts that could result from approving the Project. The primary visual and aesthetic concerns are the general changes in land use and visual character within the Project site; potential impacts to existing views from adjacent properties; and, visual compatibility of the Project with the surrounding area. Visual impacts were evaluated using a combination of a site reconnaissance; review of photo documentation and aerial photographs, and a review of existing policy documents (e.g., City of Tracy General Plan).

4.1.1 ENVIRONMENTAL SETTING

SITE CONDITIONS

The approximately 2,732 acre THSP Project Area is located to the south and west of existing developed portions of the City of Tracy, approximately five miles from downtown. The site is bisected by Interstate 580, with over 50 percent of the site located to the southwest of the interstate. The site is primarily undeveloped and has been utilized for grazing and other agricultural purposes.

The portion of the site southwest of I-580 is made up of Annual Grassland and is characterized by rolling hills. This area of the Project site is primarily utilized for grazing land and open space. Behind the areas of proposed development the Project site steepens, rising to a plateau. Little vegetation is found on the hillsides which face the interstate and the rest of the City of Tracy. This portion of the site is not currently accessible by paved roads. A network of dirt roads currently provides access to this area.

The portion between I-580 and the Union Pacific Rail Road Line/California Aqueduct is vacant except for an abandoned structure formerly used in the on-site livestock operation. This area is generally flat, and contains grassland used for grazing. The portion of the site bounded by the California Aqueduct, Union Pacific Rail Road, Delta-Mendota Canal, and Corral Hollow Road is also generally flat and contains both fallow agricultural fields and productive agricultural crops. There are also three single-family homes located in this area; two located along Lammers Road, north of the California Aqueduct and south of the Delta-Mendota Canal, and one located along Corral Hollow Road just north of the California Aqueduct (refer to Figures 4.1-2d, 4.1-2e, 4.1-3b, 4.1-3f, and 4.1-4a). The area east of Corral Hollow Road is a former commercial property and contains a former truck stop (see Figure 4.1-2b, *Views of the THSP Project Area*). The southeast boundary of the Project site is defined by the Corral Hollow Canyon. Corral Hollow Road is designated as a scenic roadway within the San Joaquin County General Plan and runs adjacent to Corral Hollow Creek.

Several visually prominent features bisect the site. The Union Pacific Railroad line runs east to west through the northern portion of the Project site until it crosses over the California Aqueduct and follows the northwest border of the Project boundary. The California Aqueduct, Delta Mendota Canal, and Interstate 580 all run northwest to southeast through the Project site. The California Aqueduct forms the north boundary of Phase 1 of the Project. The Delta-Mendota Canal forms the northeast boundary of the Project site, and Interstate 580 forms the southern boundary of Phase 1 of the Project.

SURROUNDING AREA

As described in Chapter 3, *Project Description*, the recently adopted Ellis Specific Plan and Urban Reserve 10 area of the General Plan represent the majority of the land to the northeast of the Project. The Ellis Specific Plan, if developed as anticipated, would be made up of low density residential uses, with limited commercial and industrial components. The 129 acre Urban Reserve 10 area is designated for industrial development. Currently, most of the property to the north of the Project site consists of agricultural land and sparse residential development along Lammers Road. The area northwest of the Project site is also characterized by sparse rural residential development and agricultural land. The land to the west and south of the Project Area is primarily utilized for grazing and open space purposes.

The Corral Hollow Landfill, which closed in 1995, borders the southeast side of the site at the intersection of Interstate 580 and Corral Hollow Road (see Figure 4.1-1d, *Views of the THSP Project Area*). The Union Pacific Rail Road Line and the Delta-Mendota Canal both serve as portions of the northern border of the Project site. A portion of the land to the east of the Project site bordered by the California Aqueduct, Delta-Mendota Canal, Corral Hollow Road, and Tracy Blvd is currently in aggregate production. In addition, the Tracy Municipal Airport is located to the east of the Project Area, north of the Delta-Mendota Canal and west of Tracy Blvd. To the north of the airport along Linne Road there are several industrial buildings, several subdivisions made up of low-density residential housing, and a multi-family apartment complex.

SCENIC ROADS AND HIGHWAYS

The Interstate 580 bisects the THSP Project Area, making the site directly visible from Interstate 580, a State-designated scenic highway. In addition to State-designated scenic highways, the Scenic Highway Element of the 1978 San Joaquin County General Plan designated the seven-mile portion of Corral Hollow Road that runs southwest from I-580 to the County line as a scenic road. Corral Hollow Road forms the southeast border of the Project site.

SCENIC VISTAS WITHIN AND ACROSS THE THSP PROJECT AREA

The City's General Plan does not identify protected scenic vistas within the City. However, the General Plan identifies most of Tracy's scenic vistas and corridors to be associated with the open space and agricultural resources, which are considered a local asset for the community. Specifically, these scenic resources include:

- **Views of the Diablo Range.** Rising from the southwest portion of the lands within the Tracy SOI, this range extends from near sea level to 1,652 feet and provides a visual barrier between the Central Valley and the San Francisco Bay Area. Generally, the eastern slopes visible from Tracy have not been developed and contain sporadic tree groupings.
- **Natural landscapes surrounding the Paradise Cut, Old River, and Tom Paine Sloughs.** Located on the north side of the Tracy SOI, these landscapes contain streamside vegetation, which provide visual relief as they run through the relatively flat agricultural lands.
- **Expansive Agricultural Lands.** Land within the City and in its SOI contains agricultural lands used for row crops and grazing.
- **Electricity-generating Windfarms.** Located on the ridgetops west of the City and close to the Altamont Pass, the windfarms are visible from Tracy on clear days.

LIGHT AND GLARE

There are two typical types of light intrusion. First, light can emanates from the interior of structures and pass through windows. Second, light can project from exterior sources, such as street lighting, security lighting, and landscape lighting. "Light spill" is typically defined as the presence of unwanted and/or misdirected light on properties adjacent to the property being illuminated.

Street lighting is provided within the developed areas of the City, either by the City or through private ownership. In new developments, the City itself does not install streetlights. Rather, the City requires developers to install lights and dedicate them to the City. Lights are often required for new development areas. Light introduction can be a nuisance to adjacent residential areas and diminish the view of the clear night sky, and, if uncontrolled, can disturb wildlife in natural habitat areas.

Glare is the sensation produced by luminance within the visual field that is significantly greater than the luminance to which the eyes are adapted, which causes annoyance, discomfort, or loss in visual performance and visibility.

The roadways and Interstate 580 located within the Tracy Hills property are not currently illuminated by street lights. Light from structures is limited to the few existing homes located in the agricultural areas in the northeast portion of the Project site. Traffic on the freeway is the primary source of night illumination within the site.

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4.1-1a: View looking northwest from Corral Hollow Road, south of I-580.

4.1-1b: View looking south from I-580 towards Corral Hollow Road.

4.1-1c: View of I-580 looking north from Corral Hollow Road.

4.1-1d: View of the closed Corral Hollow Landfill adjacent to the project site on the east side of Corral Hollow Road.

4.1-1e: View looking southwest from Corral Hollow Road towards I-580.

4.1-1f: View looking north from Corral Hollow Road, north of I-580.

FIGURE 4.1-1
VIEWS OF THE SPECIFIC PLAN AREA

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4.1-2a: View looking east from Corral Hollow Road, north of I-580.

4.1-2b: View of abandoned truck stop looking southeast from Corral Hollow Road.

4.1-2c: View of California Aqueduct and project site from Corral Hollow Road.

4.1-2d: View of the existing residence on Corral Hollow Road, just north of the California Aqueduct

4.1-2e: View of existing residence and agricultural area north of the California Aqueduct from Corral Hollow Road.

4.1-2f: View of agricultural area between the California Aqueduct and the Delta Mendota Canal looking northwest from Corral Hollow Road.

FIGURE 4.1-2
VIEWS OF THE SPECIFIC PLAN AREA

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4.1-3a: View of Delta Mendota Canal looking southwest from Corral Hollow Road.

4.1-3b: View of existing residence on Lammers Road, between the California Aqueduct and the Delta Mendota Canal

4.1-3c: View of Union Pacific Railroad looking southwest from Lammers Road

4.1-3d: View looking southwest from Lammers Road

4.1-3e: View of existing vineyard from Lammers Road

4.1-3f: View of existing residence along Lammers Road

FIGURE 4.1-3
VIEWS OF THE SPECIFIC PLAN AREA

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4.1-4a: View of existing residence and agricultural land looking south from the Union Pacific Railroad at Lammers Road.

4.1-4b: View of existing livestock operation looking north from I-580.

4.1-4c: View of the rolling hills south of I-580

4.1-4d: View looking southeast on I-580

4.1-4e: View looking south on I-580

4.1-4f: View looking north from I-580

FIGURE 4.1-4
VIEWS OF THE SPECIFIC PLAN AREA

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4.1.2 REGULATORY FRAMEWORK

STATE OF CALIFORNIA

CALIFORNIA SCENIC HIGHWAY PROGRAM

The California Scenic Highway Program was created in 1963 to preserve and protect highway corridors located in areas of outstanding natural beauty from changes that would diminish the aesthetic value of the adjacent lands. The California Department of Transportation (Caltrans) designates highways based on how much of the landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which views are compromised by development.

The California Scenic Highway Program is governed by the regulations found in the Streets and Highways Code, Section 260 et seq. Section 261 requires local government agencies to take the following actions to protect the scenic appearance of the scenic corridor:

- Regulate land use and density of development;
- Provide detailed land and site planning;
- Prohibit off-site outdoor advertising and control of on-site outdoor advertising;
- Pay careful attention to and control of earthmoving and landscaping; and
- Scrutinize the design and appearance of structures and equipment.[1]

Caltrans is responsible for monitoring state-designated scenic routes in order to ensure each local jurisdiction is consistent with State guidelines.[2] In order to enforce the California Scenic Highway Program, the Caltrans District Scenic Highway Coordinator (DSHC) reviews each scenic highway for compliance every five years, but can recommend the withdrawal of scenic designations at any time.[3]

The DSHC will periodically contact the Local Governing Body, in this case, San Joaquin County in order to enforce compliance. In the case that the DSHC contacted San Joaquin County, they must either respond by submitting their current Corridor Protection Program or a letter of intent to request revocation of the scenic designation. The DHSC would then be responsible for reviewing the submittal and taking action to resolve any non-compliance issues, or recommendations for revocation of a scenic designation.

SAN JOAQUIN COUNTY

As mentioned above, San Joaquin County is responsible for enforcing the protection of State-designated scenic routes within its borders. The County's General Plan identifies Interstate 580 and Interstate 5 as scenic routes

[1] Caltrans, Scenic Highway Guidelines, accessed on March, 17 2014.
http://www.dot.ca.gov/hq/LandArch/scenic/guidelines/scenic_hwy_guidelines_04-12-2012.pdf
[2] Scenic Highway Program website, Frequently Asked Questions, accessed March 17, 2014.
http://www.dot.ca.gov/hq/LandArch/scenic/faq.htm
[3] Caltrans, Scenic Highway Guidelines, accessed on March, 17 2014.
http://www.dot.ca.gov/hq/LandArch/scenic/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

near Tracy. The THSP Project Area is traversed by I-580, and borders Corral Hollow Road, a scenic road designated in the 1978 San Joaquin County General Plan.

CITY OF TRACY

Tracy General Plan

The Tracy General Plan addresses the quality of the City's physical environment in both the public and private realms. It establishes goals, objectives and policies to guide future growth and enhance existing development. Key General Plan policies that are relevant to an evaluation of the visual quality of the THSP Project Area are listed in Table 4.1-1, *General Plan Policies Relevant to Aesthetics*, below.

Tracy Municipal Code

The Tracy Municipal Code establishes permitted minimum setbacks, maximum building heights, lot coverage and off-street parking requirements based on the zoning of the property. As street trees are an important visual amenity in Tracy, the City's Municipal Code contains standards for their planting and removal, as well as guidelines for understanding City versus private responsibilities for tree maintenance. The Municipal Code determines the look of a project, to some degree, due to these limitations and constraints. However, the Specific Plan process would determine new development standards for the Project site that would then be codified in the Specific Plan. In addition, the Specific Plan establishes architectural and site design standards.

Standard Plans

The City of Tracy Standard Plan #154 establishes minimum requirements for light illumination, but does not have regulations limiting glare. Rather, the City addresses light and glare issues on a case-by-case basis during Project approval and typically adds requirements as a condition of Project approval to shield and protect against light splashing from one development to adjacent properties.[4]

Table 4.1-1: General Plan Policies Relevant to Aesthetics

Community Character Element	
Goal/Policy No.	**Goal/Policy Content**
Goal CC-1	**Superior design quality throughout Tracy**
Objective CC-1.1	*Preserve and enhance Tracy's unique character and "hometown feel" through high quality urban design.*
Policy P1	Preserving and enhancing hometown feel shall be the overriding design principle for the City of Tracy.
Policy P2	The City shall promote the development of urban green space, including amenities such as community squares, parks and plazas.
Policy P3	All new development and redevelopment shall adhere to the basic principles of high-quality urban design, architecture, and landscape architecture including, but not limited to, human-scaled design, pedestrian-orientation, interconnectivity of street layout, siting buildings to hold corners, entryways, focal points and landmarks.
Policy P4	To the extent possible, site layout and building design should take into account Tracy's warm, dry climate, such as through the inclusion of trees and landscaping or other architectural elements to provide shade.
Policy P5	Lighting on private and public property should be designed to provide safe and adequate lighting, while minimizing light spillage to adjacent properties.

[4] City of Tracy General Plan EIR, 2011.

Table 4.1-1: General Plan Policies Relevant to Aesthetics

Community Character Element	
Objective CC-1.2	*Balance the need for growth with the preservation of Tracy's "hometown feel."*
Policy P1	New development projects shall be approved only if they meet the design principles set forth in the Community Character Element and in detailed design guidelines approved by the City Council.
Objective CC-1.3	*Enhance the unique quality of the City through the use of art and entryway treatments.*
Policy P1	Entryways should be designed for the access points into the City. Entryways shall incorporate landscaping, trees, and/or architectural elements, to enhance a sense of arrival to the City.
Policy P2	Public art and other design features such as fountains and monuments should be used to enliven the public realm.
Objective CC-1.4	Minimize the use of soundwalls in Tracy.
Policy P1	New residential development shall be designed with street networks and housing types that allow buildings to face or side onto collector and local streets.
Policy P2	New commercial development shall be designed to front or have a presence along all streets.
Policy P3	Soundwalls or solid fences along streets other than arterials and expressways should be used only if no other design solutions exist for reducing the impact of roadway noise on residential areas.
Policy P4	Where soundwalls are used, they shall be set back from the street, include design features that enhance visual interest and be landscaped in order to mitigate their impact on urban character and the pedestrian environment.
Objective CC-1.5	Provide underground utilities throughout Tracy.
Policy P1	New development shall locate and construct utilities underground.
Goal CC-5	**Neighborhoods with a recognizable identity and structure.**
Objective CC-5.1	*Design Neighborhoods around a Focal Point.*
Policy P1	Every Neighborhood should have at least one Focal Point, which should be a park, school, plaza, clubhouse, recreation center, retail, open space or combination thereof.
Policy P2	Focal Points shall have ample public spaces that are accessible to all citizens.
Policy P3	Focal Points should be within ¼ mile from any point in the Neighborhood.
Goal CC-6	**"Hometown feel" in Neighborhoods.**
Objective CC-6.1	*Enhance Neighborhoods through high quality design.*
Policy P1	There shall be a variety of architectural styles in each neighborhood and within each block of a Neighborhood.
Policy P2	Neighborhoods shall be designed to provide a mix of housing types such as single-family, duplex, triplex, fourplex, townhomes and apartments.
Policy P3	Land use and product types shall not be isolated. There shall be a discernible, inclusive neighborhood pattern as to how single-family, townhouse, and multifamily uses relate to each other.
Policy P4	Blocks within neighborhoods should contain a mix of lot sizes and house sizes. Some lots may be designed to accommodate one-story houses, which generally require greater lot width to avoid front elevations of houses that are dominated by garages.
Policy P5	In neighborhoods, secondary units shall be allowed behind the primary residential structure or above garages to the extent feasible.
Policy P6	Multi-family housing design shall be in scale with or transition in scale from adjoining or adjacent single family areas through the use of similar setbacks, complimentary building arrangements and architecture, gradual changes to building heights, buffer yards and the avoidance of overwhelming building scale and visual obstructions.
Policy P7	Multi-family housing shall generally front on a public street with varying setbacks to provide visual interest, opportunities for transitional landscaping and varying shadow patterns.

Table 4.1-1: General Plan Policies Relevant to Aesthetics

Community Character Element	
Policy P8	The paving of front yards shall be discouraged.
Goal CC-10	**Vibrant Communities.**
Objective CC-10.1	*Design landscaping, buildings, and sites to enhance the pedestrian environment.*
Policy P1	Building setbacks on Corridors shall be minimized to enhance the pedestrian environment and character of the area.
Policy P2	Buildings and building entrances on Corridors shall be oriented to the pedestrian environment.
Policy P3	Buildings on Corridors shall include human-scale details such as windows facing the street, awnings, and architectural features that create a visually interesting pedestrian environment.
Policy P4	Individual development projects within Corridors shall include provisions for street trees to provide a tree canopy.
Goal CC-11	**Well-designed Employment Areas that are integrated with other parts of Tracy.**
Objective CC-11.1	*Ensure that Employment Areas are developed with a recognizable identity and structure.*
Policy P1	Employment Areas should contain one or more Focal Points such as a retail use, park, or plaza.
Policy P2	Focal Points in Employment Areas may be located on private or public property and are encouraged to be publicly accessible.
Policy P3	Development within Employment Areas should occur such that a majority of business parks or office parks are within a reasonable walking or biking distance, generally ½ mile, of one or more Focal Points.
Policy P4	Future Specific Plans for Employment Areas should identify Focal Points.
Objective CC-11.2	*Encourage attractive design in Employment Areas.*
Policy P1	Development in Employment Areas should adhere to high-quality design standards.
Policy P2	New office and flex-office developments are encouraged to provide private open spaces as an amenity for their employees. Where possible, the location and design of these private open spaces should be coordinated with adjacent developments or parcels.
Policy P3	Buildings in commercial and retail developments should be oriented to the street, not away from it.
Policy P4	Building setbacks for office buildings or office portions of industrial buildings should be minimized to ensure that buildings define the edges of the street.
Policy P5	Building facades in Employment Areas should provide visual interest.

Source: City of Tracy General Plan

4.1.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. The Project would have a significant impact with regard to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

ENVIRONMENTAL IMPACTS AND ANALYSIS

SUBSTANTIAL ADVERSE EFFECT ON A SCENIC VISTA

The City's General Plan does not designate scenic vistas within the City limits. However, the City's General Plan EIR identifies the following scenic resources and vistas considered to be local assets that are relevant to this Project:

- Public views of the expansive agricultural lands from within the THSP Project Area.
- Public views of the Diablo Range from I-580, a State-designated scenic highway.

The views listed above are available to drivers traveling along Interstate 580, from Tracy, and from the surrounding vicinity for many miles. As described previously, the THSP Project Area contains grasslands, agricultural lands, and rolling hills. The public views of these agricultural lands would be changed by development of the Project. In addition, the public views of the Diablo Range would be impeded by development of the Project.

The THSP contains development standards and design guidelines, which require 100 foot setbacks (conservation easements) along I-580 that would assist in preserving views of the mountains from I-580 (see Figure 3-12, *Phase 1a Vesting Tentative Map*). In addition, Project Applicants would be required to implement signage and landscaping plans as part of the application process for individual developments within the THSP Project Area in accordance with the applicable standards and other requirements set forth in the THSP. The signage development standards and design guidelines in the THSP would also be required to comply with all applicable Caltrans requirements (e.g. height, setback, and separation).

Despite the design guidelines and development standards identified above, implementation of the Project would involve a substantial change to the visual character of and views from, to and across the approximately 2,732 acre Project Area. Although these public views are not specifically identified in the City's General Plan as significant scenic vistas, they are treated by the City as important assets. Given the scope and nature of the Project, impacts would be the same across the entire Project Area. Impacts to scenic vistas would be considered *significant*.

SUBSTANTIAL DAMAGE TO SCENIC RESOURCES, INCLUDING BUT NOT LIMITED TO TREES, ROCK OUTCROPPINGS AND HISTORIC BUILDINGS WITHIN A STATE SCENIC HIGHWAY

As described in Section 4.1.1, *Environmental Setting* the THSP Project Area is bisected by Interstate 580, a State-designated scenic highway and borders Corral Hollow Road, a scenic road designated in the 1978 San Joaquin County General Plan. Views from I-580 to the Project site would be directly impacted due to the adjacent development.

Future development within the Project Area would be consistent in scale and type as compared to existing uses within the City of Tracy. Additionally, the development standards and design guidelines as well as other relevant policies and objectives of the THSP would ensure that development is appropriately set back and screened with landscaping to reduce impacts on views.

However, due to the highly visible hillside location of some portions of proposed development and the designation of Interstate 580 and Corral Hollow Road as scenic routes, impacts to scenic views are considered *significant* for the entire Project Area.

SUBSTANTIAL DEGRADATION OF THE EXISTING VISUAL CHARACTER OR QUAITY OF THE SITE AND ITS SURROUNDINGS

As described above, the Project Area is primarily undeveloped and is generally rural and agricultural in nature. The proposed Project would bring a range of urban development including residential, office, commercial, and industrial uses. The THSP outlines design goals and guidelines to ensure the design of the development would be consistent with the nature and character of the City of Tracy and would establish a sense of place for the THSP Project Area. Some of these design guidelines include:

- Landscaped setbacks
- Street oriented residences
- Widened pathways and trails
- Public gathering areas
- Several community parks with recreation amenities
- A conceptual community icon
- Stone and Corten steel for monumentation, way finding, and accessory structures
- Natural landscaped areas blended with manicured landscaping
- Low water, drought tolerant and native tree and shrub materials
- Natural materials such as stone and wood
- Varied paving materials including stone, concrete, wood, decomposed granite, and concrete pavers.

Implementation of the THSP's development standards and design guidelines, and adherence to the Tracy General Plan goals, objectives, and policies, would reduce impacts associated with development within the Project Area. However, due to the size and scope of the Project, impacts to the visual character or quality of the site would still be considered *significant*. Impacts are the same across the entire Project Area.

CREATION OF A NEW SOURCE OF SUBSTANTIAL LIGHT OR GLARE WHICH WOULD ADVERSELY AFFECT DAY OR NIGHTTIME VIEWS IN THE AREA

As described above, the Project Area's existing sources of light and glare come primarily from vehicle headlights and windshields traveling along I-580, and Corral Hollow Road. Other sources of light and glare within the Project Area include a few single-family homes along Lammers Road and Corral Hollow Road. The Project would introduce new sources of light and glare from the development of new commercial, office, business park, and residential uses. The Project would also include new parking lots, streets, pedestrian paths and recreational and open space, which would contribute additional light and glare to the Project Area. Consequently, the Project has the potential to create light and glare impacts to nearby residences, and other uses.

The THSP includes standards and guidelines that require shielding to minimize up lighting and to reduce the amount of light splay from shining directly on adjacent properties. These design guidelines include:

- All exterior lighting for identification, water features, and landscaping should be subdued and indirect to prevent spill over onto adjacent lots and streets.
- Street lights shall conform to the overall project theme and City standards
- All exterior light fixtures and fixture placement shall comply to the standards specified in the City's design documents. Use of LED technology where possible is recommended.

The Tracy General Plan (Objective CC-1.1, Policy P5) and the City's Standard Plans for streetscapes and parks also call for minimizing light spillage to adjacent properties. All new development under the THSP would be required to comply with these policies and guidelines. In addition, the City addresses light and glare issues on a case by case basis during project approval, typically adding requirements as a condition of approval to shield and protect against light splashing from one development to adjacent properties. Nevertheless, the entire Project Area would still have a *significant* impact in regards to light and glare given the size and scope of the Project.

CUMULATIVE IMPACT ANALYSIS

The City's General Plan has envisioned the THSP Project Area for residential, commercial, and industrial development. The City evaluated impacts of implementing the General Plan vision in the General Plan EIR and concluded that such impacts would be significant and unavoidable. As discussed above, the Project would have a significant adverse impact on aesthetics. Therefore, future development under the THSP as proposed, with commercial, office, business park, industrial, and residential uses would contribute to the significant and unavoidable impact previously considered and identified in the General Plan by the City. While mitigation is proposed to reduce Project impacts in regards to aesthetics to levels considered less than significant, development under the THSP as proposed would still *contribute considerably* to the significant and unavoidable impact previously identified in the City's General Plan EIR.

IMPACTS AND MITIGATION MEASURES

Impact 4.1-1: The Project would substantially alter the visual character of the site, including views to, from and across the THSP Project Area, resulting in a significant impact to scenic vistas.

Mitigation Measure:

4.1-1 The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which have been implemented in the Phase 1a Vesting Tentative Map (Figure 3-12, *Phase 1a Vesting Tentative Map*), and which would be required on individual, site-specific developments within the THSP. These measures would ensure that development within the Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.1-2: The Project would substantially alter the existing scenic resources by adding new development directly adjacent to a State-designated route, which would be a significant impact.

Mitigation Measure:

4.1-2 The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which have been implemented in the Phase 1a Vesting Tentative Map (Figure 3-12, *Phase 1a Vesting Tentative Map*), and which would be required on individual, site specific development within the THSP. These measures would ensure that development within the THSP Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.1-3: The Project would bring urban development to a rural and agricultural area, thereby changing its character and resulting in a significant impact.

Mitigation Measure:

4.1-3 The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which would be required on individual, site specific development within the THSP. These measures would ensure that development within the THSP Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.1-4: The Project would create new sources of light and glare, which, despite existing regulations, may result in a significant impact.

Mitigation Measure:

4.1-4 To decrease light spillage and glare to the maximum extent practicable, all individual developments under the THSP shall be required to:

- Prior to final inspection or certificate of occupancy, all exterior and parking area lighting shall be directed downward or shielded, to prevent glare or spray of light on to public rights-of-way or adjacent residential property, consistent with City standards.

Significance After Mitigation: *Less-than-significant.*

Impact 4.1-5: The Project would change the visual aspect of and views from, to, and across the THSP Project Area, add new development to viewsheds, bring urban development to a rural and agricultural area, resulting in cumulatively considerable contributions to significant impacts on scenic vistas, scenic resources within a State scenic highway, and visual character.

Mitigation Measure:

4.1-5 The THSP contains design guidelines and landscaping standards (Tracy Hills Specific Plan, pages 3-1 through 3-96) which would be required on individual, site specific development within the THSP. These measures would ensure that development within the THSP Project Area is aesthetically pleasing and is compatible with current development in the City of Tracy. Beyond these measures, there is no feasible mitigation.

Significance After Mitigation: *Significant and unavoidable.*

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4.2 AGRICULTURAL RESOURCES

This section describes the existing agricultural resources within the THSP Project Area and discusses the potential individual and cumulative impacts that could result from approval of the Project.

4.2.1 ENVIRONMENTAL SETTING

AGRICULTURAL LAND

SITE CONDITIONS

As discussed in Chapter 3, *Project Description* the THSP Project Area is made up primarily of annual grassland, grazing land, and agricultural land. Surface elevations range from approximately 200 to 1,200 feet above the mean sea level with areas of greater topographic relief located along the western boundary of the Project site.[1] The Project site consists primarily of an annual grassland plant community dominated by nonnative grasses and forbs. The annual grassland plant community has been subject to routine grazing activities that have kept the vegetation open and sparse. This plant community is found on the foothills on the southwestern portion of the Project site (south of I-580) and in the area between the California Aqueduct and Delta-Mendota Canal (north of I-580). The portion of the THSP property bound by the California Aqueduct to the southwest, the Union Pacific Railroad to the north, the Delta-Mendota Canal to the northeast, and Corral Hollow Road to the east is actively utilized for agricultural crops.[2]

According to the California Department of Conservation Farmland Mapping and Monitoring Program's San Joaquin County Important Farmland 2010 Map, as shown in Figure 4.2-1, *THSP Project Area Important Farmlands* the THSP Project Area contains primarily Farmland of Local Importance (approximately 2,200 acres) and Grazing Land (approximately 500 acres) and also contains a small patch of Prime Farmland (25 acres) and Vacant or Disturbed Land (13 acres).[3]

SURROUNDING AREA

The surrounding area is currently made up of primarily agricultural (Prime Farmland and Farmland of Local Importance) and rural residential land uses directly to the north, grazing and grasslands to the south and west, aggregate production, and the closed Corral Hollow Landfill and Tracy Municipal Airport to the east and northeast of the Project Area. The recently adopted Ellis Specific Plan and Urban Reserve 10 area of the General Plan represent the majority of the land to the northeast of the Project. If developed as anticipated, the Ellis Specific Plan area would be made up of low density residential uses with limited commercial and industrial components and the Urban Reserve 10 would be made up of industrial uses.

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[1] RBF Consulting, *Tracy Hills Specific Plan Habitat Assessment and San Joaquin County Multi-Species Habitat Conservation and Open Space Plan Consistency Analysis.* November, 2013.
[2] RBF Consulting, *Tracy Hills Specific Plan Habitat Assessment and San Joaquin County Multi-Species Habitat Conservation and Open Space Plan Consistency Analysis*. November, 2013.
[3] California Department of Conservation, *California Important Farmland Finder.* http://maps.conservation.ca.gov/ciff/ciff.html, accessed on March 26, 2014.

As described in Chapter 3, *Project Description*, approximately 3,500 acres of land previously included in the 1998 THSP have been removed from the current THSP. This area is currently undeveloped and is primarily used for livestock grazing. Corral Hollow Creek passes along the southern portion of this area and supports areas of riparian woodland that have been degraded by historical grazing activities. While the 3,500 acre conservation easement was set aside for the conservation of wildlife habitat, it is intended that the land also be used to continue existing grazing practices.

WILLIAMSON ACT LAND

According to the California Department of Conservation, none of the land within the Specific Plan Area is under a Williamson Act contract.[4] The land to the southwest is currently under a Williamson Act contract, as well as the area to the north of the Delta Mendota Canal and east of the Project Area, across Corral Hollow Road.

4.2.2 REGULATORY FRAMEWORK

STATE OF CALIFORNIA

WILLIAMSON ACT

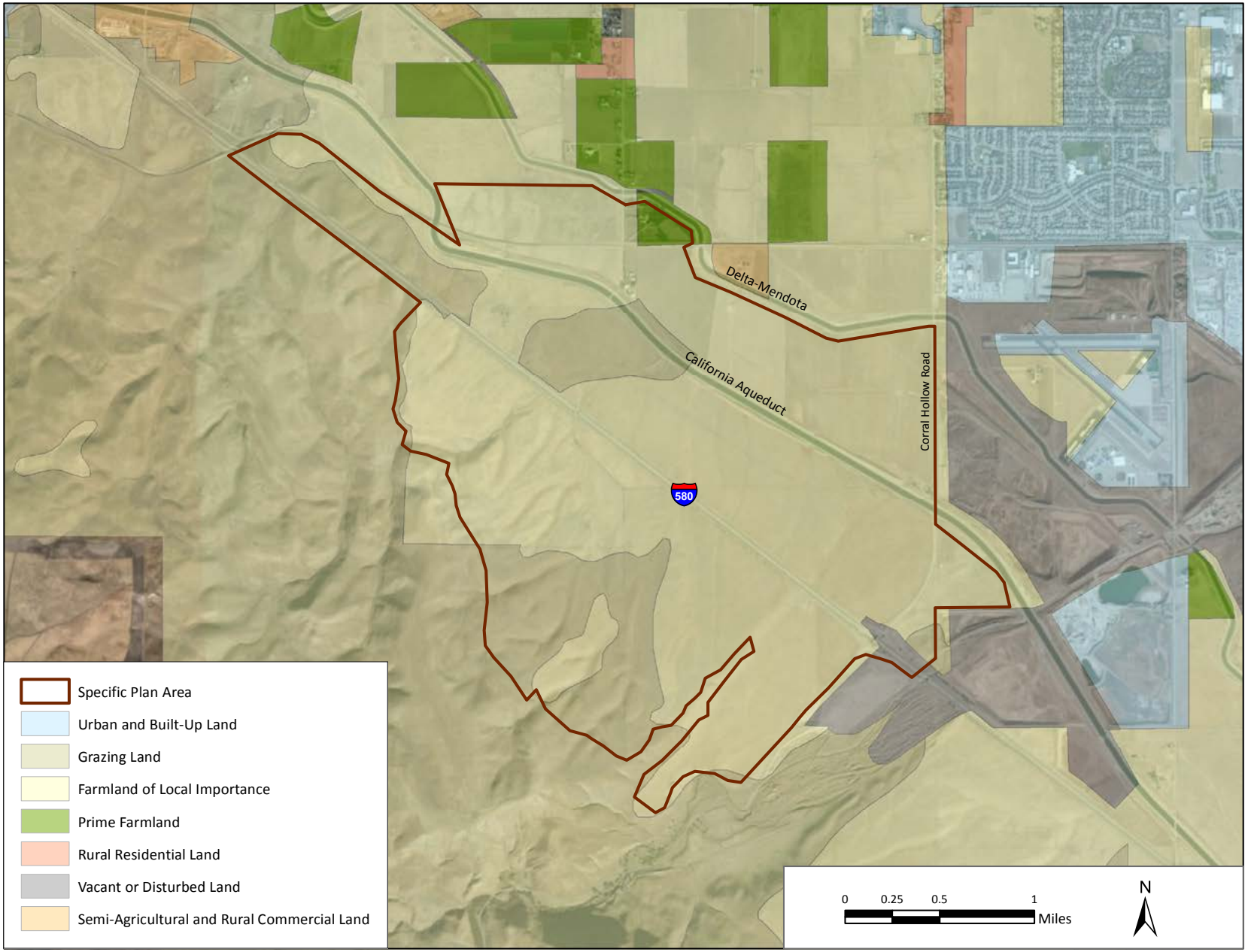
The Williamson Act, also known as the California Land Conservation Act (LCA), was adopted initially by the State of California in 1965 with the basic intent of encouraging the preservation of the state's agricultural lands in view of the increasing trends toward their urbanization. The Act established a land contract procedure whereby the County Board of Supervisors could stabilize (i.e., not increase) taxes on certain qualifying lands in return for an owner's guarantee to keep the lands in agricultural preserve status for a ten-year period. Because the contract term automatically renews on each anniversary date of the contract, the actual contract length is essentially indefinite. The THSP Project Area does not contain any parcels that are currently under a Williamson Act contract.

FARMLAND MAPPING AND MONITORING PROGRAM

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status, with the highest quality agricultural lands called Prime Farmland. Maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

The FMMP identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmland Maps. Important Farmland Maps show the relationship between the quality of soils for agricultural production and the land's use for agricultural, urban, or other purposes. A biennial map update cycle and notation system employed by FMMP captures conversion to urban land while accommodating rotational cycles in agricultural use.

[4] California Department of Conservation, Division of Land Resource Protection. ftp://ftp.consrv.ca.gov/pub/dlrp/wa/



Source: California Department of Conservation, California Important Farmland Finder, accessed April 2014.

FIGURE 4.2-1
SPECIFIC PLAN AREA IMPORTANT FARMLANDS

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FMMP's study area is contiguous with modern soil surveys developed by the US Department of Agriculture (USDA). A classification system that combines technical soil ratings and current land use is the basis for the Important Farmland Maps of these lands. Most public land areas, such as National Forests and Bureau of Land Management holdings, are not mapped.

The FMMP describes the following soil classification systems[5]:

- **Prime Farmland** has the best combination of physical and chemical features able to sustain long-term agricultural production. Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agriculture production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance** is similar to Prime Farmland but with minor shortcomings, such as steeper slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland** consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- **Farmland of Local Importance** is land that is important to the local agricultural economy. It is determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land** is the land on which the existing vegetation is suited to the grazing of livestock.
- **Urban and Built-Up Land** is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- **Other Land** is land not included in any other mapping category. Common examples include low density rural developments; wetlands and riparian areas not suitable for livestock grazing; confined livestock, poultry, and aquaculture facilities; and strip mines. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land. The Rural Land Mapping Project pro-vides more detail on the distribution of various land uses within the Other Land category in all eight San Joaquin Valley counties. The Rural Land categories include: Rural Residential Land, Semi-Agricultural and Rural Commercial Land, Vacant or Disturbed Land, Confined Animal Agriculture, and Nonagricultural or Natural Vegetation.
- **Water** is used to describe perennial water bodies with an extent of at least 40 acres.

The FMMP data is updated and released every two years. In 2012, new data was released for San Joaquin County. Farmlands of concern under CEQA are Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. As discussed further below and shown in Figure 4.2-1, *THSP Project Area Important Farmlands* according to the 2010 FMMP data, approximately 2,200 acres within the THSP Project Area are designated as Farmland of Local Importance and 25 acres are designated as Prime Farmland.[6]

[5] Important Farmland Categories, FMMP Website. Accessed April 8, 2014.
[6] FMMP data downloaded from the FMMP website, http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp, accessed on March 26, 2014.

CALIFORNIA GOVERNMENT CODE SECTION 56064[7]

This section of the Government Codes defines "Prime agricultural land" as follows:

Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

- All land that qualifies for rating as Class I or Class II in the Natural Resource Conservation Service Land Use Capabilities Classifications;
- Land that qualifies for rating 80 through 100 in the Storie Index Rating (a numerical value indicating the relative suitability of a soil group for general agricultural practices);
- Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre, as defined by the United States Department of Agriculture;
- Land planted with fruit- or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and will normally return during the commercial bearing period from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre; and
- Land that has returned from the production of unprocessed agricultural plant products a gross value of not less than four hundred dollars ($400) per acre per year for three of the previous five calendar years.

CITY OF TRACY

Tracy General Plan

The Tracy General Plan includes goals, objectives and policies that strive to preserve agricultural resources and minimize conflicts between agricultural and urban uses. Key policies from the General Plan are listed in Table 4.2-1, *General Plan Policies Relevant to Agricultural Resources.*

The General Plan encourages feathering urban uses into agricultural areas, called the soft edge approach. This approach would create appropriate transitions between urban and agricultural uses, and mitigate conflicts. Furthermore, the policies in the General Plan provide three techniques for implementing a soft edge: incorporating site-specific buffer zones, clustering developments, and feathering density from the highest density in the middle to the lowest density on the outskirts. These buffer zones can be created using roads, setbacks and other physical boundaries, and should be of sufficient size to protect the agriculture operations from the impacts of incompatible development and established based on the proposed land use, site conditions and anticipated agricultural practices.[8]

City of Tracy Right-to-Farm Ordinance

The City adopted a Right-to-Farm Ordinance that establishes policies to preserve and protect existing agricultural operations. Although agriculture is acknowledged as a local priority, operations frequently become the subjects of nuisance complaints when nonagricultural land uses are developed near or adjacent to

[7] California Government Code Section 56064, http://law.onecle.com/california/government/56064.html, accessed on March 26, 2014.
[8] City of Tracy, General Plan, Objective OSC-2.2, Policy P1.

agricultural areas, often due to the lack of public information about such operations. The Ordinance helps clarify the circumstances under which an agricultural operation may be considered a nuisance by informing residents that farming activities are allowed and cannot be stopped by encroaching residential development.

City of Tracy Agricultural Mitigation Fee Ordinance

On June 7, 2005, the City Council adopted Chapter 13.28 Agricultural Mitigation Fee to its Municipal Code. The Ordinance was developed to mitigate for the loss of farmland as development occurs. The Ordinance is also in response to policies in the General Plan to preserve productive farmland, including the development of a program to secure permanent agriculture on lands designated for agriculture in the City and/or County General Plan. As further described in the Tracy Municipal Code, Chapter 13.28.040, the Tracy Hills Project is exempt from this fee program (unless it receives any South San Joaquin Irrigation District [SJID] water), which it would not (refer to Section 4.12, *Public Services and Utilities*).

The fee is intended to mitigate a CEQA determination of significant, unavoidable impacts to the loss of farmland as a result of proposed development, which would be approved by the City with a statement of overriding consideration. The fees are collected and administered by the City before the issuance of building permits, and used for acquiring farmland, farmland conservation easements or farmland deed restrictions from willing sellers.

Table 4.2-1: General Plan Policies Relevant to Agricultural Resources

Land Use Element	
Goal/Policy No.	Goal/Policy Content
Objective LU-6.1	*Minimize the impact of industrial development or aggregate mining on adjacent uses.*
Policy P1	New industrial or mining uses shall be designed to not adversely impact adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources and biological resources.
Community Character Element	
Goal CC-4	**An enhanced identity through preservation of open space at the City's periphery and appropriate transitions between urban development and non-urban areas.**
Objective CC-4.1	*Create appropriate edges to the urbanized area.*
Policy P2	To the extent feasible, the City shall use land use designations and open space preservation techniques to create appropriate transitions. A variety of techniques can be used to create the soft or hard edges to the City including the following: ♦ Buffer Zone. Soft edges can be created with buffer zones such as natural open space, large setbacks and landscaped areas, as a means to separate urban from rural uses. Buffer areas shall be planted and maintained by the property owner, tenants or homeowners association and may include passive and active recreation areas such as picnic areas, bridle, and walking trails. Golf course development may also be an option in areas where a soft edge is desired. ♦ Cluster Development. Clustered development is a method of site planning in which structures are clustered on a given site in the interest of preserving open space or creating a buffer. Areas with clustered development typically have low gross residential densities and high minimum open space requirements to encourage the clustering of structures. ♦ Feathering of Density. A gradual reduction in residential density can be used to establish a smooth transition between urban and rural uses.
Open Space and Conservation Element	
Objective OSC-2.2	*Minimize conflicts between agricultural and urban uses.*
Policy P1	Development projects shall have buffer zones, such as roads, setbacks and other physical boundaries, between agricultural uses and urban development. These buffer zones shall be of sufficient size to protect the agriculture operations from the impacts of incompatible development and shall be established based on the proposed land use, site conditions and anticipated agricultural practices. Buffers shall be located on the land where the use is being changed, and shall not become the maintenance responsibility of the City.
Policy P2	Land uses allowed near agricultural operations should be limited to those not negatively impacted by dust, noise, and odors.

4.2.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. The Project would have a significant impact with regard to agricultural resources if it would:

- 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.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

ENVIRONMENTAL IMPACTS AND ANALYSIS

CONVERSION OF 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

Development within the THSP Project Area would require the conversion of the Project site from grazing and agricultural uses to urban uses, which includes 25 acres of Prime Farmland as well as approximately 2,700 acres of other farmland (refer to Figure 4.2-1, *THSP Project Area Important Farmlands*). The 25 acres of Prime Farmland is located along Lammers Road, just south of the Delta-Mendota Canal and is made up of an existing vineyard. Although conversion of the THSP Project Area to urban uses is consistent with the City's overall planning vision, General Plan and Zoning Ordinance, the elimination of farmland to urban uses would permanently eliminate a source of food and fiber which cannot be recreated.

There were 2,581 total acres of land identified as either Prime Farmland, Farmland of Statewide Importance or Unique Farmland in the City of Tracy at the time of certification of the General Plan EIR (2011). As such, the General Plan EIR analyzed the impacts to Prime Farmland areas within the Tracy Planning Area. The impacts related to agricultural resources within the THSP Project Area were considered in the impact analysis in the General Plan EIR, however, no mitigation measures were identified to reduce this impact, and the City Council adopted a statement of overriding considerations with respect to the anticipated loss of farmland.[9]

Although the City has established the Agricultural Mitigation Fee and Right-to-Farm Ordinance to reduce the conversion of farmland, permanent loss of farmland would occur with implementation of the THSP. Since approval of the Project, including the Phase 1a vesting tentative map, would result in a net loss of Prime Agricultural Land, Farmland of Statewide Importance, and Grazing Land, the impact would be *significant*.

CONFLICT WITH EXISTING ZONING FOR AGRICULTURAL USE, OR A WILLIAMSON ACT CONTRACT

As discussed in Section 4.2.1, *Environmental Setting,* the THSP Project Area does not contain any lands under a Williamson Act contract. The Project Area is currently zoned in accordance with the 1998 Tracy Hills Specific Plan designations and does not contain any lands zoned for agricultural use. The urban development associated with the THSP Project would be consistent with the City's zoning and proposed uses for the area. Future development within the Specific Plan Area would not conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, *no impact* would occur.

[9] City of Tracy, July 22, 2010, General Plan Draft Recirculated Supplemental EIR, page 2-14.

OTHER CHANGES IN THE EXISTING ENVIRONMENT WHICH, DUE TO THEIR LOCATION OR NATURE, COULD RESULT IN CONVERSION OF FARMLAND TO NON-AGRICULTURAL USE

As discussed above, approval of the Project would result in the conversion of approximately 2,725 acres of farmland, including approximately 25 acres of Prime Farmland, 2,200 acres of Farmland of Local Importance, and 500 acres of Grazing Land to urban uses.

Although the City has planned for the conversion of the THSP Project Area to urban uses, the proposed land uses in the THSP Project Area could be incompatible with adjacent agricultural land uses. As discussed in Section 4.2.2, *Regulatory Framework,* the City's General Plan Policy OSC-2.2 P1 identifies the use of buffers between agricultural uses and urban uses to minimize indirect impacts. Buffers can consist of development setbacks, open space, parks, trails, and roads. Additionally, General Plan Policy CC-4.1 P3 identifies the use of buffers, clustered development, and feathering of density to address the transition between urban and non-urban uses.

As the Project Area is bounded by the Delta-Mendota canal and the Union Pacific Rail Road to the north and Corral Hollow Road to the east, the main area of concern would be the grazing land and open space habitat to the west of the Project Area. The recently adopted Ellis Specific Plan and Urban Reserve 10 area make up the majority of the land to the northeast of the Project Area which, when developed as anticipated, will convert the existing agricultural land to low density residential and industrial uses, with limited commercial components. The THSP helps address the issue of conflicts with agricultural uses by clustering higher density development in the central and northern portions (near future development) of the Project site. The THSP also locates low and very low density residential land uses along the southwest boundary, demonstrating the feathering of uses as required by Policies OSC-2.2 P1 and CC-4.1 P2.

However, grazing land west of the THSP Project Area could experience negative impacts on its grazing activities from implementation of the Project such as limiting access to the grazing land, and exposure to noise or other irritants from the proximity of new urban areas to grazing cattle. Therefore, impacts on agricultural activities - including impacts caused from development within Phase 1a - on the adjacent land would be *significant*.

CUMULATIVE IMPACT ANALYSIS

As previously discussed, implementation of the Project would result in the loss of agricultural land, including approximately 25 acres of Prime Farmland, 2,200 acres of Farmland of Local Importance, and 500 acres of Grazing Land. Future projects within the Tracy area, including build-out of the Ellis Specific Plan Area, the Cordes Ranch Specific Plan Area, and the Mountain House community outside the Tracy Sphere of Influence (SOI) would also result in the permanent loss of prime farmland and Williamson Act lands, contributing to the cumulative impacts to agricultural resources.

As mentioned previously, impacts to agricultural resources were evaluated in the City's General Plan EIR. However, no mitigation measures were identified to reduce this impact, and the City Council adopted a statement of overriding considerations with respect to the anticipated loss of farmland.[10]

[10] City of Tracy, July 22, 2010, General Plan Draft Recirculated Supplemental EIR, page 2-5, 2-13, and 2-14.

The City has regulations and policies in place to protect agricultural resources, such as the Right-to-Farm and Agricultural Mitigation Fee Ordinances. However, as previously noted and further described in the Tracy Municipal Code, Chapter 13.28.040, the Project is presently exempt from the City's Agricultural Mitigation Fee.

The General Plan also contains several policies to minimize conflicts between agricultural and urban uses (refer to Table 4.2-1, *General Plan Policies Relevant to Agricultural Resources,* above). Although these programs and policies, as well as the establishment of conservation easements would reduce agricultural impacts, implementation of the Project and other cumulative projects would ultimately result in the permanent loss of agricultural land and as such, are considered to be *significant*.

IMPACTS AND MITIGATION MEASURES

Impact 4.2-1: Implementation of the Project would result in the conversion of 25 acres of Prime Farmland, approximately 2,200 acres of Farmland of Local Importance and approximately 500 acres of Grazing Land.

Mitigation Measure:

4.2-1 As part of the development process for individual site-specific development projects, the agricultural mitigation fee adopted by the City shall be paid for each acre of Prime Farmland to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City.

The majority of the 2,200 acres identified as Farmland of Local Importance has historically been utilized as grazing land with no infrastructure in place to irrigate and actively farm. For the portion of the 2,200 acres of Farmland of Local Importance historically utilized as grazing land, the Project ~~has provided mitigation through the establishment~~ established ~~of~~ a conservation easement to ensure that over 3,500 acres of grazing land would be preserved in perpetuity. The recording of this conservation easement on 3,500 acres of open space has been identified as a Project Design Feature that has been implemented. For any of the 2,200 acres of Farmland of Local Importance that has been actively farmed, the City's adopted agricultural mitigation fee shall be paid for each acre of Farmland of Local Importance to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City. Though the City's Municipal Code identifies the Project site as exempt from the City's adopted fee, the Project Applicant has agreed to payment of the fee as described within this mitigation measure.

~~For the 500-acres of Grazing Land, the Project has provided offsite mitigation for the conservation of lands by recording a conservation easement to ensure that over 3,500 acres of Grazing Land adjacent to the Project would be preserved in perpetuity.~~

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Significance After Mitigation: *Significant and unavoidable* with respect to Prime Farmland and Farmland of Local Importance. *Less-than-significant* with respect to project-level impacts to Grazing Land.

Impact 4.2-2: Implementation of the Project could result in a significant impact on agricultural activities on the adjacent land due to potential incompatibilities.

Mitigation Measure:

4.2-2 As construction occurs along the THSP Project Area boundary, buffers such as roadways, conservation easements, building setbacks, and parking areas, shall be required prior to occupancy of those structures, in compliance with General Plan Policy OSC-2.2 P1.

Significance After Mitigation: *Less-than-significant.*

Impact 4.2-3: Development of the Project, together with other cumulative projects, would result in an incremental reduction in agricultural resources.

Mitigation Measure:

4.2-3 As part of the development process for individual site-specific development projects, the agricultural mitigation fee adopted by the City shall be paid for each acre of Prime Farmland to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City.

The majority of the 2,200 acres identified as Farmland of Local Importance has historically been utilized as grazing land with no infrastructure in place to irrigate and actively farm. For the portion of the 2,200 acres of Farmland of Local Importance historically utilized as grazing land, the Project ~~has provided mitigation through the establishment of~~ established ~~a~~ conservation easements to ensure that over 3,500 acres of grazing land would be preserved in perpetuity. The recording of these conservation easements on 3,500 acres of open space has been identified as a Project Design Feature that has been implemented. For any of the 2,200 acres of Farmland of Local Importance that has been actively farmed, the City's adopted agricultural mitigation fee shall be paid for each acre of Farmland of Local Importance to be developed. The fees shall be collected by the City at the time building permits are issued for such site-specific development projects, or as otherwise required by the City. Though the City's Municipal Code identifies the Project site as exempt from the City's adopted fee, the Project Applicant has agreed to payment of the fee as described within this mitigation measure.

~~For the 500-acres of Grazing Land, the Project has provided offsite mitigation for the conservation of lands by recording a conservation easement to ensure that over 3,500 acres of Grazing Land adjacent to the Project would be preserved in perpetuity.~~

Significance After Mitigation: *Significant and unavoidable* with respect to Prime Farmland and Farmland of Local Importance. *Less-than-significant* with respect to cumulative impacts to Grazing Land.

4.3 AIR QUALITY

The purpose of this section is to evaluate potential air quality impacts associated with the Project. Information in this section is based primarily on the Tracy Hills Specific Plan Traffic Impact Analysis, prepared by Kimley-Horn and Associates, October 2014; the *Tracy Hills Specific Plan Health Risk Assessment Addendum,* prepared by Urban Crossroads, August 5, 2015; the Tracy Hills Phase 1 Health Risk Assessment, prepared by Urban Crossroads, November 7, 2013; the Tracy Hills Specific Plan Supplemental Air Quality Assessment, prepared by Urban Crossroads, October 7, 2014; and the Draft Guidance for Assessing and Mitigating Air Quality Impacts – 2012, prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD), May 2012. Air quality technical data is included in Appendix B, Air Quality and Greenhouse Gas Data.

4.3.1 ENVIRONMENTAL SETTING

The site is located in the San Joaquin Valley Air Basin (Basin), which is characterized as having an "inland Mediterranean" climate (a semi-arid environment with cool winters, dry summers, and moderate rainfall). The Basin is approximately 250 miles long and averages 35 miles wide. The Basin is the second largest in the State and is defined by the Sierra Nevada Mountains to the east (8,000 to 14,000 feet in elevation), the Coastal Range to the west (averaging 3,000 feet in elevation), and the Tehachapi mountains to the south (6,000 to 8,000 feet in elevation). The Basin includes eight counties in California's Central Valley including San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and a portion of Kern County.

CLIMATE

The climate within the Basin is characterized by moderate temperatures and comfortable humidity, with precipitation limited to a few storms during the winter season (November through April). The average annual temperature varies little throughout the Basin, and the summer high averages 90 degrees Fahrenheit. All portions of the Basin have had recorded temperatures of over 100 degrees in recent years. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Periods of heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climatic feature. Precipitation is typically 9.25 inches annually in the San Joaquin Valley floor.

WIND

One of the most important climatic factors is the direction and intensity of the prevailing winds. During the summer months, the wind usually originates at the northern end of the San Joaquin Valley and flows in a south-southeasterly direction into the Mojave Desert Air Basin. In the winter, the wind originates from the southern end of the San Joaquin Valley and flows in a northeasterly direction. The topographic features and surrounding mountains constrain air movement and with very light average wind speeds (less than 10 miles per hour), the Basin has a limited capability to disperse air contaminants horizontally. Whether there is air movement or stagnation during the morning and evening hours (before these dominant patterns take effect) is one of the critical factors in determining the smog condition on any given day.

SUNLIGHT

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original, or "primary," pollutants (mainly

reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time-dependent, secondary pollutants can be formed many miles downwind from the emission sources. Because of the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of the San Joaquin Valley.

TEMPERATURE INVERSIONS

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. Semi-permanent systems of high barometric pressure fronts establish themselves over the Basin, deflecting low-pressure systems that might otherwise bring cleansing rain and winds. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants. Mixing of the air is reduced above and below the inversion base, a sudden change in density when minimal air movement occurs.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three unfavorable factors: low inversions, low maximum mixing heights, and low wind speeds. Although these conditions may occur throughout the year, the months of July, August, and September generally account for more than 40 percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer, and early fall, light winds, low mixing heights, and sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from automobile exhausts becomes highly concentrated. In summer months, temperature inversions occur 2,000 to 2,500 feet above the valley floor while the winter months overnight inversions occur 500 to 1,500 feet above the valley floor. The highest yearly concentrations of carbon monoxide and oxides of nitrogen are measured during November, December, and January.

LOCAL AMBIENT AIR QUALITY

The SJVAPCD and California Air Resources Board (CARB) monitor ambient air quality at approximately 250 air-monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The following air quality information briefly describes the various types of pollutants monitored at the Tracy-Airport Monitoring Station and the Stockton-Hazelton Monitoring Station. Air quality data from 2011 through 2013 is provided in Table 4.3-1, *Local Air Quality Levels*.

Table 4.3-1: Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) [2] (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2011 2012 2013	3.20 ppm 3.00 2.74	0/0 0/0 0/0
Carbon Monoxide (CO) [2] (8-Hour)	9 ppm for 8 hours	9 ppm for 8 hours	2011 2012	2.13 ppm 1.78 NM	0/0 0/0 0/0
Ozone (O_3) (1-Hour) [3]	0.09 ppm for 1 hour	NA[4]	2011 2012 2013	0.107 ppm 0.109 0.096	3/0 8/0 1/0
Ozone (O_3) (8-Hour) [3]	0.070 ppm for 8 hours	0.075 ppm for 8 hours	2011 2012 2013	0.088 ppm 0.098 0.083	21/8 36/16 5/2
Nitrogen Dioxide (NO_2) [3]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2011 2012 2013	0.039 ppm 0.040 0.034	0/0 0/0 0/0
Particulate Matter (PM_{10}) [3,5,6]	50 µg/m³ for 24 hours	150 µg/m³ for 24 hours	2011 2012 2013	110.8 µg/m³ 73.4 73.2	NM/0 NM/0 NM/0
Fine Particulate Matter ($PM_{2.5}$) [3,6]	No Separate State Standard	35 µg/m³ for 24 hours	2011 2012 2013	35.1 µg/m³ 26.8 56.3	NM/NM NM/NM NM/NM

PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
CO = carbon monoxide
NO_X = nitrogen oxides
ppm = parts per million
µg/m³ = micrograms per cubic meter
O_3 = ozone
NM = Not Measured (there was insufficient [or no] data available to determine the value from the ADAM database)

Notes:
1 – Maximum concentration is measured over the same period as the California Standard.
2 – Measurements taken at the Stockton-Hazelton Street Monitoring Station (located at 1593 East Hazelton Street, Stockton, California 95205).
3 – Measurements taken at the Tracy-Airport Monitoring Station (located at 5749 South Tracy Boulevard, Tracy, California 95376).
4 – The U.S. Environmental Protection Agency revoked the Federal 1-hour Standard in June of 2005.
5 – PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6 – PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, Aerometric Data Analysis and Measurement System (ADAM) Air Quality Data Statistics, http://www.arb.ca.gov/adam, accessed on October 14, 2014.

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency, as seen in high altitudes) are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO. Exposure to high levels of CO can slow reflexes and cause drowsiness, as well as result in death in confined spaces at very high concentrations.

Nitrogen Dioxide (NO_2). Nitrogen oxides (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone (O_3), and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (i.e., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes as well as cause pulmonary dysfunction. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. Long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible alterations in lung structure.

NO_X can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NO_X can also impair visibility. NO_X is a major component of acid deposition in California. NO_X may affect both terrestrial and aquatic ecosystems. NO_X in the air is a potentially significant contributor to a number of environmental effects such as acid rain and eutrophication in coastal waters. Eutrophication occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

NO_2 is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eye, lung, mucus membranes, and skin. Studies of the health impacts of NO_2 include experimental studies on animals, controlled laboratory studies on humans, and observational studies. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO_2 can suffer lung irritation and potentially, lung damage. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

NO_X contributes to a wide range of environmental effects directly and when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum that are toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms. NO_X also contribute to visibility impairment.

Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

The "bad" O_3 is a photochemical pollutant, and needs reactive organic gases (ROGs), NO_X, and sunlight to form; therefore, ROGs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O_3. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in San Joaquin Valley can result in aggravated respiratory diseases such as emphysema, bronchitis, and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

O_3 also accelerates aging and exacerbates pre-existing asthma and bronchitis and in cases of high concentrations can lead to the development of asthma in active children. Active people, both children and adults, appear to be more at risk from O_3 exposure than those with a low level of activity. Additionally, the elderly and those with respiratory disease are also considered sensitive populations for O_3. People who work or play outdoors are at a greater risk for harmful health effects from O_3. Children and adolescents are also at greater risk, as they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. Also, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or 10 one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for Statewide

annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging. Individuals with pre-existing respiratory and/or cardiovascular disease, the elderly and children may be more susceptible to adverse effects of particulate matter exposure. Exposure to varying levels of $PM_{2.5}$ has been associated with increased mortality due to cardiovascular or respiratory diseases, reduction in life-span and hospital admissions for acute respiratory conditions. In children, $PM_{2.5}$ exposure can lead to school absences, decreased respiratory function and increased medication use in those with asthma. Long-term particulate matter exposure has also been connected to reduced lung function growth in children. A consistent correlation between elevated ambient particulate matter levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world.

Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO_X) and lead (Pb). Exposure of a few minutes to low levels of SO_2 can result in airway constriction and reduction in breathing capacity in some asthmatics.

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs). Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including ROGs and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

Toxic Air Contaminants (TACs). TACs (also referred to as hazardous air pollutants [HAPs]), are pollutants that result in an increase in mortality, a serious illness, or pose a present or potential hazard to human health. Health effects of TACs may include cancer, birth defects, and immune system and neurological damage.

TACs can be separated into carcinogens and noncarcinogens based on the nature of the physiological degradation associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Noncarcinogenic TACs differ in that there is a safe level in which it is generally assumed that no negative health impacts would occur. These levels are determined on a pollutant-by-pollutant basis.

TACs are not considered criteria air pollutants and thus are not specifically addressed through the setting of ambient air quality standards. Instead, the EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (MACT or BACT) to limit emissions.

Airborne Fungus. Coccidioidomycosis, more commonly known as "Valley Fever," is primarily a disease of the lungs caused by the spores of the *Coccidioides immitis* fungus. The spores are found in soils, become airborne when the soil is disturbed, and are subsequently inhaled into the lungs. After the fungal spores have settled in

the lungs, they change into a multicelluar structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

The *Coccidioides immitis* fungal spores are often found in the soil around rodent burrows, Indian ruins, and burial grounds. The spores become airborne when the soil is disturbed by winds, construction, farming, and soil disturbing activities. This type of fungus is endemic to the southwestern United States and more common in San Joaquin Valley. The ecological factors that appear to be most conducive to the survival and replication of the fungal spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, and people with cardiovascular and chronic respiratory diseases.

Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools, and parks. Sensitive receptors in the Project vicinity include single- and multi-family residential homes, schools, and places of worship. Sensitive receptors are depicted below in Table 4.3-2, *Sensitive Receptors*.

Table 4.3-2: Sensitive Receptors

Type	Name	Distance (feet)	Direction
Residential	Single Family Residential	6,050	Northeast
Schools	Bundles of Joy Day Care	6,750	Northeast
	Tender Loving Care Preschool	7,640	Northeast
	Anthony Traina Elementary School	8,060	Northeast
	Amazing Kids Childcare	9,100	Northeast
Hospitals	NA	NA	NA
Places of Worship	Four Winds Community Church	6,620	East
	New Creation Bible Fellowship	6,700	Northeast
	Jesus Christ of Latter-Day Saints	8,460	Northeast
	St. Bernard's Holy Family Center	6,500	North
NOTES: 1. Distances are measured from the exterior Project boundary only and not from individual construction projects/areas within the interior of the Project site. 2. There are no sensitive receptors within a one mile radius.			

Source: Google Earth, 2014.

4.3.2 REGULATORY FRAMEWORK

Regulatory oversight for air quality in the Basin rests at the regional level with the SJVAPCD, CARB at the State level, and the EPA at the Federal level.

FEDERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O_3, CO, NO_2 (which is a form of NO_X), SO_2 (which is a form of SO_x), PM_{10}, $PM_{2.5}$, and lead. Refer to Table 4.3-3, *National and California Ambient Air Quality Standards.*

Table 4.3-3: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[3,4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m³)	**Nonattainment**	N/A	NA[5]
	8 Hours	0.070 ppm (137 µg/m³)	**Nonattainment**	0.075 ppm (147 µg/m³)	**Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 µg/m³	**Nonattainment**	150 µg/m³	Attainment
	Annual Arithmetic Mean	20 µg/m³	**Nonattainment**	N/A	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 µg/m³	**Nonattainment**
	Annual Arithmetic Mean	12 µg/m³	**Nonattainment**	12.0 µg/m³	**Nonattainment**
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Attainment	35 ppm (40 mg/m³)	Attainment
	8 Hours	9.0 ppm (10 mg/m³)	Attainment	9 ppm (10 mg/m³)	Attainment
Nitrogen Dioxide (NO_2)[5]	1 Hour	0.18 ppm (339 µg/m³)	Attainment	100 ppb (188 µg/m³)	N/A
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	N/A	53 ppb (100 µg/m³)	Attainment
Lead (Pb)[7,8]	30 days average	1.5 µg/m³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m³	Attainment
	Rolling 3-Month Average	N/A	N/A	0.15 µg/m³	Unclassified
Sulfur Dioxide (SO_2)[6]	1 Hour	0.25 ppm (655 µg/m³)	Attainment	75 ppb (196 µg/m³)	Unclassified
	3 Hours	N/A	N/A	N/A	N/A
	24 Hours	0.04 ppm (105 µg/m³)	Attainment	0.14 ppm (for certain areas)	Unclassified
	Annual Arithmetic Mean	N/A	N/A	0.30 ppm (for certain areas)	Unclassified
Visibility-Reducing Particles[9]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m³	Attainment		

Table 4.3-3: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[3,4]	Attainment Status
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m³)	Unclassified		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 μg/m³)	Unclassified		

μg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
6. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
7. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
8. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
9. In 1989, CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board and U.S. Environmental Protection Agency, June 4, 2013.

STATE

CALIFORNIA AIR RESOURCES BOARD

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 4.3-3, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard, and are not used as a basis for designating areas as nonattainment.

STATE AIR TOXICS PROGRAM

Toxic air contaminants are another group of pollutants of concern in California. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to toxic air contaminants can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the Health and Safety Code (H&SC Section 39660 et. seq.) and Part 6 (Air Toxics "Hot Spots" Information and Assessment) (H&SC Section 44300 et. seq.). The CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment, identifies toxic air contaminants. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology for toxics. The program is administered by the CARB. Air quality control agencies, including the SJVAPCD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by the CARB.

LOCAL

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

Regional Air Quality Management Districts (AQMD) or Air Pollution Control Districts (APCD) throughout the State are the regulatory authority for each of the air basins within California. These districts have the primary responsibility to control air pollution from all sources other than those directly emitted from motor vehicles, which are the responsibility of the CARB and the EPA, and are required to adopt and enforce rules and regulations (produce attainment plans) that include air pollution control programs designed to achieve the NAAQS and CAAQS within their air basin and enforce applicable State and Federal law.

State law recognized that air pollution does not respect political boundaries and therefore required CARB to divide the State into separate air basins, each of which has similar geographical and meteorological conditions. Additionally, many county agencies began to realize that air quality problems are best managed on a regional basis and began to combine their regulatory agencies into regional agencies. This was the case for the Basin, where until 1991 each county operated a local air pollution control district.

The SJVAPCD is one of 35 air quality management districts in the State that have prepared AQMPs to accomplish a five percent annual reduction in emissions. The SJVAPCD has prepared the 2013 Plan for the Revoked 1-Hour Ozone Standard (2013 Ozone Plan) to achieve Federal and State standards for improved air quality in the Basin regarding ozone. The SJVAPCD's 2013 Ozone Plan was approved by the District Governing Board on September 19, 2013. The 2013 Ozone Plan modeling confirms that the region will attain the revoked 1-hour ozone standard by 2017.

The SJVAPCD has also prepared the 2012 $PM_{2.5}$ Plan to establish their strategy for attaining the 2006 $PM_{2.5}$ NAAQS in improving air quality and public health in the Basin. The 2012 $PM_{2.5}$ Plan utilizes a comprehensive strategy that includes strengthening regulations for several SJVAPCD industries, providing incentive programs and outreach efforts to involve the general public, and using technological advancement efforts and policy and legislative efforts to further address reducing emissions of $PM_{2.5}$ and NO_X. The 2012 $PM_{2.5}$ Plan estimates that SJVAPCD will achieve attainment of the federal $PM_{2.5}$ standard by 2019.

In addition to the 2013 Ozone Plan and the 2012 $PM_{2.5}$ Plan, the SJVAPCD prepared the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI provides lead agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality in environmental documents. As a result of the unification of the Basin in 1991, one of the goals of the creation of the SJVAPCD was the requirement that uniform CEQA analysis be adhered to and the imposition of uniform mitigation measures as required in the GAMAQI. This document describes the criteria that the SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. The latest GAMAQI was approved in 2002, and the SJVAPCD ~~published~~ adopted the latest ~~Draft~~ GAMAQI in ~~2014~~ 2015.

All of the above-referenced plans include measures (i.e. federal, state and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the Basin. Transportation Control Measures (TCMs) are part of these plans.

REGIONAL AIR QUALITY IMPROVEMENT

The rules, programs, and regulatory actions that have been developed by the SJVAPCD from the 1970s through the 1990s have resulted in dramatic improvement in overall Basin air quality with respect to all of the State and Federal non-attainment criteria pollutants. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.[1]

[1] Urban Crossroads, *Tracy Hills Specific Plan Supplemental Air Quality Assessment*, October 7, 2014.

As discussed above, the SJVAPCD is the lead agency charged with regulating air quality emission reductions for the entire Basin. The SJVAPCD monitors levels of various criteria pollutants at 34 monitoring stations throughout the air district. Air quality in the Basin shows a continuing trend of improvement over the long term.

Current Emissions Trends

Ozone. Ozone levels in the San Joaquin Valley used to be among the most severe in the State. For example, in the 1980s the Valley has averaged nearly 60 federal 1-hour exceedance days per year. Nonetheless, ozone concentration within the Basin has experienced vast improvement over the last few decades due to implementation of widespread control programs targeting stationary and mobile sources. Compared with 1990, ozone concentrations are about 17 percent lower throughout the Basin. Therefore, the Basin is seen to have a downward trend of reducing its ozone emissions as a result of its uniform regulatory programs. Importantly, this trend in improvement in ozone air quality throughout the past several decades has also corresponded with tremendous population growth in the Basin. Since the 1970's, population growth in the Basin has grown over 200 percent from 1,637,877 in 1970 to 4,069,986 in 2013.

Additionally, the number of days people are exposed to unhealthy ozone levels has dropped by 32 percent. Today, nearly 16 percent of the population lives in areas that meet the 8-hour ozone standard, compared with 20 years ago when the standard was exceeded throughout the Valley. A continued implementation of emissions control throughout the Basin would aid in further improving and achieving attainment goals.

Nitrogen Oxides (NO_X). The San Joaquin Valley has attained the national NO_2 standard for more than 20 years. The 1-hour design value continues to be below the level of the standard and has decreased by 41 percent since 1992. After the introduction of NO_X emissions standards and the catalytic converter within motor vehicles, NO_X emissions have decreased throughout. NO_X emissions within the Basin are driven by motor vehicles. Further decreases in NO_X emissions are projected throughout the Basin. This can be attributed to more stringent emissions standards within vehicles and the use of cleaner burning fuel such as diesel, natural gas, or other forms of alternative fuels.

Volatile Organic Compounds (VOCs). With Implementation of regulations such as the State's on-road motor vehicle emission control program, VOC emissions from motor vehicles are expected to be reduced. Additionally, adoption of more stringent standards of mobile vehicles, increased efficiencies in reducing area wide sources through vapor recovery programs within service stations and other fuel operations, and reduced emissions within solvents would lead to overall reduction in VOCs by year 2035.

Particulate Matter (PM). The Valley is affected by two different PM problems: (1) secondary PM in the winter and (2) primary PM in the fall. More exceedances of the PM standards occur in the winter than the fall, with the highest exceedances occurring in urban areas. While fewer exceedances occur in the fall, they are usually the most severe and at the highest levels. Emission trends over the past ten years for $PM_{2.5}$ indicate an overall decrease of emissions between 1999 and 2011.

It should be noted that the Basin's improvements in the air quality described above have occurred while growth in the same region has increased during the same period. The improvement of air quality despite growth in the region is due to the implementation of various SJVAPCD rule, regulations, and other programs, as well as improvements in stationary and mobile source emissions technology.

CITY OF TRACY

The City of Tracy General Plan provides a number of goals, policies, and objectives that would apply to the THSP. Table 4.3-4 provides the Goals, Objectives, Policies, and Actions of the City regarding air quality regulations:

Table 4.3-4: General Plan Policies Relevant to Air Quality

Goal/Policy No.	Goal/Policy Content
Goal AQ-1	**Goal AQ-1: Improved air quality and reduced greenhouse gas emissions.**
Objective AQ-1.1	Improve air quality and reduce greenhouse gas emissions through land use planning decisions.
Policy P1	The City shall promote land use patterns that reduce the number and length of motor vehicle trips.
Policy P2	To the extent feasible, the City shall maintain a balance and match between jobs and housing.
Policy P3	Higher density residential and mixed-use development shall be encouraged adjacent to commercial centers and transit corridors.
Policy P4	Employment areas should include a mix of support services to minimize the number of trips.
Policy P5	Village Centers and other retail and office areas should be located within walking and biking distance of existing and proposed residential developments.
Objective AQ-1.2	**Promote development that minimizes air pollutant and greenhouse gas emissions and their impact on sensitive receptors as a result of indirect and stationary sources.**
Policy P1	The City shall assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the San Joaquin Valley Air Pollution Control District.
Policy P2	The City shall assess through the CEQA process any air quality impacts of development projects that may be insignificant by themselves, but cumulatively significant.
Policy P3	Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
Policy P4	New development projects should incorporate energy efficient design features for HVAC, lighting systems and insulation that exceed Title 24.
Policy P5	Use of solar water and pool heaters is encouraged.
Policy P6	Installation of solar voltaic panels on new homes and businesses shall be encouraged.
Policy P7	Trees should be planted on the south- and west-facing sides of new buildings or building undergoing substantial renovation in order to reduce energy usage.
Policy P8	In accordance with San Joaquin Air Pollution Control District regulations, wood burning fireplaces shall not be installed in new and significantly renovated residential projects.
Policy P9	New developments shall follow the current requirements of the SJVAPCD with respect to wood burning fireplaces and heaters.
Policy P10	Stationary air pollutant emission sources (e.g. factories) shall be located an appropriate distance away and downwind from residential areas and other sensitive receptors.
Policy P11	Residential developments and other projects with sensitive receptors shall be analyzed in accordance with CARB and SJVAPCD requirements.
Policy P12	New sources of toxic air pollutants shall prepare a Health Risk Assessment as required under the Air Toxics "Hot Spots" Act and, based on the results of the Assessment, establish appropriate land use buffer zones around those areas posing substantial health risks.

Table 4.3-4: General Plan Policies Relevant to Air Quality

Policy P13	Dust control measures consistent with San Joaquin Valley Air Pollution Control District rules shall be required as a condition of approval for subdivision maps, site plans, and all grading permits.
Policy P14	Developments that significantly impact air quality shall only be approved if all feasible mitigation measures to avoid, minimize or offset the impact are implemented.
Policy P15	Encourage businesses to electrify loading docks or implement idling-reduction systems so that trucks transporting refrigerated goods can continue to power cab cooling elements during loading, layovers, and rest periods.
Action A1	Review standards for the design and use of new drive through businesses with the aim of reducing adverse impacts on air quality.
Action A2	Research and include where feasible in the Roadway Master Plan update, requirements to use materials that minimize particulate emissions and that are appropriate to the scale and intensity of use.
Action A3	Investigate the feasibility of new development fees to be used on coordination with local air pollution reduction efforts, such as clean air transit projects (e.g. ACE, Park & Ride, TRACER, BART and school buses).
Action A4	Develop a green building standard for new development.
Action A5	The City shall evaluate the installation of light emitting diodes (LEDs) or similar technology for traffic, street and other outdoor lighting where feasible.
Objective AQ-1.3	**Provide a diverse and efficient transportation system that minimizes air pollutant and greenhouse gas emissions.**
Policy P3	The City shall encourage employers to establish Transportation Demand Management programs.
Policy P4	The City shall support efforts to retain the railroad right-of-way for future public transit and bicycle facilities.
Policy P5	The City shall require direct pedestrian and bicycle linkages from residential areas to parks, schools, retail areas, high-frequency transit facilities and major employment areas.
Policy P6	The City shall coordinate with regional rideshare and transit incentive programs.
Action A1	Pursue funding sources for the planning and development of local and regional transit services.
Action A2	Consider measures to increase the capacity of the existing road network prior to constructing additional capacity (e.g. additional lanes, etc.).

In addition to the City's General Plan goals, objectives, policies, and actions discussed above, the City of Tracy Development Services Department provides dust control measures within the Engineering Design Construction Standards (dated December 2009). Specifically, Section 102 (Responsibilities of the Contractor) prohibits contractors from discharging smoke, dust, or any other air contaminant into the atmosphere in such quantity that would violate the regulations of any legally constituted authority.

4.3.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. Air quality impacts resulting from implementation of the Project could be considered significant if they would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or,
- Create objectionable odors affecting a substantial number of people.

SJVAPCD THRESHOLDS

For the purposes of this air quality analysis, actions that violate Federal standards for criteria pollutants (i.e., primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors and secondary standards designed to safeguard human welfare) are considered significant impacts. State and regional standards have been developed to ensure that Federal and national ambient air quality standards are achieved. Thus, actions that violate State standards developed by CARB or criteria developed by the SJVAPCD, including thresholds for criteria pollutants, are considered significant impacts.

As described above, the SJVAPCD has developed the GAMAQI, which was adopted by the SJVAPCD Board in 1998 and last revised in 2002. However, SJVAPCD ~~has~~ published the Draft GAMAQI in 2012 and adopted the Final GAMAQI on March 19, 2015. ~~While the Draft 2012 GAMAQI has not yet been adopted by the SJVAPCD board, it represents the latest guidance for addressing air quality impacts in the Basin and is utilized for this analysis. Comments received and potential changes to the GAMAQI are primarily administrative in nature to update air basin information, attainment status, and general guidance to reflect updated conditions.~~

Regional Significance Thresholds

The SJVAPCD requires the analysis of ROG, NO_X, PM_{10}, $PM_{2.5}$, and CO. Projects that would generate 10 tons per year of either ROG or NO_X are considered to have a potentially significant air quality impact. The SJVAPCD has also established a threshold of 15 tons per year for PM_{10} and $PM_{2.5}$ and a threshold of 100 tons per year of CO. As previously mentioned, the Basin is classified as a nonattainment area for ozone. In order to achieve the Federal and State standards for ozone, it is necessary to regulate ROG and NO_X, which contribute to the formation of ozone. This includes both direct and indirect emissions. Table 4.3-5, SJVAPCD Thresholds of Significance, lists SJVAPCD's regional construction and operational significance thresholds.

Table 4.3-5: SJVAPCD Thresholds of Significance

Pollutant	Construction Emissions (tons per year)	Operational Emissions (tons per year)	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
CO	100	100	100
NO_X	10	10	10
ROG	10	10	10
SO_X	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: SJVAPCD, *Draft Guidance for Assessing and Mitigating Air Quality Impacts,* May 2012.

In addition to the tons per year thresholds cited above, the SJVAPCD has thresholds applicable to CO emissions that require projects to perform localized CO modeling. These thresholds include the following:

- Project traffic would impact intersections or roadway links operating at level of service (LOS) D, E, or F or would cause LOS to decline to D, E, or F.
- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more.
- Project would contribute to CO concentrations exceeding CAAQS of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for one hour.

Odor-based Thresholds

Projects that would potentially generate objectionable odorous emissions that would be located near existing sensitive receptors or other land uses where people may congregate could constitute a significant air quality impact to existing uses. Also, residential or other sensitive receptor projects built for the intent of attracting people locating near existing odor sources could also cause a significant air quality impact for the proposed uses. The SJVAPCD uses a threshold based on the distance of the odor source from people and complaint records for a facility or similar facility. The threshold would be more than one confirmed complaint per year averaged over a three-year period, or three unconfirmed complaints per year averaged over a three-year period.

METHODOLOGY

CalEEMod

The Project involves a multiple phased development over a 25 year period. As such, specific details of the future development phases are not known at this time. It should be noted that the DEIR includes both a program and project level analysis for the THSP. A program analysis was conducted for the buildout of the THSP, subsequent to Phase 1a while a project level analysis was conducted for Phase 1a of the THSP. Operation of the buildout of the Project and Phase 1a has the potential to create air quality impacts primarily from mobile vehicular traffic, area sources, and energy consumption. The California Emissions Estimator Model (CalEEMod) version 2013.2.2 software was used to ~~compile~~ quantify the construction and operational emissions estimates from the Project and Phase 1a. Operational sources would occur during long-term operations following the implementation of the Project and Phase 1a.

According to the Tracy Hills Traffic Impact Analysis (prepared by Kimley-Horn and Associates, dated October 2014), Phase 1a of the Project would generate 25,433 daily vehicle trips. The THSP would also generate 122,836 daily trips in 2035, and 152,985 daily trips at full buildout (post-2035). Emissions from Project-generated vehicle trips were calculated with CalEEMod. Area and energy source emissions were also calculated using CalEEMod default assumptions. The CalEEMod model outputs are provided in Appendix B.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) EMISSIONS

THSP Buildout

The THSP would develop in several phases over time as individual sites are constructed within the THSP Project Area. Initially, rough grading would be conducted to establish the portion of fixed roadways and install the minimum infrastructure necessary to support each use constructed in the buildout of the THSP. Subsequently, fine grading would occur on individual development parcels to allow construction of a proposed use. This process would be repeated as new areas are developed. Build-out of the THSP is estimated based on market and demographic factors. Based on this scenario, construction activities would continuously occur during the buildout period.

Based on information provided by the Applicant, construction emissions have been quantified using conservative assumptions for phase durations, equipment types, and earthwork since the timing and implementation of future construction is currently unknown. The analysis of daily construction emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod). Table 4.3-6, *THSP Construction Emissions* presents the anticipated annual short-term construction emissions associated with the construction phases except for Phase 1a that would be associated with the buildout of the Specific Plan. It should be noted that the emissions in Table 4.3-6 are based on conservative applicant estimates of a worst-case scenario and are subject to validation by the City when specific development would occur. Refer to the Phase 1a discussion below for a discussion on construction emissions associated with the development of Phase 1a of the THSP.

Table 4.3-6: THSP Construction Emissions

Emissions Source	Pollutant (tons/year)[1, 2]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2014 Unmitigated						
Phase 1a Unmitigated Emissions	1.09	8.27	12.51	0.01	1.33	0.43
2014 Mitigated						
Phase 1a Mitigated Emissions	0.69	4.54	11.95	0.01	0.60	0.20
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2015 Unmitigated						
Phase 1a Unmitigated Emissions	1.74	14.34	15.48	0.02	2.08	0.89
2015 Mitigated						
Phase 1a Mitigated Emissions	0.83	7.43	15.14	0.02	1.04	0.44
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*

Table 4.3-6: THSP Construction Emissions

Emissions Source	Pollutant (tons/year)[1, 2]					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2016 Unmitigated						
Phase 1a Unmitigated Emissions	10.46	11.47	13.15	0.02	1.54	0.81
2016 Mitigated						
Phase 1a Mitigated Emissions	9.74	7.13	13.15	0.02	1.04	0.50
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2017 Unmitigated						
Phase 1a Unmitigated Emissions	9.96	7.45	10.27	0.02	1.27	0.58
Phase 1b Unmitigated Emissions	3.38	37.31	32.51	0.09	3.84	1.72
2017 Mitigated						
Phase 1a Mitigated Emissions	9.55	5.40	10.31	0.02	0.94	0.41
Phase 1b Mitigated Emissions	2.26	28.93	32.25	0.09	2.62	1.18
Total 2017 Mitigated Emissions	11.81	34.33	42.56	0.11	3.56	1.59
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***Yes***	***Yes***	***No***	***No***	***No***	***No***
2018 Unmitigated						
Phase 1a Unmitigated Emissions	6.17	4.43	6.44	0.01	0.81	0.35
Phase 1b Unmitigated Emissions	1.60	12.68	14.48	0.03	1.66	0.88
2018 Mitigated						
Phase 1a Mitigated Emissions	5.95	3.43	6.53	0.01	0.62	0.27
Phase 1b Mitigated Emissions	0.84	8.38	14.69	0.03	1.17	0.59
Total 2018 Mitigated Emissions	6.79	11.81	21.22	0.04	1.79	0.86
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***Yes***	***No***	***No***	***No***	***No***
2019 Unmitigated						
Phase 1b Unmitigated Emissions	1.05	7.46	10.62	0.02	1.32	0.59
Phase 2 Unmitigated Emissions	3.01	31.16	30.75	0.09	3.78	1.55
2019 Mitigated						
Phase 1b Mitigated Emissions	0.68	5.79	10.75	0.02	1.01	0.45
Phase 2 Mitigated Emissions	2.16	25.56	31.62	0.09	2.68	1.19
Total 2019 Mitigated Emissions	2.84	31.34	42.37	0.11	3.69	1.64
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***Yes***	***No***	***No***	***No***	***No***
2020 Unmitigated						
Phase 1b Unmitigated Emissions	22.15	2.46	4.11	0.01	0.58	0.23
Phase 2 Unmitigated Emissions	1.23	9.63	12.58	0.03	1.48	0.71

Table 4.3-6: THSP Construction Emissions

Emissions Source	Pollutant (tons/year)[1, 2]					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2020 Mitigated						
Phase 1b Mitigated Emissions	22.03	2.01	4.16	0.01	0.46	0.19
Phase 2 Mitigated Emissions	0.72	7.02	12.99	0.03	1.12	0.54
Total 2020 Mitigated Emissions	22.74	9.03	17.15	0.04	1.57	0.73
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***Yes***	***No***	***No***	***No***	***No***	***No***
2021 Unmitigated						
Phase 2 Unmitigated Emissions	0.78	5.09	8.89	0.02	1.20	0.47
Phase 3 Unmitigated Emissions	2.54	22.38	27.76	0.09	3.42	1.33
2021 Mitigated						
Phase 2 Mitigated Emissions	0.57	4.19	9.11	0.02	0.95	0.39
Phase 3 Mitigated Emissions	1.96	19.71	29.16	0.09	2.55	1.11
Total 2021 Mitigated Emissions	2.53	23.90	38.27	0.11	3.50	1.50
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***Yes***	***No***	***No***	***No***	***No***
2022 Unmitigated						
Phase 2 Unmitigated Emissions	22.07	1.72	3.52	0.01	0.54	0.20
Phase 3 Unmitigated Emissions	0.99	7.09	11.35	0.03	1.34	0.58
Phase 4 Unmitigated Emissions	2.28	19.15	25.41	0.08	4.18	1.29
2022 Mitigated						
Phase 2 Mitigated Emissions	21.99	1.52	3.60	0.01	0.43	0.17
Phase 3 Mitigated Emissions	0.65	5.93	11.84	0.03	1.08	0.51
Phase 4 Mitigated Emissions	1.78	17.87	27.14	0.08	2.77	1.09
Total 2022 Mitigated Emissions	24.42	25.32	42.57	0.11	4.28	1.76
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***Yes***	***Yes***	***No***	***No***	***No***	***No***
2023 Unmitigated						
Phase 3 Unmitigated Emissions	0.65	3.82	7.85	0.02	1.14	0.42
Phase 4 Unmitigated Emissions	0.96	6.74	11.53	0.03	1.31	0.56
2023 Mitigated						
Phase 3 Mitigated Emissions	0.50	3.37	8.06	0.02	0.92	0.36
Phase 4 Mitigated Emissions	0.64	6.10	12.10	0.03	1.10	0.53
Total 2023 Mitigated Emissions	1.14	9.47	20.16	0.05	2.02	0.89
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2024 Unmitigated						
Phase 3 Unmitigated Emissions	22.03	1.43	3.20	0.01	0.54	0.18

Table 4.3-6: THSP Construction Emissions

Emissions Source	Pollutant (tons/year)[1, 2]					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Phase 4 Unmitigated Emissions	0.35	3.05	4.39	0.01	0.28	0.17
Phase 5 Unmitigated Emissions	2.22	16.75	26.12	0.09	3.27	1.20
2024 Mitigated						
Phase 3 Mitigated Emissions	21.97	1.32	3.28	0.01	0.43	0.16
Phase 4 Mitigated Emissions	0.18	2.99	4.76	0.01	0.27	0.20
Phase 5 Mitigated Emissions	1.82	16.81	27.99	0.09	2.55	1.11
Total 2024 Mitigated Emissions	23.98	21.11	36.03	0.10	3.26	1.48
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***Yes***	***Yes***	***No***	***No***	***No***	***No***
2025 Unmitigated						
Phase 4 Unmitigated Emissions	21.90	1.01	1.78	0.00	0.17	0.08
Phase 5 Unmitigated Emissions	0.87	5.96	11.13	0.03	1.26	0.51
2025 Mitigated						
Phase 4 Mitigated Emissions	21.84	1.12	1.91	0.00	0.16	0.09
Phase 5 Mitigated Emissions	0.61	6.09	11.74	0.03	1.11	0.53
Total 2025 Mitigated Emissions	22.45	7.21	13.65	0.03	1.27	0.63
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***Yes***	***No***	***No***	***No***	***No***	***No***
2026 Unmitigated						
Phase 5 Unmitigated Emissions	0.62	3.79	7.82	0.02	1.13	0.41
2026 Mitigated						
Phase 5 Mitigated Emissions	0.48	3.71	8.11	0.02	0.95	0.39
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2027 Unmitigated						
Phase 5 Unmitigated Emissions	22.02	1.43	3.15	0.01	0.53	0.18
2027 Mitigated						
Phase 5 Mitigated Emissions	21.96	1.42	3.24	0.01	0.44	0.17
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***Yes***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, as recommended by the SJVAPCD.
2. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SJVAPCD. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; limit speeds on unpaved roads to 15 miles per hour, and the use of CARB certified Tier 3 equipment to reduce NO_X emissions.
Refer to Appendix B, *Air Quality/Greenhouse Gas Data*, for assumptions used in this analysis.

As depicted in Table 4.3-6, criteria pollutants emitted during construction vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, and various other factors, making quantification

difficult. Despite the variability in emissions, previous construction activities and monitoring has indicated that implementation of feasible control measures can significantly reduce PM_{10}, $PM_{2.5}$, and other criteria pollutant emissions.

Control measures are required by the SJVAPCD under Regulation VIII (Fugitive PM_{10} Prohibitions). The SJVAPCD considers construction-related emissions from all projects in this region to be mitigated to a less-than significant level if SJVAPCD-recommended PM_{10} fugitive dust rules (collectively called Regulation VIII and included as Mitigation Measure 4.3-1a) and equipment exhaust emission controls (outlined in Mitigation Measures 4.3-1b) are implemented. As indicated in Table 4.3-6, total PM_{10} and $PM_{2.5}$ emissions would be below SJVAPCD thresholds with the implementation of Mitigation Measures 4.3-1a and 4.3-1b. However, despite the implementation of Mitigation Measures 4.3-1a and 4.3-1b, construction ROG and NO_X emissions would remain above SJVAPCD thresholds for several years of construction. Therefore, criteria pollutant emissions during construction of the THSP would be *Significant and unavoidable*.

The SJVAPCD Indirect Source Review (ISR) Rule (Rule 9510) applies to construction of the Project. Rule 9510 is a commitment in the EPA approved PM_{10} Attainment Demonstration Plan. The objective of Rule 9510 is to reduce emissions of NO_X and PM_{10} associated with development projects in the Basin. The attainment plans identify growth and reductions in multiple source categories. The plans quantify the reduction from current District rules and proposed rules, as well as state and federal regulations, and then model future emissions to determine if the SJVAPCD may reach attainment for applicable pollutants. The PM_{10} and Ozone plans have determined that Rule 9510, in addition to existing and future rules and conditions, will help clean the Valley's air and reach attainment. During the 2012-2013 period, ISR (Rule 9510) applications increased by 10 percent while the amount of off-site mitigation fees collected under the ISR program decreased by 33 percent compared to the previous period. The factors leading toward a reduction of off-site fees collected through the implementation of ISR indicate that project proponents are more frequently using clean construction fleets and are incorporating more and better project design elements resulting in overall lower-emitting development projects. Some of the decrease is also caused by project proponents deferring payment of the off-site mitigation fees until the project is ready to move into the construction phase, as allowed by the rule.[2]

Other methods for reducing emissions include entering into a Voluntary Emission Reduction Agreement (VERA) with the SJVAPCD. The VERA is a contractual agreement between the Applicant and the SJVAPCD in which the Applicant agrees to mitigate project specific emissions by providing funds to the SJVAPCD Emission Reduction Incentive Program (ERIP).[3] The fees are used by the SJVAPCD to fund sufficient emission reduction projects; achieving the required mitigation. A VERA is just one of the tools available to help achieve the mitigation required by the lead agency.

By its definition, the VERA is a voluntary program initiated by the SJVAPCD to help reduce project-related emissions. As it is a voluntary program and involves an agreement with the SJVAPCD, emissions reductions from a VERA cannot be quantified at this time. However, in addition to compliance with SJVAPCD Rule 9510, implementation of a VERA is identified in Mitigation Measure 4.3-1c as an option to reduce construction emissions.

[2] San Joaquin Valley Air Pollution Control District, 2013 Annual Report on the District's Indirect Source Review Program, December 19, 2013.
[3] San Joaquin Valley Unified Air Pollution Control District, *Guidance for Assessing and Mitigating Air Quality Impacts*, March 19, 2015.

As part of the development process for future phases of the THSP, each applicant would be required, to the extent specific development at issue is subject to Rule 9510, to prepare a detailed air impact assessment (AIA). To the extent applicable under Rule 9510 for each such individual development, the SJVAPCD would require calculation of the construction and operational emissions from the development. The purpose of the AIA is to confirm a development's construction exhaust emissions, and therefore be able to identify appropriate mitigation, either through implementation of specific mitigation measures or payment of applicable offset fees. Under Rule 9510, each project that is subject to this Rule would be required to reduce construction exhaust emissions by 20 percent for NO_X and 45 percent for PM_{10} or pay offset mitigation fees for emissions that do not achieve the mitigation requirements. Offset fees would be calculated in accordance with the procedures identified in the Rule 9510 and approved by the SJVAPCD. For projects subject to District Rule 9510, the SJVAPCD recommends that demonstration of compliance with District Rule 9510, including payment of all applicable fees before issuance of the first building permit, be made a condition of project approval. Compliance with SJVAPCD Rule 9510 is also required per Mitigation Measure 4.3-1c. It should be noted that although compliance with Rule 9510 substantially reduces project specific impacts on air quality, it would not be sufficient to reduce project specific emissions to *Less-than-significant* levels.

As part of the development process of the THSP, applicants would be required to develop and obtain approval of a Fugitive Dust Control Plan (from the City) to mitigate, as feasible, fugitive dust emissions to satisfy the requirements set forth under then-applicable SJVAPCD Rules and Regulations, including, Regulation VIII. Regulation VIII (and included as Mitigation Measure 4.3-1a) and equipment exhaust emission controls (outlined in Mitigation Measures 4.3-1b) would be required to reduce construction emissions to the extent feasible. However, despite the implementation of Mitigation Measures 4.3-1a and 4.3-1b, emissions from construction of the THSP would be considered significant and unavoidable due to the anticipated buildout horizon as well as the magnitude of development contemplated. It should be noted that the THSP has been identified within the City of Tracy General Plan and it is anticipated that the THSP would be consistent with the anticipated growth within the City. However, as indicated within the General Plan EIR, the General Plan would not be consistent with SJVAPCD's ozone plan. As discussed within the General Plan EIR, the projected growth within the City of Tracy would lead to an increase in the region's vehicle miles traveled (VMT), beyond what has been identified by the anticipated San Joaquin Council of Governments (SJCOG) and the SJVAPCD. Impacts associated with plan consistency would also be considered significant and unavoidable for the THSP. Nonetheless, *Significant and unavoidable* impacts would remain.

Naturally Occurring Asbestos

As described above, according to the General Location Guide for Ultramafic Rock in California – Areas More Likely to Contain Naturally Occurring Asbestos serpentinite and ultramafic rocks are not known to occur within the THSP Project Area and thus there is no potential that the Project would disturb naturally occurring asbestos.

Odors

Potential odors generated during construction of the THSP would be temporary in nature and would only occur within the areas of the THSP that are being developed. Construction activities would occur at different locations throughout the THSP Project Area over time. Therefore, construction odors are concluded to result in less-than-significant impacts. It should be noted that emissions produced during grading and construction activities are short-term in nature as they occur only for the duration of construction.

Phase 1a

Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the Project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

Based on information provided by the Applicant, construction activities would include demolition, site preparation, grading, building construction, paving, and architectural coating. Site grading for Phase 1a would require approximately 1,200,000 cubic yards of balanced cut and fill on-site. The Project does not require import or export of soil. Project construction equipment would include excavators, dozers, scrapers, tractors/loaders/backhoes, off-highway trucks, and water trucks during grading; cranes, rough terrain forklifts, tractors/loaders/backhoes, and skid-steer loaders during building construction; graders, pavers, rollers, and tractors/loaders/backhoes during paving; and air compressors during architectural coating.

Emissions for each construction phase have been quantified based upon the phase durations and equipment types. The analysis of daily construction emissions has been prepared utilizing CalEEMod. Table 4.3-7, *Phase 1a Construction Emissions* presents the anticipated annual short-term construction emissions associated with development of Phase 1a of the THSP.

Table 4.3-7: Phase 1a Construction Emissions

Emissions Source	Pollutant (tons/year)[1, 2]					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2014						
Unmitigated Emissions	1.09	8.27	12.51	0.01	1.33	0.43
Mitigated Emissions	0.69	4.54	11.95	0.01	0.60	0.20
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2015						
Unmitigated Emissions	1.74	14.34	15.48	0.02	2.08	0.89
Mitigated Emissions	0.83	7.43	15.14	0.02	1.04	0.44
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2016						
Unmitigated Emissions	10.46	11.47	13.15	0.02	1.54	0.81
Mitigated Emissions	9.74	7.13	13.15	0.02	1.04	0.50
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2017						
Unmitigated Emissions	9.96	7.45	10.27	0.02	1.27	0.58
Mitigated Emissions	9.55	5.40	10.31	0.02	0.94	0.41
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2018						
Unmitigated Emissions	6.17	4.43	6.44	0.01	0.81	0.35
Mitigated Emissions	5.95	3.43	6.53	0.01	0.62	0.27
SJVAPCD Thresholds	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:

1. Emissions were calculated using CalEEMod, as recommended by the SJVAPCD.
2. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SJVAPCD. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; limit speeds on unpaved roads to 15 miles per hour, and the use of CARB certified Tier 3 equipment to reduce NO_X emissions..

Refer to Appendix B, *Air Quality/Greenhouse Gas Data*, for assumptions used in this analysis.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust (PM_{10} and $PM_{2.5}$) emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the Project Area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including demolition as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from demolition, grading, and construction is expected to be short-term and would cease upon Project completion. Additionally, most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} (particulate matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. Fine Particulate Matter ($PM_{2.5}$) is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Control measures are required by the SJVAPCD under Regulation VIII (Fugitive PM_{10} Prohibitions). The SJVAPCD considers construction-related emissions from all projects in this region to be mitigated to a less-than significant level if SJVAPCD-recommended PM_{10} fugitive dust rules (collectively called Regulation VIII and included as Mitigation Measure 4.3-1a) and equipment exhaust emission controls (outlined in Mitigation Measures 4.3-1b) are implemented. As indicated in Table 4.3-7, total PM_{10} and $PM_{2.5}$ emissions would be below SJVAPCD thresholds with the implementation of Mitigation Measures 4.3-1a and 4.3-1b. Therefore, particulate matter impacts during construction of Phase 1a of the THSP would be *Less-than-significant*.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the SJVAPCD, the ROG emissions associated with paving have been quantified with CalEEMod. Architectural coatings were also quantified with CalEEMod based upon the size of the proposed buildings.

The highest concentration of ROG emissions would be generated during the application of architectural coatings on the building. As required by law, all architectural coatings for the Project structures would comply with SJVAPCD Rule 4601 – Architectural Coating.[4] Rule 4601 provides specifications on painting practices as well as regulates the ROG content of paint. As shown in Table 4.3-7, Phase 1a construction would not result in an exceedance of ROG emissions during any years of construction. Therefore, impacts would be *Less-than-significant* in this regard.

[4] San Joaquin Valley Air Pollution Control District, *Rule 4601,* https://www.valleyair.org/rules/currntrules/r4601.pdf, accessed on October 13, 2014.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the Project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to and from the site. As identified in Table 4.3-7, unmitigated NO_X construction emissions would exceed SJVAPCD thresholds during 2015 and 2016 construction activities. However, implementation of Mitigation Measures 4.3-1b requires the use of CARB certified Tier 3 off-road engines (for equipment greater than 50 horsepower) and requires all construction equipment to be outfitted with Best Available Control Technology (BACT) devices certified by CARB, which would reduce 2015 and 2016 NO_X construction emissions to below SJVAPCD thresholds; refer to Table 4.3-7. Mitigation Measure 4.3-1b would also require all construction equipment to be maintained in proper tune, and to be shut down when not in use for extended periods of time. Implementation of Mitigation Measures 4.3-1c would reduce Phase 1a NO_X emissions to below SJVAPCD thresholds, and therefore a *Less-than-significant* impact would occur.

Naturally Occurring Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, Lead Agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains and Coast Ranges. According to the General Location Guide for Ultramafic Rock in California – Areas More Likely to Contain Naturally Occurring Asbestos serpentinite and ultramafic rocks are not known to occur within the Project Area and thus there is no potential that the Project would disturb naturally occurring asbestos.

Odors

Potential odors generated during construction of Phase 1a would be temporary in nature and are concluded to result in *Less-than-significant* impacts. It should be noted that emissions produced during grading and construction activities are "short-term" in nature as they occur only for the duration of construction.

Total Daily Construction Emissions

As described above, CalEEMod was utilized to model Phase 1a construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Construction would occur over a one-year period with the greatest emissions being generated during the initial stages of construction. Additionally, the greatest amount of ROG emissions would typically occur during the final stages of development due to the application of architectural coatings.

CalEEMod allows the user to input mitigation measures such as watering the construction area to limit fugitive dust. Mitigation measures that were input into CalEEMod allow for certain reduction credits and result in a decrease of pollutant emissions. Reduction credits are based upon studies developed by CARB, SJVAPCD, and other air quality management districts throughout California, and were programmed within CalEEMod.

As indicated in Table 4.3-7, CalEEMod calculates the reduction associated with recommended mitigation measures.

As depicted in Table 4.3-7, Phase 1a construction emissions would be below SJVAPCD thresholds with implementation of Mitigation Measure 4.3-1a and 4.3-1b. Thus, Phase 1a construction related air emissions would be *Less-than-significant*.

LONG-TERM (OPERATIONAL) IMPACTS

THSP Buildout

Emissions resulting from Buildout operations of the THSP Area were estimated using CalEEMod. Input into the model was obtained from assumptions based on the land uses associated with buildout of the THSP, as described and illustrated in Chapter 3, *Project Description*. CalEEMod default inputs were used to generate the emissions for the area sources and energy consumption. The results are presented in Table 4.3-8, *THSP Buildout Operational Emissions*. It should be noted that the analysis presents the operational emissions as new emissions. Emissions are not compared to the previous (1998) Specific Plan since no part of that plan was actually constructed. Refer to the Phase 1a discussion below for a depiction of operational emissions only associated with Phase 1a.

Table 4.3-8: THSP Buildout Operational Emissions

Source	Emissions (Tons/Year)[1]					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Area Source	111.16	5.76	365.13	1.06	53.31	53.31
Unmitigated Energy Consumption	1.50	13.10	7.67	0.08	1.03	1.03
Unmitigated Mobile Source	46.50	114.07	521.43	1.72	108.21	2.54
Total Unmitigated Emissions	***159.16***	***132.93***	***894.23***	***2.86***	***162.55***	***56.88***
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded? (Significant Impact?)	***Yes***	***Yes***	***Yes***	***No***	***Yes***	***Yes***
Mitigated Area Source[2]	75.10	0.41	34.88	0.00	0.36	0.36
Mitigated Energy Consumption[2]	1.50	13.10	7.67	0.08	1.03	1.03
Mitigated Mobile Source[2]	44.53	103.38	488.69	1.50	94.13	26.84
Total Mitigated Emissions	**121.13**	**116.89**	**531.24**	**1.58**	**95.52**	**28.24**
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded? (Significant Impact?)	***Yes***	***Yes***	***Yes***	***No***	***Yes***	***Yes***

Notes:
1. Based on CalEEMod modeling results, and trip rate data provided in the *Tracy Hills Traffic Impact Analysis* (prepared by Kimley-Horn and Associates, dated October 2014).
2. Mitigation Measure 4.7-1 would be implemented to reduce emissions by requiring project design features such as trip reduction programs and rideshare programs, as well as requiring energy efficient building measures.

As shown in Table 4.3-8, operational emissions associated with Buildout of the THSP would exceed the established SJVAPCD regional thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$. As emissions from these criteria pollutants would exceed SJVAPCD thresholds, a *Significant and unavoidable* impact would occur.

Mitigation Measure 4.7-1 would be implemented to reduce emissions by requiring project design features such as trip reduction programs and rideshare programs as well as requiring energy efficient building measures.

The Project would also be required to comply with SJVAPCD Rule 9510 (ISR) to reduce emissions. Compliance with the ISR would require the Project to reduce operational NO_X emissions by 33 percent and operational PM_{10} emissions by 50 percent over 10 years. The actual required reductions would be determined by SJVAPCD when an application is submitted prior to "the last discretionary approval" for the Project. The Project's impact to air quality with respect to criteria pollutants would be reduced further than the levels reported in Table 4.3-8 through application of the ISR.

In addition, the SJVAPCD recommends that a project enter into a VERA to reduce potentially significant project-related emissions to less than significant levels. However, as a voluntary program, VERA is not considered an enforceable mitigation measure as it provides no specific details or measures that can be mandated at this time. The option to implement a VERA is included in Mitigation Measure 4.3-2. However, as the effectiveness of a VERA cannot be identified at this time, the Project's impacts on regional air quality, with respect to emissions of criteria pollutants, would remain *Significant and unavoidable* since the Project's emissions would contribute to region-wide emissions that cause exceedances of the federal and state O_3, PM_{10}, and $PM_{2.5}$ standards.

Phase 1a

The Phase 1a operational emissions would be generated by area sources, energy consumption, and mobile sources as a result of normal day-to-day activities on the Project site after occupation. These emissions would be generated by the consumption of natural gas for space and water heaters as well as electricity usage. Emissions would also be generated during the operation of landscape maintenance equipment, and from consumer products. Mobile emissions would be generated by the motor vehicles traveling to and from the Project site.

Area Source and Energy Consumption Emissions

Emissions resulting from Project operations were estimated using CalEEMod. CalEEMod can estimate emissions from such sources as gas heaters, furnaces or blowers, and landscape maintenance equipment. The model accounts for specific meteorological conditions and topography that characterize each specific air basin in California. Input into the model was obtained from assumptions based on the nature of land uses constructed within the Project. Electricity and natural gas are utilized by almost every commercial and residential development. CalEEMod default inputs were used to generate the emissions for the area sources and energy consumption. The results are presented in Table 4.3-9, *Phase 1a Operational Project Emissions*.

Table 4.3-9: Phase 1a Operational Project Emissions

Source	Emissions (Tons/Year)[1]					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated Area Source	12.84	0.10	8.83	0.00	0.08	0.08
Unmitigated Energy Consumption	0.25	2.13	1.06	0.01	0.17	0.17
Unmitigated Mobile Source	14.55	44.37	156.02	0.34	21.77	6.25
Total Unmitigated Emissions	***27.63***	***46.60***	***165.91***	***0.36***	***22.02***	***6.50***
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded? (Significant Impact?)	***Yes***	***Yes***	***Yes***	***No***	***Yes***	***No***
Mitigated Area Source[2]	12.79	0.09	7.64	0.00	0.08	0.08
Mitigated Energy Consumption[2]	0.25	2.13	1.06	0.01	0.17	0.17
Mitigated Mobile Source[2]	13.96	39.63	144.62	0.30	18.92	5.43
Total Mitigated Emissions	***27.00***	***41.85***	***153.32***	***0.31***	***19.16***	***5.68***
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded? (Significant Impact?)	***Yes***	***Yes***	***Yes***	***No***	***Yes***	***No***

Notes:

1. Based on CalEEMod modeling results, and trip rate data provided in the Tracy Hills Traffic Impact Analysis (prepared by Kimley-Horn and Associates, dated October 2014).
2. Mitigation Measure 4.7-1 would be implemented to reduce emissions by requiring project design features such as trip reduction programs and rideshare programs, as well as requiring energy efficient building measures.

Vehicular Emissions

Development of Phase 1a would result in increased vehicle trips in the San Joaquin Valley. The vehicles associated with these trips would emit criteria pollutants including NO_X and ROG, which are considered O_3 precursors. The Project Area is a non-attainment area for Federal air quality standards for O_3 and $PM_{2.5}$. NO_X and ROG are regulated as ozone precursors. A precursor is defined by the SJVAPCD as "a directly emitted air contaminant that, when released into the atmosphere forms or causes to be formed or contributes to the formation of a secondary air contaminant for which an ambient air quality standard has been adopted…"

The predicted emissions associated with vehicular traffic (mobile sources) are not subject to the SJVAPCD permit requirements. However, the SJVAPCD is responsible for overseeing efforts to improve air quality within the San Joaquin Valley. The SJVAPCD has prepared an AQMP to bring the San Joaquin Valley into compliance with the CAAQS for ozone. The SJVAPCD reviews land use changes to evaluate the potential impact on air quality. Phase 1a Mobile source emissions are depicted in Table 4.3-9.

Indirect Source Rule and VERA

SJVAPCD Rule 9510 requires developers of large residential, commercial and industrial projects to reduce O_3 precursor (NO_X) and particulate (PM_{10}) emissions generated by their projects. Under the ISR, the Project would be required to reduce operational NO_X emissions by 33 percent and operational PM_{10} emissions by 50 percent over 10 years. The actual required reductions would be determined by SJVAPCD when an application

is submitted prior to "the last discretionary approval" for the Project. However, the methods used by SJVAPCD to determine the required mitigations are consistent with the methods used in this analysis (e.g., use of latest air quality model using project size and trip generation rates). The mitigation measures required by the ISR for this Project may be determined through several permit applications since each individual project could apply at different times as final development plans are developed. The Project's impact to air quality with respect to PM_{10} would be reduced further than the levels reported in Table 4.3-9 through application of the ISR. Emissions of ozone precursor emissions (i.e., ROG and NO_X) would also be reduced with the required ISR mitigation. Through the AIA process, the ISR looks at all the design features that the Project itself contains (e.g., onsite bus sites, bike trails, mix of jobs and housing) and then analyzes the air quality reductions that are achieved through the inclusion of such design features. To the extent that additional offsets are needed to achieve the ISR reduction targets, the applicant pays fees to the SJVAPCD which in turn itself uses to implement and fund a variety of air quality improvement programs that the SJCAPCD is currently implementing as part of the implementation of the overall ISR program (engine replacement; paving agricultural roads, etc.). Although an option for a VERA is included in Mitigation Measure 4.3-2 as recommended by the SJVAPCD as a potential measure to reduce project-related emissions, a VERA is a voluntary program with details that are not project specific and cannot be identified at this time. As such, ~~However,~~ the Project's impacts on regional air quality, with respect to elevated ozone and PM_{10}, would remain *Significant and unavoidable* since the Project's emissions would contribute to region-wide emissions that cause exceedances of the federal and state O_3 and PM_{10} standards. Mitigation Measure 4.3-2 requires Project compliance with the SJVAPCD ISR Rule 9510 or implementation of a VERA.

Total Phase 1a Emissions

As shown in Table 4.3-9, operational emissions associated with Phase 1a would exceed the established SJVAPCD regional thresholds for ROG, NO_X, CO, and PM_{10}. As emissions from these criteria pollutants would exceed SJVAPCD thresholds, a *Significant and unavoidable* impact would occur. Mitigation Measure 4.7-1 (refer to Section 4.7, *Greenhouse Gas Emissions*) would also be implemented to reduce emissions from mobile sources by requiring project design features such as trip reduction programs and rideshare programs as well as requiring energy efficient building measures. Refer to the discussion above and Table 4.3-8 for a description of the total emissions associated with buildout of the entire THSP.

Conclusion

As indicated in the analysis above, the Project would result in exceedances of the SJVAPCD thresholds of significance for ROG, NO_X, CO, and PM_{10} despite the implementation of Mitigation Measure 4.3-2 and 4.7-1. The Basin is currently designated as a non-attainment area for O_3, PM_{10}, and $PM_{2.5}$. Emissions of criteria pollutant would further lead to the degradation of ambient air quality. The Project would result in significant exceedances of the SJVAPCD thresholds. Therefore, the Project would result in a *Significant and unavoidable* impact.

PLAN CONSISTENCY

Air quality conformity refers to the process whereby transportation plans, programs and projects conform to the requirements of applicable general plans and regional plans. Regional plans that apply to the Project include the SJVAPCD Air Quality Attainment Plans (AQAPs) for O_3 and $PM_{2.5}$, which are part of the State Implementation Plan (SIP).

The California Clean Air Act (CCAA) requires non-attainment districts with severe to extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year. The AQAPs for O_3, and $PM_{2.5}$ prepared for the Basin by the SJVAPCD fulfills this requirement. Banked emission reduction credits are included in the emissions inventories for the AQAP and provide an additional means to attaining the required five percent reduction in these inventories per year.

Air quality conformity to an implementation plan as required in the CCAA Section 176(c) is defined as: "Conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities would not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

If a project is found to interfere with the region's ability to comply with Federal and State air quality standards, local governments then need to consider project modifications or provide mitigation measures to eliminate the inconsistency of the project plans. In order for a project to be considered "consistent" with the latest AQAP, the Project must be consistent with the goals, objectives, and assumptions in the respective plan to achieve the Federal and State air quality standards.

As indicated in the Long-Term Operational Impacts discussion, Phase 1a and Buildout of the THSP would result in exceedances of SJVAPCD thresholds for criteria pollutants. Mitigation Measures 4.3-2 and 4.7-1 and the Project's design features would help reduce criteria pollutants; however, as indicated in the analysis, impacts would remain *Significant and unavoidable*. Therefore, the Project would be inconsistent with the 2013 Ozone Plan and the 2012 $PM_{2.5}$ Plan in this regard.

However, the THSP is intended to meet the General Plan goals, objectives, policies, and actions related to the balanced and orderly pattern of growth, the maintenance of the small-town character, and the planned growth within the sphere of influence (SOI). The amount of new residential growth (maximum of 5,499 residential units) and commercial, office and industrial land use growth (approximately 2,731.6 gross acres with up to 5.7 million square feet of space) facilitated by the Project would be within the range of development planned for in the City's General Plan. The General Plan identifies an increase of 600 residential units in the City per year, which on average over time is the maximum increase allowed by the growth management ordinance (GMO). Of these, 5,499 units are anticipated in the THSP site as part of the THSP Area.

The THSP has been identified within the City of Tracy General Plan and it is anticipated that the THSP would be consistent with the anticipated growth within the City. However, as indicated within the General Plan EIR, the General Plan would not be consistent with SJVAPCD's ozone plan. As discussed within the General Plan EIR, the projected growth within the City of Tracy would lead to an increase in the region's vehicle miles traveled (VMT), beyond what has been identified by the anticipated San Joaquin Council of Governments (SJCOG) and the SJVAPCD. Impacts associated with plan consistency would also be considered significant and unavoidable for the THSP. As previously discussed, the Project would incorporate several design features that would help reduce air quality emissions; refer to Mitigation Measures 4.3-2 and 4.7-1. Despite implementation of the Project's design features and recommended mitigation measures, it is anticipated that the Project's emissions would exceed the SJVAPCD thresholds of significance. Therefore, the THSP would remain *Significant and unavoidable* in regards to impacts associated with plan consistency.

LOCALIZED AIR QUALITY IMPACTS

LOCALIZED CO EMISSIONS

CO emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). As described above, the SJVAPCD requires CO "hotspot" modeling for projects that reduce the LOS operations on surrounding roadways to an E or an F, or worsens traffic along roadways that are already operating at an LOS F. The Transportation Impact Analysis for the THSP in the City of Tracy, prepared by Kimley-Horn and Associates (dated October 2014) analyzed roadway conditions for the Project. Table 4.3-10, *THSP Project Buildout Carbon Monoxide Concentrations at Potential Hotspot Locations,* provides the CO hotspot analysis results for the study intersections that warranted a CO hotspot analysis.

Table 4.3-10: THSP Project Buildout Carbon Monoxide Concentrations at Potential Hotspot Locations

Intersection	1-hour CO (ppm)[1]		8-Hour CO (ppm) [1]	
	1-hour Standard	Future + Project	8-hour Standard	Future + Project
Corral Hollow Road/Linne Road	20 ppm	3.2 ppm	9 ppm	2.14 ppm
Tracy Boulevard/Linne Road	20 ppm	3.1 ppm	9 ppm	2.08 ppm
Corral Hollow Road/Valpico Road	20 ppm	3.2 ppm	9 ppm	2.14 ppm
Lammers Road/Valipco Road	20 ppm	3.2 ppm	9 ppm	2.14 ppm
Corral Hollow Road/Schulte Road	20 ppm	3.4 ppm	9 ppm	2.28 ppm
Corral Hollow Road/I-580 EB Ramps	20 ppm	3.4 ppm	9 ppm	2.28 ppm
Corral Hollow Road/I-580 WB Ramps	20 ppm	3.3 ppm	9 ppm	2.21 ppm
Mountain House Parkway/I-580 EB Ramps	20 ppm	3.2 ppm	9 ppm	2.14 ppm
Mountain House Parkway/I-580 WB Ramps	20 ppm	3.2 ppm	9 ppm	2.14 ppm

Note:

1. As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. Presented 1 hour CO concentrations include a background concentration of 3.0 ppm. Eight-hour concentrations are based on a persistence of 0.67 of the 1-hour concentration.

Refer to Appendix B, *Air Quality and Greenhouse Gas Data.*

The projected traffic volumes were modeled using the BREEZE ROADS dispersion model. The resultant values were then added to an ambient concentration. A receptor height of 1.8 meters was used in accordance with the EPA's recommendations. The calculations assume a meteorological condition of almost no wind (0.5 meters/second), a flat topological condition between the source and the receptor and a mixing height of 1,000 meters. A standard deviation of five degrees was used for the deviation of wind direction. The suburban land classification was used for the aerodynamic roughness coefficient. This follows the BREEZE ROADS user's manual definition of suburban as "regular coverage with large obstacles, open spaces roughly equal to obstacle heights, villages, mature forests." All of the above parameters are based on the standards stated in the Transportation Project-Level Carbon Monoxide (CO Protocol), December 1997.

For the purposes of this analysis, the ambient concentration used in the modeling was the highest one-hour measurement (the highest concentration of the last three years data was available) of monitoring data at the Stockton-Hazelton Street Monitoring Station. Actual future ambient CO levels may be lower due to emissions control strategies that would be implemented between now and the Project buildout date. Due to changing meteorological conditions over an eight-hour period which diffuses the local CO concentrations, the eight-hour CO level concentrations have been found to be typically proportional and lower than the one-hour concentrations, where it is possible to have stable atmospheric conditions last for the entire hour. Therefore, eight-hour CO levels were calculated using the locally derived persistence factor as stated in the CO Protocol. The local persistence factor is derived by calculating the highest ratio of eight-hour to one-hour maximum locally measured CO concentrations from the most recent three years of data. Of the most recent three years of data, the highest eight-hour to one-hour ratio was 0.67.

The intersections listed in Table 4.3-10 would operate at an LOS D or lower for peak hour activities at Project buildout, requiring a CO hotspot analysis. As indicated in Table 4.3-10, CO concentrations would be well below the State and Federal standards. The modeling results are compared to the CAAQS for CO of 9 ppm on an eight-hour average and 20 ppm on a one-hour average. Neither the one-hour average nor the eight-hour average would be equaled or exceeded. It should be noted that the intersections in Table 4.3-10 represent the intersections in the traffic study area with the highest peak traffic volumes (i.e., worst case conditions). Other intersections in the study area operating at LOS F would have lower CO concentrations than what is depicted in Table 4.3-10. Impacts in regards to CO hotspots would be *Less-than-significant*.

VALLEY FEVER

Nearby sensitive receptors as well as workers at the project site could be exposed to Valley Fever from fugitive dust generated during construction. There is the potential that cocci spores would be stirred up during excavation, grading, and earth-moving activities, exposing construction workers and nearby sensitive receptors to these spores and thereby to the potential of contracting Valley Fever. Title 8, Section 5144 (Respiratory Protection) of the California Code of Regulations includes the applicable regulations with regard to work-related Valley Fever protection and exposure. Section 5144(b) of the California Code of Regulations includes provisions for high efficiency particulate air (HEPA) filters that are at least a 99.97 percent efficient at removing monodisperse particles of 0.3 micrometers in diameter. The California Department of Industrial Relations identifies compliance with California Code of Regulations Section 5144 as applicable to avoiding work-related cases of Valley Fever.[5] Implementation of Mitigation Measures 4.3-1a requires the Project to implement dust control measures and a Valley Fever Dust Management Plan to reduce PM_{10} and $PM_{2.5}$ emissions during construction to minimize the exposure to Valley Fever. With the implementation of Mitigation Measure 4.3-1a, and the knowledge that long-term residents have typically already developed immunity to Valley Fever, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus. Impacts would be *less-than-significant*.

[5] State of California Department of Industrial Relations, *Advice to Employers and Employees Regarding Work-Related Valley Fever*, October 2013. http://www.dir.ca.gov/dosh/valley-fever-home.html, accessed on May 19, 2015.

Health Risk Assessment

The CEQA Guidelines, Section 15126.2(a) recommends that significant environmental effects of a project be assessed when a project brings development and people into an affected area. The Project proposes the placement of sensitive receptors (residential dwelling units) within 500 feet of a generator of toxic air contaminants (TACs) (i.e., Interstate 580 [I-580]). As such, a health risk assessment (HRA) and addendum were ~~was~~ prepared for the Project by Urban Crossroads (dated November 7, 2013 and August 5, 2015)[6].

In urban communities, vehicle emissions substantially contribute to localized concentrations of air contaminants. Typically, emissions generated from these sources are characterized by vehicle mix, the rate pollutants are generated during the course of travel and the number of vehicles traversing the roadway network. In order to assess the impact of emitted compounds on individuals who would reside at the Project, air quality modeling utilizing the EPA Regulatory Model AERMOD was performed to assess the downwind extent of mobile source emissions located within a one-quarter mile radius of the Project site.

The SJVAPCD recommends utilizing a conservative exposure duration of 70 years to represent lifetime risk values. Notwithstanding, to more accurately represent residential exposures, the assessment employed the EPA's guidance to develop viable dose estimates based on reasonable maximum exposures (RME). Specifically, activity patterns for population mobility recommended by the EPA and presented in the EPA Exposure Factors Handbook[7] were utilized. As a result, lifetime risk values for residents were adjusted to account for an exposure duration of 350 days per year for 30 years (i.e., 95th percentile). A 9 year exposure duration was additionally assessed to identify risk estimates associated with the average time individuals are reported to reside at a given residence. These values are consistent with CEQA which considers the evaluation of environmental effects of proposed projects in a manner that reflects both reasonable and feasible assumptions. For body weight and inhalation, the assessment employed average adult values of 70 kilograms and 20 cubic meters per day, respectively.

The risk estimate conservatively assumes sensitive receptors would be subject to diesel particulate matter (DPM) for 24 hours a day, 350 days a year. As a conservative measure, the SJVAPCD does not recognize indoor adjustments for residents. However, the typical person spends the majority of their time indoors rather than remaining outdoors for 24 hours a day.[8]

TRACY HILLS SPECIFIC PLAN BUILDOUT

The HRA Addendum was prepared by Urban Crossroads on August 5, 2015 to evaluate impacts to all prospective on-site residential uses as a function of exposure to pollutants from the I-580 Freeway, Union Pacific Railroad, and from activity associated with proposed industrial facilities within the THSP and to evaluate impacts to off-site residential, workers, and schools as a function of exposure to DPM associated with trucking activity that would serve the industrial uses of the THSP. Additionally, emissions factors for passenger cars and trucks were updated based on CARB's current understanding of motor vehicle travel activities and their associated emission levels by using the latest version of their emissions inventory model. The analysis utilizes

[6] Urban Crossroads, *Tracy Hills Phase 1 Health Risk Assessment*, November 7, 2013 and *Tracy Hills Specific Plan Health Risk Assessment Addendum*, May 29, 2015.

[7] U.S. Environmental Protection Agency, *Exposure Factors Handbook* Table 15-176, 1997. http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=12464

[8] Ibid.

the latest available emission factors from EMFAC 2014, the latest model released by CARB which was made publically available on December 30, 2014.

IMPACTS TO PROPOSED ON-SITE RESIDENTIAL USES

The HRA Addendum identifies potential impacts to all on-site residential uses and considers the adjoining freeway, rail line, and on-site trucking activity associated with prospective industrial uses. It includes over 500 discrete receptors that were placed using a 100 meter by 100 meter receptor grid consistent with regulatory guidance. Refer to Appendix B, for the AERMOD Summary Input/Output files and the modeled emission sources and modeled receptors.

CARCINOGENIC RISK IMPACTS (WITHOUT PROJECT DESIGN FEATURE)

For carcinogenic exposures, the summation of risk for the maximum exposed residential receptor totaled 35.8 in one million for the 70 year, 15.4 in one million for the 30 year, and 4.61 in one million for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks would exceed the applicable threshold for the 70 year and 30 year exposure scenarios. Therefore, carcinogenic exposures have the potential to be significant without implementation of the air filtration project design feature (Minimum Efficiency Reporting Value [MERV] 13 or equivalent air filtration system as defined by the American Society of Heating, Refrigerating and Air Conditioning Engineers [ASHRAE] Standard 52.2; refer to Mitigation Measure 4.3-4a). Cancer risks without implementation of the air filtration project design feature are summarized in Table 4.3-~~12~~11, *Summary of Cancer Risks (Without Project Design Feature).*

Table 4.3-~~12~~11: Summary of Cancer Risks (Without Project Design Feature)

Time Period	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
70 Year Exposure	35.8	10	Yes
30 Year Exposure	15.4	10	Yes
9 Year Exposure	4.61	10	No

Source: Urban Crossroads, *Tracy Hills Specific Plan Health Risk Assessment Addendum*, August 5, 2015.

CARCINOGENIC RISK IMPACTS (WITH PROJECT DESIGN FEATURE)

With implementation of the applicable project design feature, MERV 13 (or equivalent air filtration system) the summation of carcinogenic risk for the maximum exposed residential receptor totaled 9.85 in one million for the 70 year, 4.22 in one million for the 30 year and 1.27 in one million for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks would not exceed the applicable thresholds for the 70, 30, or 9 year exposure scenarios. Therefore, carcinogenic exposures are calculated to be within acceptable limits and impacts would be *less-than-significant*. Cancer risks with implementation of the air filtration mitigation are summarized in Table 4.3-~~13~~12, *Summary of Cancer Risks (With Project Design Feature).*

Table 4.3-~~13~~12: Summary of Cancer Risks (With Project Design Feature)

Time Period	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
70 Year Exposure	9.85	10	No
30 Year Exposure	4.22	10	No
9 Year Exposure	1.27	10	No

Source: Urban Crossroads, *Tracy Hills Specific Plan Health Risk Assessment Addendum*, August 5, 2015.

IMPACT TO OFF-SITE RESIDENTIAL, WORKER, AND SCHOOL USES

As previously noted, the HRA Addendum identifies potential impacts to off-site residential, worker, and school uses associated with diesel trucks serving the prospective industrial portions of the THSP. Discrete receptors that were placed using a 100 meter by 100 meter receptor grid at off-site residential, worker, and school locations are consistent with regulatory guidance. Appendix B, includes the AERMOD Summary Input/Output files and illustrates the modeled emission sources and modeled receptors.

CARCINOGENIC RISK IMPACTS

Residential Exposure Scenario: At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project DPM source emissions, is estimated at 1.49 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.007, which would not exceed the applicable threshold of 1.0.

Worker Exposure Scenario: At the maximally exposed worker (MEIW), the maximum incremental cancer risk impact at this location is 1.02 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.008, which would not exceed the applicable threshold of 1.0.

School Child Exposure Scenario: At the maximally exposed individual school child (MEISC), the maximum incremental cancer risk impact at this location is 0.19 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.0007, which would not exceed the applicable threshold of 1.0. A summary of the potential off-site cancer risk impacts is presented at Table 4.3-~~14~~13, *Summary of Cancer Risks to Off-Site Receptors.*

Table 4.3-~~14~~13: Summary of Cancer Risks to Off-Site Receptors

Time Period	Maximum Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
70 Year Exposure (Residential)	1.49	10	No
40 Year Exposure (Worker)	1.02	10	No
9 Year Exposure (School Child)	0.19	10	No

Source: Urban Crossroads, *Tracy Hills Specific Plan Health Risk Assessment Addendum*, August 5, 2015.

NON-CARCINOGENIC HAZARDS

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than the threshold of 1.0 for all exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed the threshold of 1.0. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and impacts would be *less-than-significant.*

CONCLUSION

Carcinogenic exposures from implementation of the Project have the potential to have significant impacts. With implementation of the project design features that would provide MERV 13 or equivalent air filtration systems, cancer risks are within acceptable limits and impacts would be less-than-significant (project design features have been included as Mitigation Measures 4.3-4a and 4.3-4b). Implementation of Mitigation Measure 4.3-4b would be required to ensure that future residential uses are not located within 1,000 feet of future industrial uses that have more than 100 trucks per day. If this setback cannot be met, residential uses would be required to include mechanical ventilation systems with fresh air filtration. Future development phases would be required to prepare a site specific HRA to ensure that potential impacts are consistent with the analysis above. In addition, potential cancer risks impacts to off-site residential, worker, and school associated with diesel trucks serving industrial portions of the Project, would *be less-than-significant.* Further, potential noncarcinogenic hazards impacts to off-site uses would be *less-than-significant.*

PHASE 1A

Without Project Design Feature. Project Health Risk Assessment determined that for carcinogenic exposures, the summation of risk for the maximum exposed residential receptor totaled ~~17.2~~ 19.6 in one million for the 70 year, 7.36 in one million for the 30 year and 2.21 in one million for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks would exceed the applicable threshold for the 70 year exposure scenario only. Therefore, carcinogenic exposures have the potential to be significant without implementation of the air filtration project design feature (MERV 13 or equivalent air filtration system).

With Project Design Feature. The Project proposes to install air filtration systems with efficiencies equal to or exceeding a ~~Minimum Efficiency Reporting Value (Minimum Efficiency Reporting Value [~~MERV~~])~~ 13 (or equivalent system) as defined by ~~the American Society of Heating, Refrigerating and Air Conditioning Engineers (~~ASHRAE~~)~~ Standard 52.2; refer to Mitigation Measure 4.3-4a. The average particle size efficiency (PSE) removal based on ASHRAE Standard 52.2 for MERV 13 is approximately 75 percent for 0.3 to 1.0µg/m^3 (DPM) and 90 percent for 1.0 to 10 µg/m^3 (PM_{10} and $PM_{2.5}$). The Project HRA ~~Health Risk Assessment~~ determined that with implementation of the applicable project design feature (MERV13 or equivalent air filtration system, included as Mitigation Measure 4.3-4a), the summation of carcinogenic risk for the maximum exposed residential receptor totaled 6.97 in one million for the 70 year, 2.99 in one million for the 30 year and

0.896 in one million for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks would not exceed the applicable thresholds for the 70, 30, or 9 year exposure scenario. Therefore, carcinogenic exposures are calculated to be within acceptable limits and impacts would be *Less-than-significant*.

Additionally, the Project proposes to include the planting of Afgan and Alppo Pine trees (coniferous evergreens) to serve as a buffer between the Freeway and the Project site and further reduce potential DPM impacts. The University of California at Davis and Caltrans prepared a white paper: Practical Mitigation Measures for Particulate Matter: Near-Road Vegetation Barriers. The white paper identifies coniferous evergreens as the most ideal plant for removal of DPM. The white paper also notes the potential benefits and impacts of vegetation and sound wall as barriers for DPM but ultimately notes that further research is required to effectively quantify any potential benefits. As such, the analysis herein takes no credit from the implementation of vegetation and/or sound walls.

~~*TAC Emissions from Proposed On-Site Uses*. The Project includes new residential uses as well as new light industrial uses. At this time, the specific locations (i.e., building footprints) of the residential and industrial uses are not known. The CARB Air Quality and Land Use Handbook (April 2005), recommends avoiding siting new sensitive land uses within 1,000 feet of land uses that would have more than 100 truck trips per day or more than 40 trucks with operating transport refrigeration units (TRUs) per day. Therefore, implementation of Mitigation Measure 4.3-4b would be required to ensure that future residential uses are not located within 1,000 feet of future industrial uses that have more than 100 trucks per day. If this setback cannot be met, residential uses would be required to include mechanical ventilation systems with fresh air filtration. With implementation of Mitigation Measure 4.3-4b, air toxic impacts from proposed industrial uses would be *Less-than-significant*.~~

HEALTH IMPACTS OF CRITERIA POLLUTANT EXCEEDANCES

The following analysis has been prepared to address the recent California Fifth District Court of Appeal decision for *Sierra Club v. County of Fresno* [2014] [226 Cal.App.4th 704]) (Friant Ranch).[9,10] Although the Project is expected to exceed the SJVAPCD's numeric regional annual thresholds, this does not in itself constitute a significant health impact to the population adjacent to the Project and within the Basin. Simply stated, the Project would not "require people with respiratory difficulties to wear filtering devices when they go outdoors in the Project Area or non-attainment basin" (Friant Ranch, 226 Cal.App.4th 704). As described below, the Project's emissions of nonattainment criteria pollutants would have no discernible health impact on human beings either in the local or regional vicinity of the Project.

The SJVAPCD's numeric regional annual thresholds are based in part on Section 180 (e) of the FCAA which established health-based air quality standards. Notwithstanding, simply exceeding the SJVAPCD's numeric regional annual thresholds does not constitute a particular health impact to an individual receptor. The reason for this is that the annual thresholds are in tons per year emitted into the air whereas health effects are determined based on the concentration of emissions in the air at a particular receptor (e.g., parts per million (ppm) by volume of air, or micrograms per cubic meter [$\mu g/m^3$] of air). The NAAQS and CAAQS were

[9] The analysis of health impacts of criteria pollutant exceedances is based on the Tracy Hills Specific Plan Supplemental Air Quality Assessment, prepared by Urban Crossroads, October 7, 2014.

[10] It should be noted that the California Supreme Court has granted review in this case and therefore this Court of Appeal case is no longer applicable law.

developed to protect the most susceptible population groups from adverse health effects and were established in terms of ppm or µg/m^3 for the applicable emissions.

The SJVAPCD identifies modeling guidance and thresholds of significance for determining impacts to ambient air quality consistent with the health-based CAAQS and NAAQS.[11] Determination of whether Project emissions would violate any ambient air quality standard is largely a function of air quality dispersion modeling. It should be noted that the CAAQS and NAAQS standards are tied directly to associated health effects for the associated concentrations. However, SJVAPCD does not provide specific guidelines for assessing ambient air quality for future development within a Specific Plan area.

The HRA Addendum determined that for the maximum exposed residential receptor, results of the analysis predicted freeway emissions would produce PM_{10} concentrations of 2.38 µg/m^3 and 0.64 µg/m^3 for the 24-hour and annual averaging times. These values would not exceed the SJVAPCD significance thresholds of 10.4 µg/m^3 and 2.8 µg/m^3, respectively. For $PM_{2.5}$, concentrations of 0.94 µg/m^3 and 0.28 µg/m^3 for the 24-hour and annual averaging times were predicted. These values would not exceed the SJVAPCD significance thresholds of 2.5 µg/m^3 and 0.63 µg/m^3, respectively.

The maximum modeled 1-hour average concentration for CO of 0.07 parts per million (ppm) when added to an existing background concentration of 3.2 ppm totals 3.27 ppm and would not cause an exceedance of the CAAQS of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.05 ppm when added to an existing background level of 2.1 ppm totals 2.15 ppm and does not cause an exceedance of the CAAQS of 9 ppm. For NO_2, a maximum one hour concentration of 0.0088 ppm was predicted. This concentration, when added to a background concentration of 0.04 ppm totals 0.0488 ppm and would not cause an exceedance of the CAAQS of 0.18 ppm. Criteria pollutant concentrations without implementation of the project design feature are summarized in Table 4.3-~~11~~14, *Criteria Pollutant Concentrations*.

Table 4.3-~~11~~14: Criteria Pollutant Concentrations

Scenario	Background Concentration	Modeled Concentration	Total Concentration	Significance Threshold	Exceeds Significance Threshold
PM_{10} 24-Hour	N/A	2.38 µg/m^3	2.38 µg/m^3	10.4 µg/m^3	No
PM_{10} Annual	N/A	0.64 µg/m^3	0.64 µg/m^3	2.8 µg/m^3	No
$PM_{2.5}$ 24-Hour	N/A	0.94 µg/m^3	0.94 µg/m^3	2.5 µg/m^3	No
$PM_{2.5}$ Annual	N/A	0.28 µg/m^3	0.28 µg/m^3	0.63 µg/m^3	No
CO 1-Hour	3.2 ppm	0.07 ppm	3.27 ppm	20 ppm	No
CO 8-Hour	2.1 ppm	0.05 ppm	2.15 ppm	9 ppm	No
NO_2 1-Hour	0.04 ppm	0.0088 ppm	0.0488 ppm	0.18 ppm	No

Source: Urban Crossroads, *Tracy Hills Specific Plan Health Risk Assessment Addendum*, August 5, 2015.

~~SCREEN3 is an EPA approved air quality model that contains algorithms associated with the EPA's Screening Procedures for Estimating the Air Quality Impact of Stationary Sources. SCREEN3 was used to calculate localized pollutant concentrations for operational activity. SCREEN3 uses dispersion screening techniques to~~

[11] San Joaquin Valley Air Pollution Control District, *Modeling Guidance*, http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm#modeling_guidance, accessed July 9, 2015.

~~estimate impacts of point, area, and volume stationary sources. It should be noted that the SCREEN3 model was utilized in lieu of the more robust AERMOD and Industrial Source Complex (ISC) model in order to account for worst-case conditions and since precise on-site activity is unknown at this time. It should be noted that SCREEN3 is a screening version of the ISC model.~~

~~For operational activity an area source encompassing the Project Area was modeled. The urban option of the model was selected, and receptor height was conservatively set at 2.0 meters (consistent with the document Final Localized Significance Threshold Methodology, South Coast Air Quality Management District [SCAQMD], June 2003). For PM_{10} and $PM_{2.5}$ a source release height of 1.0 meters was utilized. Additionally, for emissions of NO_X and CO released during operational activity, a source release height of 5.0 meters was utilized. The South Coast Air Quality Management District's methodology is appropriate for use in these instances since the SJVAPCD does not provide detailed methodology for localized emissions modeling. For analytical purposes, the ambient air quality standards assessment/localized concentration for emissions of NO_X can be used as a surrogate to determine whether or not there would be a potential health impact related to emissions of VOCs (since there are no ambient air quality standards for VOCs).~~

~~Table 4.3-11, *Operational Localized Pollutant Concentration Significance Summary (Without Mitigation)*, and Table 4.3-12, *Operational Localized Pollutant Concentration Significance Summary (With Mitigation)*, depicts the Project's impacts related to ambient air quality health based standards/localized impacts for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$. Based on the supplemental assessment prepared by Urban Crossroads, the Project would not result in emissions that exceeded the SJVAPCD's ambient air quality health based standards. Therefore the Project would not be expected to exceed the most stringent applicable NAAQS or CAAQS for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$. It should be noted that the ambient air quality standards are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the ambient air quality standards are purposefully set low to protect children, elderly, and those with existing respiratory problems. Since the Project does not exceed any of the applicable ambient air quality standards no health impacts are expected as a result of the Project. A summary of calculations from the model output for each pollutant are available for review in Appendix B, *Air Quality and Greenhouse Gas Data*.~~

~~Table 4.3-11: Operational Localized Pollutant Concentration Significance Summary (Without Mitigation)~~

~~Operational Activity~~	**~~CO~~**		**~~NO_2~~**	**~~PM_{10}~~**	**~~$PM_{2.5}$~~**
	~~Averaging Time~~				
	~~1-Hour~~	**~~8-Hour~~**	**~~1-Hour~~**	**~~24-Hours (Construction)~~**	
~~Peak Daily Localized Emissions~~	~~0.302~~	~~0.219~~	~~0.009~~	~~1.96~~	~~0.69~~
~~Background Concentration~~	~~3.20~~	~~2.13~~	~~0.040~~		
~~Total Concentration~~	~~3.50~~	~~2.35~~	~~0.05~~	~~1.96~~	~~0.69~~
~~SJVAPCD Ambient Air Quality Significance Threshold~~	~~20~~	~~9~~	~~0.18~~	~~10.4~~	~~2.5~~
~~Threshold Exceeded?~~	**~~No~~**	**~~No~~**	**~~No~~**	**~~No~~**	**~~No~~**

~~Source: Urban Crossroads, Tracy Hills Specific Plan Supplemental Air Quality Assessment, October 7, 2014.~~

Table 4.3-12: Operational Localized Pollutant Concentration Significance Summary (With Mitigation)

Operational Activity	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1 Hour	8 Hour	1 Hour	24 Hours (Construction)	
Peak Daily Localized Emissions	0.179	0.130	0.008	1.15	0.34
Background Concentration	3.20	2.13	0.040		
Total Concentration	3.38	2.26	0.05	1.15	0.34
SJVAPCD Ambient Air Quality Significance Threshold	20	9	0.18	10.4	2.5
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**

Source: Urban Crossroads, Tracy Hills Specific Plan Supplemental Air Quality Assessment, October 7, 2014.

As a conservative measure, in order to overstate, rather than understate concentrations, the predicted concentrations represent what would be expected to occur at 50 meters or approximately 164 feet from the property boundary. As the distance from the source increases, the ground level concentration decreases. As such, if there are no site-adjacent impacts, it can be inferred that there would be no greater impacts at any other locations further than the site boundary.

As shown previously in Section 4.3.2, air quality trends for both emissions of NO_X, VOCs, and Ozone (which is a byproduct of NO_X and VOCs) have been trending downward within the Basin even as development has increased over the last several years. Therefore, although the Project would exceed the SJVAPCD's numeric annual thresholds for emissions of NO_X and VOCs this does not in itself constitute a basin-wide increase in health effects related to these pollutants. As shown above, emissions would not exceed the applicable threshold and a less than significant impact to localized (adjacent) sensitive receptors would occur. It should be noted that impacts related to air quality in the general sense are based on a source-receptor relationship – in other words, the further away one moves from the source, the lower the concentration in the ambient air.

ODOR IMPACTS

The Project consists of a mix of residential, retail, office, and light industrial land uses. According to the GAMAQI, land uses associated with odor complaints typically include wastewater treatment facilities, landfills, composting facilities, refineries, dairies, food processing facilities, and fiberglass manufacturing. These types of land uses are not proposed as part of the THSP. However, the light industrial uses would allow for manufacturing, assembly, and production uses. Uses within the Project would be subject to SJVAPCD's applicable rules and regulations, including Rule 4102, which governs nuisance and objectionable odors. To the extent required by the SJVAPCD, the Project shall adhere to any requirements to implement the applicable Best Available Control Technologies for Toxics (T-BACTs), based on the SJVAPCD's policies and procedures. As the Project would be subject to applicable SJVAPCD rules and does not fall within the parameters established by the GAMAQI for requiring a detailed odor analysis, it is not expected to result in the generation of odors. Impacts associated with odors are therefore considered *Less-than-significant*.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

The GAMAQI defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The document also states "any project that would individually have a significant air quality impact… would also be considered to have a significant cumulative air quality impact." Impacts of local criteria pollutants are cumulatively significant when modeling shows that the combined emissions from the Project and other existing and planned projects would exceed air quality standards.

As discussed above, cumulative impacts would be considered significant only if project-specific emissions would exceed the SJVAPCD significance thresholds, or the Project is not consistent with the regional clean air plan. As discussed previously, the Project would exceed SJVAPCD thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$. Therefore, the Project's contribution to cumulative regional air quality impacts would be cumulatively considerable.

Impact 4.3-1 Implementation of the THSP would result in temporary potentially significant construction-related dust and vehicle emissions.

Mitigation Measures:

4.3-1a Prior to the issuance of any grading permit the City Engineer and the Chief Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with SJVAPCD Regulation VIII, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover;
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant;
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking;
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained;
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.);
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant;
- Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday;
- Any site with 150 or more vehicle trips per day shall prevent carryout and trackout;
- Limit traffic speeds on unpaved roads to 15 mph;
- Install sandbags or other erosion control measures to prevent silt run-off to public roadways from sites with a slope greater than one percent;
- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the THSP Project Area; and
- Fugitive dust emanating from the Project site shall not exceed 20 percent opacity, per SJVAPCD Regulation VIII.

- Applicant shall consult with the County Public Health Services Department to develop a Valley Fever Dust Management Plan that addresses Valley Fever exposure. The Plan shall be provided to the City and shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate dust management and safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential Valley Fever-containing dust.

4.3-1b The following measures shall be implemented during construction to reduce NO_X related emissions. They shall be included in the Grading Plan, Building Plans, and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

- Use of construction equipment rated by the United States Environmental Protection Agency (EPA) as having Tier 3 or higher exhaust emission limits for equipment over 50 horsepower that are onsite for more than 5 days, if available and feasible. Tier 3 engines between 50 and 750 horsepower are available for 2006 to 2008 model years. After January 1, 2015, encourage the use of equipment over 50 horsepower that are on-site for more than 5 days to meet the Tier 4 standards, if available and feasible. A list of construction equipment by type and model year shall be maintained by the construction contractor onsite, which shall be available for City review upon request.
  - Use of alternative-fueled or catalyst-equipped diesel construction equipment, if available and feasible; and
  - Clearly posted signs that require operators of trucks and construction equipment to minimize idling time (e.g., 5-minute maximum).
  - Properly and routinely maintain all construction equipment, as recommended by manufacturer's manuals, to control exhaust emissions.
  - Use electric equipment for construction whenever possible in lieu of fossil fuel-fired equipment.

4.3-1c Prior to the issuance of any grading permit, the City shall confirm that the Project complies with the SJVAPCD Rule 9510, Indirect Source (ISR). If feasible measures are not available to meet the emissions reductions targets outlined in Rule 9510, then Project applicants shall pay an in-lieu mitigation fee to the SJVAPCD to offset the Project's emissions-related impacts, or coordinate with the SJVAPCD to implement a Voluntary Emission Reduction Agreement (VERA). If in-lieu fees are required, Project applicants shall coordinate with the SJVAPCD to calculate the amount of the fees required to offset the Project's impacts. The applicant shall document, to the City's reasonable satisfaction, its compliance with this mitigation measure.

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.3-2 The Project would result in potentially significant overall increase in the local and regional pollutant load due to direct impacts from vehicle emissions and indirect impacts from area sources and electricity consumption.

Mitigation Measures:

Refer to Mitigation Measure 4.7-1 in Section 4.7, *Greenhouse Gas Emissions.* The following additional mitigation measure is also required:

4.3-2 Prior to issuance of building permits, each applicant for individual site specific developments under the THSP shall demonstrate compliance with SJVAPCD Rule 9510, Indirect Source Review (ISR) or implementation of a Voluntary Emission Reduction Agreement (VERA). Project applicants shall coordinate with the SJVAPCD to ensure that the Project meets the requirements of SJVAPCD Rule 9510 or implements a VERA. If feasible reduction measures are not available to meet the emissions reductions targets as established by the SJVAPCD, then Project Applicants shall pay an in-lieu mitigation fee to the SJVAPCD to offset the Project's emissions-related impacts. If in-lieu fees are required, Project Applicants shall coordinate with the SJVAPCD to calculate the amount of the fees required to offset the Project's impacts.

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.3-3 Due to the Project exceedances of SJVAPCD's air quality standards, future development projects would not be consistent with the most recent Air Quality Management Plan and therefore is a potentially significant impact.

Mitigation Measures:

Refer to Mitigation Measures 4.3-2 and 4.7-1.

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.3-4: Implementation of the Project could result in a potentially significant localized emissions impact or expose sensitive receptors to substantial pollutant concentrations.

Mitigation Measures:

4.3-4a New sensitive land uses including residential, hospital, medical offices, and day care facilities located within 500 feet of the I-580 freeway shall be designed to include air filtration systems with efficiencies equal to or exceeding a Minimum Efficiency Reporting Value (MERV) 13 (or equivalent system) as defined by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.2. The average particle size efficiency (PSE) removal based on ASHRAE Standard 52.2 for MERV 13 is approximately 75 percent for 0.3 to 1.0 $\mu g/m^3$ (DPM) and 90 percent for 1.0 to 10 $\mu g/m^3$ (PM_{10} and $PM_{2.5}$).

4.3-4b New sensitive land uses including residential, hospital, medical offices, and day care facilities shall not be located closer than 1,000 feet from any existing or proposed distribution center/warehouse facility which generates a minimum of 100 truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week, pursuant to the

recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, they shall be designed and conditioned to include mechanical ventilation systems with fresh air filtration. For operable windows or other sources of ambient air filtration, installation of a central heating, ventilation, and air conditioning (HVAC) system that includes high efficiency filters for particulates (Minimum Efficiency Reporting Value [MERV] 13 or higher) or other similarly effective systems shall be required.

Significance After Mitigation: *Less-than-significant* impact.

Impact 4.3-5: Implementation of the Project could result in a potentially significant impact to regional air quality levels on a cumulatively considerable basis.

Mitigation Measures:

Refer to Mitigation Measure 4.3-1a through 4.3-4b and Mitigation Measure 4.7-1.

Significance After Mitigation: *Significant and unavoidable* impact.

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4.4 BIOLOGICAL RESOURCES

This section of the EIR addresses potential impacts to biological resources, which may result from construction and operation of the proposed Project.

The land to be developed under the Tracy Hills Specific Plan (Project or Project Site) has been the subject of a multitude of biological resource impact analyses going back over 25 years. As discussed in other sections of this DEIR, in 1998 the City of Tracy approved an earlier version of the Tracy Hills Specific Plan (1998 THSP) and certified an EIR in connection the approval of the 1998 THSP. Many biological studies were prepared in connection with the certification of the 1998 THSP EIR, as well as for subsequent plans for portions of the Project Site, such as the Tracy 580 Business Park Plan, which was abandoned before approval, leaving the 1998 THSP as the operative existing approvals.

The land uses authorized by the 1998 THSP (e.g., types of land uses, permissible number of units, permissible square footages, etc.) have been part of the City's General Plan since 1998. Thus, since that time, the City's General Plan has anticipated the ultimate build out and growth envisioned in the THSP. Indeed, during the past ten years the City has approved numerous updates to its infrastructure plans to accommodate the growth anticipated in the 1998 THSP.

In or around 2012, a new ownership group acquired the 1998 THSP. As a result of changing demands in the marketplace and other factors, this new ownership group decided to process an updated specific plan that would guide development of the Project Site covered by the 1998 THSP. This new specific plan (2015 THSP) has been prepared in draft form and has been made available to the public as part of the preparation of this Subsequent Draft EIR. Importantly, the development footprint and authorized land uses set forth in the 2015 THSP – the proposed Project – are the same as those set forth in the 1998 THSP.

As part of the preparation of the 2015 THSP, and as set forth in greater detail in the Project Description on pages 3-1through 3-60, new and updated biological assessments were prepared in connection with the preparation of a new EIR. (See, e.g., Tracy Hills Specific Plan: Habitat Assessment & San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Consistency Analysis (RBF Consulting 2014).) A draft EIR was prepared and circulated for public review from December 22, 2014 through February 10, 2015. Thereafter, extensive comments were received from public agencies and members of the public.

Because these comments expressed alleged confusion on issues pertaining to the proposed Project's potential impacts to biological resources, a subsequent biological resources analysis prepared by NOREAS was commissioned to comprehensively respond to the numerous comments received on the DEIR, which was completed in August 2015. The NOREAS Report was prepared for the purpose of (i) comprehensively reviewing and summarizing all of the biological resource assessments prepared for the Project site over the past quarter century; (ii) conducting new field reconnaissance surveys and protocol level focused surveys over the Project site; (iii) assessing direct and indirect impacts of the Project; and (iv) providing mitigation to mitigate the Project's impacts.

This biological resources section was then comprehensively revised based on both the NOREAS Report and the decades-worth of previous biological resource analyses that have been prepared over the course of the past 25 years. As revised, this biological resources section (i) analyzes the Project's potential direct and indirect long term impacts; (ii) explains the utility of the approximate 3,500 acre preserve that has been set aside, as a Project design feature, with conservation easements; (iii) responds to comments received on the earlier draft of the EIR, and (iv) clarifies and explains why the NOREAS Report and this biological resources section come to different conclusions than the 1998 EIR.

This section also describes present conditions observed within the Project Area during recent field reconnaissance surveys and protocol level focused surveys conducted by NOREAS, which resulted in the documentation of an updated assessment of biological resources that analyzes the impacts of the Project, including all existing, proposed, and forthcoming development, against present conditions. These reconnaissance field surveys were conducted by a qualified NOREAS biologist on October 26, 27, and 28, 2013. As detailed below, additional protocol level surveys and habitat assessments for all known special status plants and animals with a potential to occur on the Project Site were conducted between December 2014 and July 2015. These surveys are included as part of the technical appendices to this revised EIR, as attachments to the NOREAS Report. This EIR section details the existing regulatory setting for pre-project, present, and post-project conditions according to project plans, and contains a list of mitigation measures to reduce project impacts, including those that have been implemented to date, or are presently in the implementation process, as well as those mitigation measures applicable to existing conditions, to be implemented with future development.

The 1998 Tracy Hills Specific Plan EIR, which analyzed the same Project footprint as this EIR, identified all potential sensitive or special status species within the Project site and identified mitigation measures for the San Joaquin kit fox (Vulpes macrotis mutica) (SJKF), burrowing owl (Athene cunicularia), and the California red-legged frog (Rana draytonii) (CRLF).

The 2015 updated surveys conducted by NOREAS included focused protocol-level surveys for all these species, as well as focused surveys for rare plants, the Swainson's Hawk, and a California Tiger Salamander assessment. The Project will avoid significant impacts on all these species. The updated biological assessment prepared by NOREAS reevaluates the impacts of the proposed Project and build-out of the Project Area to biological resources. Despite the Project's less-than-significant impact before mitigation, the EIR imposes mitigation measures – including pre-construction surveys for all the aforementioned species – that ensure the proposed Project's impacts would remain less-than-significant. Moreover, even though this biological resources section concludes that impacts to biological resources are less than significant, the Project owner remains committed to proving funding to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) for conservation of the approximate 3,500 acre area that is located southwest of this Project site. As discussed below, the Project owner voluntarily recorded a conservation easement over this 3,500 acre area as part of the implementation of the previous 1998 THSP.

The following is a list of information reviewed in preparation of this section and is contained in the technical appendices of this DEIR (as further detailed in Table 4.4-1 herein):

- Draft Biological Assessment Properties East of California Aqueduct Carnegie Business Park San Joaquin County, CA (LSA 1989)
- Evaluation of a Proposed Corridor for the San Joaquin Kit Fox in the Tracy Hills Development (Jones & Stokes Associates, Inc. 1993)
- Multi-Species Habitat Management Plan (LSA 1996)
- Habitat Conservation Plan for Lakeside Tracy Development (LSA 1999b)
- Habitat Management Plan - Tracy Hills Project (Foothill Associates 2004)
- Environmental Assessment for the Tracy Hills HCP (Tracy Hills LLC 2004)
- Tracy Hills San Joaquin Kit Fox Analysis (Berryman Ecological LLC 2006)
- Tracy Triangle San Joaquin Kit Fox Surveys, Project #2689-01 (H.T. Harvey & Associates 2006)
- San Joaquin Kit Fox 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service
- Biological Resources on the Tracy 580 Business Park Property (Berryman Ecological LLC 2010a)
- Burrowing Owl Surveys for Tracy 580 Business Park (Berryman Ecological LLC 2010b)
- Preserve Management Plan for the Tracy 580 Business Park Preserve (ICF International 2011) and Minor Amendment to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP)
- Text of Three 2012 Grant Deeds for Conservation Easements covering the preserve area adjacent to the Project Site, and 2012 correspondence from the U.S Fish and Wildlife Service (USFWS), California Department of Fish & Wildlife (CDFW) and the San Joaquin Council of Governments (SJCOG, Inc.) regarding the same
- Tracy Hills Project- U.S. Army Corps of Engineers Jurisdiction Assessment (Olberding Environmental, Inc. 2013)
- Tracy Hills Specific Plan: Habitat Assessment & SJMSCP Consistency Analysis (RBF Consulting 2014)
- Scat Detection Dog Surveys for the Endangered San Joaquin Kit Fox (*Vulpes macrotis mutica*) at the Tracy Hills Project Site, San Joaquin County, California (Working Dogs for Conservation Foundation 2010, 2012, 2013 & 2014)
- USFWS Critical Habitat Mapper and File Data (USFWS 2015a)
- USFWS Sacramento Office Species List for San Joaquin County (USFWS 2015b)
- Aerial Photographs (Microsoft Corporation 2015)
- Stanley, R. 2015. California Department of Fish and Wildlife, Napa, California. Personal communications with NOREAS Inc.
- August 2015 NOREAS General Biological Resources Assessment and attached field reconnaissance surveys, focused protocol surveys, and habitat assessments.

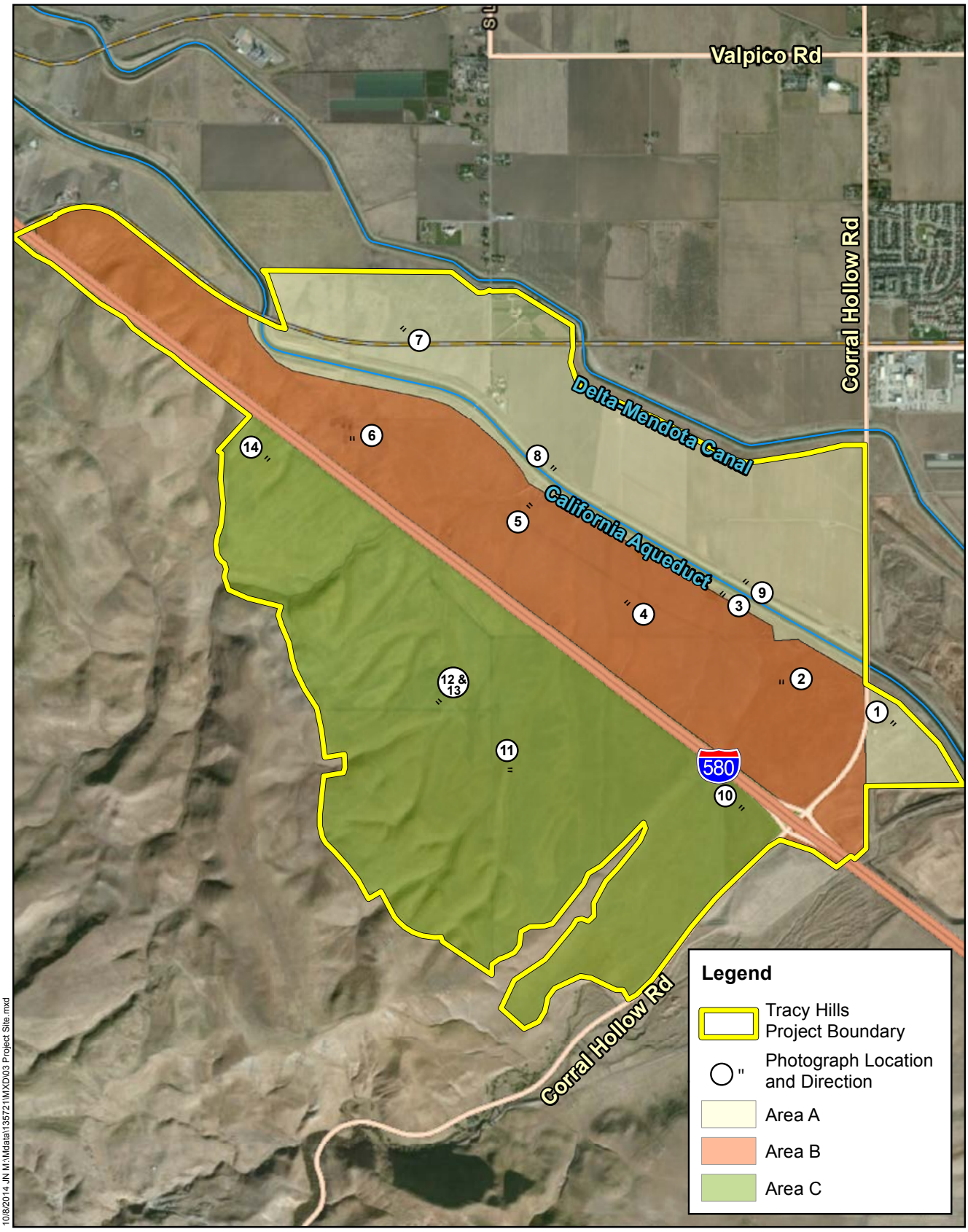
For the purposes of evaluating biological resources and for ease of reading, the overall Project Site has been divided into three areas defined by each area's physical characteristics: Area A; Area B; and Area C.

Area A is located on the northern portion of the Project Site, north of I-580 between the California Aqueduct and the Delta Mendota Canal, west of Corral Hollow Road (refer to Figure 4.4-1, THSP Areas A, B and C). There is a small portion of Area A found east of Corral Hollow Road, southwest of the California Aqueduct. The impacts of the development of Area A is subject to "programmatic" level analysis herein.

Area B is located in the central portion of the Project Site, north of I-580, south of the California Aqueduct, west of Corral Hollow Road and south of the Union Pacific Railroad (refer to Figure 4.4-1, THSP Areas A, B and C). Area B will be developed as Phase 1a and 1b of the Project, and therefore the impacts of its development is subject to "project-level" analysis herein.

Area C is located on the southern portion of the THSP, south of I-580 and northwest of Corral Hollow Road. Area C extends into the undeveloped hillside to the west and abuts an approximately 3,500-acre open space area subject to conservation easements (refer to Figure 4.4-1, THSP Areas A, B and C). The impacts of the development of Area C is subject to "programmatic" level analysis herein.

As referenced above, the EIR's analysis is both "project-level" and "programmatic." Some phases of the Project are anticipated to be implemented immediately upon certification of this EIR, such as Phase 1a and 1b, which are both located in Area B. In contrast, portions of the Project site located in Area C are not anticipated to be developed for years. In an effort to be as comprehensive and thorough as possible, as much project-level analysis that could possibly be done given availability of access to the entire Project Site has been completed as part of this revised biological resources section. Thus, while some portions of the Project Site may not be constructed for many years, a highly-comprehensive project-level type of analysis, including field reconnaissance surveys and protocol-level surveys, have been conducted over all portions of the Project Site over which the current Project Applicant has the ability to access.



Source: RBF Consulting. Tracy Hills Specific Plan Habitat Assessment and San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. October 2014.

FIGURE 4.4-1
THSP AREAS A, B, AND C

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The 2015 NOREAS report and the 2014 RBF Report reviewed all of the previously prepared biological resources reports for the Project Area, described in detail in Table 4.4-1 herein, to better understand the extent of biological resources found on the Project Site and to review existing information to determine which biological studies are current and which studies need to be updated. Table 4.4-1 summarizes the biological resources reports that have been prepared and general conclusions each report reached with respect to the areas of inquiry of each report. As stated, all of these reports have been referenced within Appendix C-2 to this EIR.

Table 4.4-1: Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area (Project Area)

Document Name	Areas Covered	Summary of Documentation
Biological Assessment Properties East of California Aqueduct Carnegie Business Park San Joaquin County, CA (LSA 1989)	A & B	This assessment focuses almost exclusively on Area B and the documentation evaluated the presence and absence of special status plant and animal species, wetlands and watercourses. ♦ San Joaquin kit fox (SJKF) was a focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on pedestrian surveys. Conclusion of the Report: The study area is predominately characterized as being composed of grain crops, fallow alfalfa crops, other fallow fields, orchards, and grazing land. Engineered water conveyance channels pass through portions of the study area. Relatively few species of wildlife and plants were observed during field surveys. ♦ No special status plants or wildlife were detected. ♦ No SJKF or active dens/burrow complexes were detected during focused surveys. ♦ Agricultural use (i.e., cultivation and plowing) in the study area are cited as being averse to sustaining a population of rare plants, burrowing and ground-dwelling animals.
Biological Study, Tracy Hills Community, San Joaquin County California (LSA 1991)	A, B & C	This study focuses on Areas A, B and C. The documentation evaluated the presence and absence of special status plant and animal species, wetlands and watercourses. Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna are detailed based on pedestrian surveys. Conclusion of the Report: No special status plants or wildlife were detected. The Project Site is predominately characterized as being composed of grassland dominated by non-native grasses and cultivated lands. Relatively few species of wildlife and plants were observed during field surveys.
Evaluation of a Proposed Corridor for the San Joaquin Kit Fox in the Tracy Hills Development (Jones & Stokes Associates, Inc. 1993)	A, B & C	This evaluation includes a roughly 4 mile long corridor through the western portion of the Area C (what is now the 3,500 preserve area to the west of Area C) and the documentation assessed presence and absence of linkage corridors for wildlife movement. ♦ San Joaquin kit fox was a focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on pedestrian surveys. This report includes a 1993 description of a proposed 3.75 mile long corridor through the western portion of the Project and also evaluates other wildlife movement areas in the region.

Table 4.4-1:Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area (Project Area)

Document Name	Areas Covered	Summary of Documentation
		♦ California aqueduct, stream and riparian resources allow wildlife movement to persist throughout the region without any significant barriers or blockades. ♦ Corral Hollow Creek, its associated flood plain and alluvial fan habitat areas have higher species diversity and value for local and migratory wildlife than adjacent locales. Conclusion of the Report: The evaluation suggests that avoiding adverse effects to California Aqueduct and Corral Hollow Creek would be adequate to maintain local existing wildlife movement and dispersal corridors linkages. This study also concludes that what is now the 3,500 acre open space preserve serves as an adequate SJKF movement corridor, and confirms that the higher quality SJKF habitat is to the southwest of the Project Site.
Multi-Species Habitat Management Plan (LSA 1996)	A, B & C	This plan includes Areas A, B and C and the 3,500 preserve area. The documentation assessed presence and absence of special status plant and animal species, and wildlife movement corridors. ♦ Specifies a biological mitigation program for land in Tracy Hills, CA which is intended to streamline certain activities and guarantee future development in exchange for the long term conservation of special status species habitat within the region. ♦ This plan also states no special status plant species, SJKF nor Swainson's hawk were found on the Project Site. Conclusion of the Report: This plan discusses leaving undeveloped what is now the 3,500 acre open space preserve area, subject to conservation easements, to the west of the Project Site. The plan concludes that this 3,500 acre preserve provides a guaranteed, functional corridor of undeveloped SJKF habitat that preserves the on-site portion of the corridor between habitat to the northwest and southeast, also noting that wildlife movement corridors will be provided throughout the developed area, along the major roads and highways, and along the California aqueduct. Importantly, this report indicates that the 3,500-acre preserve/conservation easement area is superior biologically to those lands that the Project proposes to develop because, among other reasons, it includes seasonal wetlands, migration corridors and habitat for special status species.
Habitat Conservation Plan for Lakeside Tracy Development (LSA 1999b)	A, B & C	This plan includes Areas A, B and C and the 3,500 preserve area. The documentation assesses presence and absence of special status plant and animal species, wildlife movement corridors, and evaluates wetlands and watercourses. ♦ California tiger salamander (CTS), California red-legged frog (CRLF) and SJKF were focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on field studies conducted by LSA in 1988, 1989, 1990 and 1991. Conclusion of the Report: Specifies a biological mitigation program for the Lakeside Tracy Development Project which allows for future development in exchange for the long term conservation of special status species habitat within the region. ♦ CTS and CRLF were performed in 1991. ♦ SJKF surveys were conducted in 1988, 1989, 1990 and 1991.

Table 4.4-1:Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area (Project Area)

Document Name	Areas Covered	Summary of Documentation
		♦ Importantly, no CTS, CRLF and SJKF were detected during pedestrian based field surveys. Field census efforts targeted the uplands (Area C and the 3,500 acres subject to the conservation easement) and Corral Hollow Creek within the study area because those lands were presumed to have higher species diversity and habitat value for local and migratory wildlife than adjacent locales.
Jurisdictional Delineation (Foothill Associates, 2003)	A, B & C	As confirmed by a field verification performed by the U.S. Army Corps of Engineers, all wetlands on the Project site are isolated and not jurisdictional wetlands or water of the U.S.
Habitat Management Plan - Tracy Hills Project (Foothill Associates 2004)	B & C	This plan's documentation assessed the presence and absence of special status plant and animal species, wildlife movement corridors, and evaluates wetlands and watercourses. ♦ CTS, CRLF, and SJKF were focal species. The SJKF and CTS were not found on the Project site, the CRLF was found only in the Corral Hollow Creek area that is completely off the Project Site. ♦ Even though the above-mentioned species were not present in the project's footprint, this plan discusses a habitat based biological management and monitoring program for SJKF, CRLF, and CTS to offset potential affects from the proposed Tracy Hills Specific Plan Project on the 3,500 open space preserve area west of the Project Site, where as detailed in this Section, conservation easements have now been placed. ♦ Confirms that the 3,500 acre open space preserve serves as a potential wildlife corridor, and that the proposed Project completely avoids impacts to aquatic habitat supporting, or with potential to support, California red-legged frog or California tiger salamander.
Environmental Assessment for the Tracy Hills HCP (Tracy Hills LLC 2004)	A, B & C	This analysis includes Areas A, B and C and the documentation assessed presence and absence of special status plant and animal species, wildlife movement corridors, and evaluates wetlands and watercourses. ♦ Special status plants (i.e., Large-flowered fiddleneck and Big Tarplant) and SJKF are focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on pedestrian surveys. This environmental assessment was prepared in compliance with the National Environmental Policy Act and concluded that effects on special status plant and animal species from the proposed development are not significant. ♦ No SJKF or special status plants were detected during field surveys.
Tracy Hills San Joaquin Kit Fox Analysis (Berryman Ecological LLC 2006)	A, B & C	This analysis includes Areas A, B and C and the documentation assessed presence and absence of SJKF within the study area. ♦ Conclusions of the Report: While no SJKF or burrows were observed on site, under the appropriate suite of environmental factors the Project Area could hypothetically support individual members of the northern satellite population of SJKF.

Table 4.4-1:Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area (Project Area)

Document Name	Areas Covered	Summary of Documentation
		♦ The northern population of SJKF has been identified as a low priority for habitat preservation, based upon the low kit fox densities and high risk of local extirpations in its northern range relative to land cost. The Report details no evidence to support the existence of natal kit fox dens or kit fox breeding in the Project Site in over the last two decades, stating only that the Project Site could hypothetically support the SJKF under the appropriate suite of environmental factors.
Tracy Triangle San Joaquin Kit Fox Surveys, Project #2689-01 (H.T. Harvey & Associates 2006)	A, B & C	The study includes Areas A, B & C, and the documentation assessed presence and absence of special status wildlife. ♦ SJKF was a focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on pedestrian surveys. Conclusion of the Report: No active or inactive SJKF dens or individuals were detected within the Project Site.
Biological Resources on the Tracy 580 Business Park Property (Berryman Ecological LLC 2010a)	B	Documentation assessed presence and absence of special status plant and animal species, and wildlife movement corridors. ♦ SJKF, Western Burrowing owl, California red-legged frog, CTS and Western spade foot toad were focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on pedestrian surveys. Conclusion of the Report: The study did not document any SJKF, Western Burrowing owl, CRLF, CTS or Western spade foot toad. None of these species were detected during field surveys. ♦ The document determined that Area B of the Project Site is not likely to support the aforementioned species, and Interstate 580 is a significant barrier that impedes and curtains wildlife movement through the study area.
Burrowing Owl Surveys for Tracy 580 Business Park (Berryman Ecological LLC 2010b)	B	Documentation assessed presence and absence of special status wildlife. ♦ Burrowing Owl was the focal species. ♦ Existing baseline conditions with regard to vegetation communities, land cover types, flora and fauna were detailed based on pedestrian surveys. Conclusion of the Report: No active burrows or individual Burrowing Owls were detected within the study area.
Preserve Management Plan for the Tracy 580 Business Park Preserve (ICF International 2011)	B	Governs management of the open space preserve area west of the Project Site in connection with the previously-proposed Tracy 580 Business Park, which would have resulted in the development of Area B. This plan addresses the 3,500-acre preserve area and the documentation assesses the presence and absence of special status plant and animal species, wetlands, watercourses and wildlife movement corridors. The 3,500-acre open space preserve area contains seasonal wetlands, a functional migration corridors and occupied habitat for special status species. The preserve area also includes functional habitats for burrowing owl, SJKF, CRLF, and CTS, among others (ICF 2011). Ongoing livestock grazing on the preserve area was determined to be compatible with the production and maintenance of grassland habitats for San Joaquin kit fox, Burrowing Owl, and others

Table 4.4-1:Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area (Project Area)

Document Name	Areas Covered	Summary of Documentation
		grassland-dependent covered species. ♦ Riparian habitat along Corral Hollow Creek (outside the Project Site) was characterized as potentially suitable to support CRLF, CTS, and the Western spadefoot toad. ♦ Specifies goals and objectives of habitat management, and describes ongoing land management activities and pre activity survey specifications - including but not limited to allowed and prohibited land uses within the study area. ♦ Documents the presence or absence of species within the preserve area.
Tracy Hills Project- U.S. Army Corps of Engineers Jurisdiction Assessment (Olberding Environmental, Inc. 2013)	A, B & C	This jurisdictional determination includes Areas A, B and C and the documentation assessed presence and absence of wetlands and watercourses. Existing baseline conditions with regard to vegetation communities, land cover types, are detailed based on pedestrian surveys. The study area includes > 5-acres of jurisdictional waters. ♦ Approximately 2.3-acres of wetlands were identified (e.g., swales, seasonal wetlands and vegetated drainage channels). ♦ Roughly 2.7-acres of watercourse (i.e., channels and ephemeral drainage features.
Tracy Hills Specific Plan: Habitat Assessment & San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Consistency Analysis (RBF Consulting 2014)	A & B	Documentation asserts that Areas A and B of the Project Site will adhere to the terms of the SJMSCP. Because Areas A & B are covered by the SJMSCP, those Areas are subject to the automatic Section 10 permit coverage afforded to those lands covered by the SJMSCP. SJMSCP impact fees will be paid or land in lieu will be provided by the Project owner which will be used to acquire conservation lands or fund on-going conservation efforts. As stated the Project owner already recorded a conservation easement over the 3,500 acre area in favor of the SJMSCP and a funding mechanism to permanently conserve this area will be required as part of the Project approval. An agreement is in place with SJCOG for enhancement and maintenance funding for approximately 720 acres of the preserve, which is triggered upon ground disturbance of Phase 1a of the Project. ♦ Compliance obligates consistency with all incidental take measures as required in the SJMSCP, including, but not limited to, preconstruction surveys for special status flora and fauna and standard avoidance measures. Area C is not covered under the SJMSCP. As a consequence, if impacts to any State and Federally-listed species, or any species proposed for listing were to occur within this portion of the study area, the Project proponent would be required to apply independently for Federal Endangered Species Act (FESA) / California Endangered Species Act (CESA) coverage.
Scat Detection Dog Surveys for the Endangered San Joaquin Kit Fox (*Vulpes macrotis mutica*) at the Tracy Hills Project Site, San Joaquin County, California (Working Dogs for Conservation Foundation 2010, 2012, 2013 and 2014)	A, B & C	This study includes Areas A, B and C and the documentation assesses presence and absence of special status wildlife. SJKF was the focal species. Conclusion of the Report: The results of the scat detection dog surveys do not support the presence of SJKF on the site. No active burrows, dens, scat or individual SJKF were detected within the study area during four years of protocol level, concentrated field census activities from 2010, 2012, 2013 & 2014.

Table 4.4-1:Existing Biological Documentation Prepared for the Tracy Hills Specific Plan Area (Project Area)

Document Name	Areas Covered	Summary of Documentation
U.S Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2015a)	A, B & C	Assessed presence and absence of critical habitat for special status plant and animal species within the study area. Conclusion of the Report: A small portion of Area C is co-located with critical habitat for CRLF. The acreage of CRLF critical habitat within the study area is insignificant, as it represents < 0.001% of the USFWS designated critical habitat for this species, and does not actually support the CRLF. The Project Site does not contain other USFWS-designated critical habitat.
USFWS Sacramento Office Species List for San Joaquin County (USFWS 2015b)	A, B & C	Correspondence from USFWS details special status species with a potential to occur within the study area.
California Natural Diversity Database (CDFW 2015)	A, B & C	Assessed presence and absence of special status plant and animal species within the study area based on historic data maintained by the California Department of Fish and Wildlife. ♦ Conclusion of the Report: The land proposed for development by within Areas A, B and C do not support recent records of occurrences of State or Federal-listed species.
Aerial Photographs (Microsoft Corporation 2015)	A, B & C	Recent aerial photographs were assessed to compare the aerial signatures to the vegetation polygons and land cover types mapped by means of field surveys.
Stanley, R. 2015. California Department of Fish and Wildlife, Napa, California. Personal communications with NOREAS Inc.	A, B & C	2014 site visit with CDFW to assess the potential for occurrence of special status species within the study area (the entire Project Site). CDFW representatives stated that while the study area is large in total size, it has low species richness and diversity; and those lands proposed for development do not support high quality habitat for any State or federally-listed species. CDFW also asserted that the adjacent 3,500-acre open space conservation easement area is biologically superior to those lands that the Project is proposing to develop as it includes seasonal wetlands, functional migration corridors and occupied habitats for special status species.

4.1.1 ENVIRONMENTAL SETTING

The Project Site encompasses approximately 2,732-acres along I-580, between the Union Pacific Railroad and I-580 and Corral Hollow Road interchange, is primarily undeveloped, and has been utilized for livestock grazing and other agricultural purposes. Interstate 580 is a four-lane, limited-access interstate highway that bisects the property on a north-to-south axis. Interstate 580 connects to I-205 and the western extension of I-580 on the north and to I-5 to the south. The freeway is also fronted by the 100-foot wide, open space habitat conservation easements within portions of the Project Site. Existing roadways providing access to the Project Site include I-580, Corral Hollow Road, and Lammers Road. Within approximately four miles from the Project site, I-580 connects I-205 and the western extension of I-580 to the north and with I-5 to the south.

Area A of the Project Site, bound by the California Aqueduct, Union Pacific Rail Road, Delta Mendota Canal and Corral Hollow Road is actively utilized for agricultural crops with three existing residences. The area east of Corral Hollow Road is vacant except for a small cement foundation from an abandoned truck stop. Area A is developed with agricultural uses, with no native vegetation or suitable habitat for special status species.

Area B of the Project Site, bound by I-580 to the south and the Union Pacific Railroad/California Aqueduct to the north is undeveloped and is also utilized for livestock grazing with an abandoned structure formerly used in relation with the livestock operation. There is also a corral for livestock on the northern portion of Area B. The vegetation in Area B is primarily annual grassland used by an active livestock grazing operation. Development of Phases 1a and 1b of the Project will occur entirely in Area B.

Area C of the Project Site, south of I-580 and northwest of Corral Hollow Road is almost entirely undeveloped, but is heavily impacted from historic livestock grazing activities and includes annual grassland currently being grazed. Corral Hollow Creek is found immediately south of Area C and supports areas of riparian woodland that has been significantly degraded by historical grazing activities. The approximately 3,500 acre open space preserve set aside by the previous Project owner is directly adjacent to Area C and is shown on the map set forth in Figure 4.4-2.

LEVEL OF EXISTING DISTURBANCE

The majority of the Project Site consists of highly disturbed non-native vegetation and grasslands, as well as agricultural, ruderal and developed areas. Given the extent of anthropogenic influence (i.e., existing and extensive historical livestock grazing and agricultural activities) and low quality habitat present, the likelihood of any special status species utilizing the Project Site as functional habitat is extremely minor, particularly considering the presence of higher-quality habitats available within the region and immediately adjacent to the Project Site, specifically including 3,500 acres adjacent to the Project Site that have been set aside for conservation (and are subject to a recorded conservation easement). This set aside occurred as a previous Project design feature to preserve higher quality habitat areas in the foothills of the Diablo Mountains, and concentrating development in the low-lying, highly disturbed, low quality habitat areas that make up the Project Site. There are approximately 500 head of cattle using the Project Site for rotational grazing, as well as row crop agriculture and orchards, and very little undisturbed land. Even the riparian woodland along Corral Hollow Creek – which the Project will leave undeveloped – has been degraded by historical grazing. The Project site also contains vacant buildings, abandoned concrete foundations, and other such blight, in addition to several residential dwellings.

Significantly, as detailed throughout this EIR, no State or Federally-listed, proposed, or candidate plant or animal species have ever been detected proposed Project's footprint, despite that fact that many field surveys have been conducted over a twenty-five year period from 1989 to 2015. The results of the various biological surveys of the Project area have not changed significantly over this time period, as shown by the surveys performed in 2014 and 2015 by RBF and NOREAS, respectively, including focused surveys for relevant species performed by NOREAS in 2015. (Appendix C-2.) Although the Project area is relatively large in size, it has a very low species richness and diversity, and the area proposed for development does not support habitat for any State or Federal-listed species. (Appendix C-2, NOREAS Report, p. 1-3.) The Project is not expected to result in significant impacts to any special status species protected under State or Federal law, nor will implementation of the Project contribute to loss of viability, or substantially modify regional habitat availability for any common or special status species. Implementation of the Project also will not create barriers to wildlife corridors or otherwise significantly impede wildlife movement in the region.

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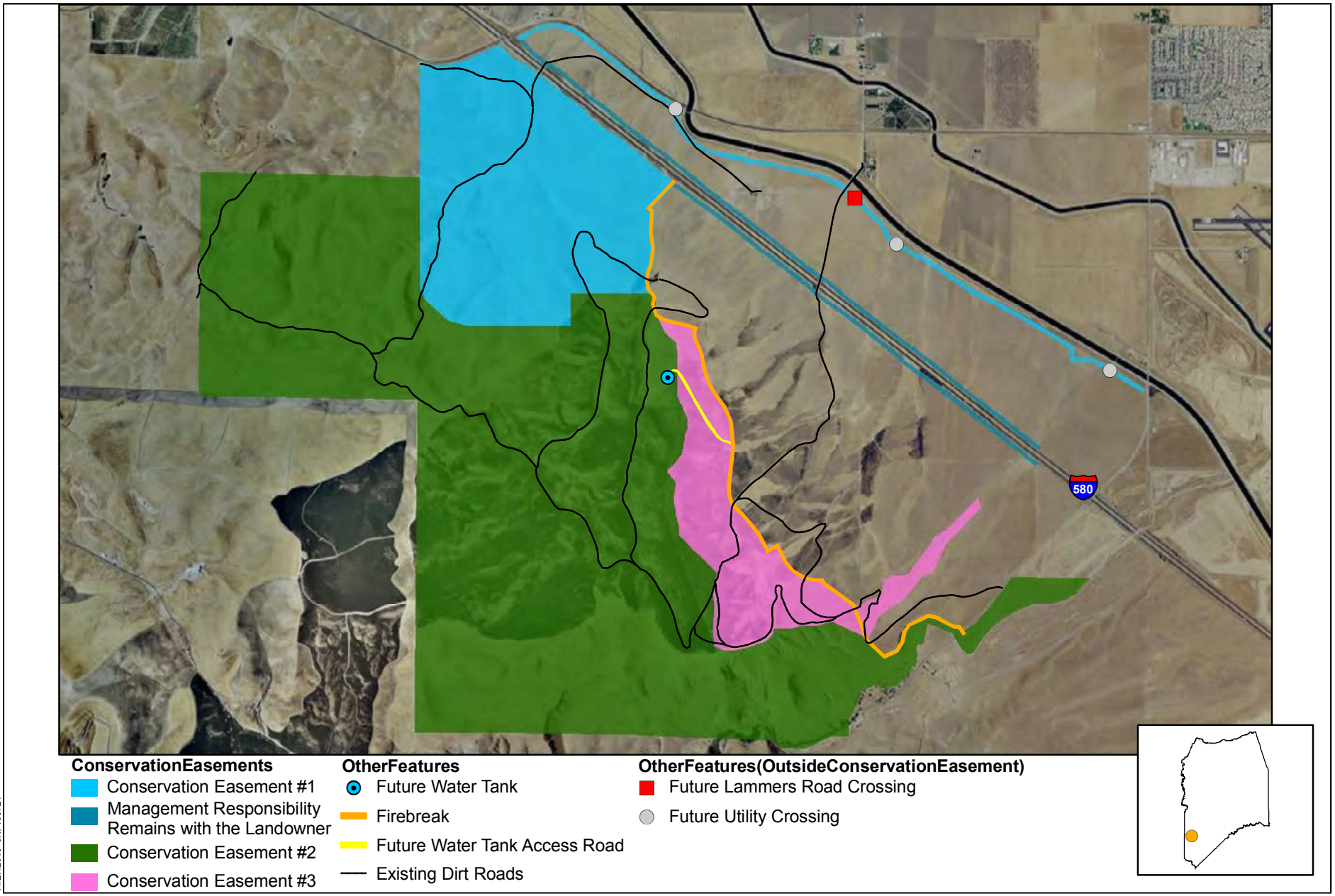

Source: RBF Consulting. Tracy Hills Specific Plan Habitat Assessment and San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. October 2014.

FIGURE 4.4-2
THE PRESERVE

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In sum, as set forth in greater detail below, (i) the Project Site has been significantly disturbed over the past several decades which has resulted in extremely low grade habitat; (ii) no State or Federally-listed, proposed, or candidate plant or animal species have ever detected within lands proposed for development within the Project Site during field surveys conducted over a twenty five year period from 1989 to 2015; (iii) and implementation of the proposed Project would not result in significant impacts to biological resources.

VEGETATION

No undisturbed native habitat or grassland exists on the Project site. In addition to disturbed land that no longer supports vegetation (*e.g.,* dirt access roads and areas that have been heavily compacted from livestock grazing activities), six (6) plant communities were actually observed within the boundaries of the Project Site: agricultural, annual grassland, orchard, non-native grasses, California Aqueduct/Open Water, and developed. These plant communities are described in further detail below.

Area A is composed of orchard, ruderal, agricultural, developed, and California Aqueduct/Open Water, and is completely developed with no native vegetation or suitable habitat for special status species.

Area B is composed of predominately non-native annual grassland, non-native grasses, and developed lands (*e.g.*., Union Pacific Railroad, California Aqueduct, commercial livestock and agricultural operations, etc.).

Area C is composed of annual grassland and non-native grasses, and is predominately undeveloped. Nonetheless, Area C has been heavily impacted from historic commercial livestock activities, and includes annual grassland currently being grazed.

AGRICULTURAL

The agricultural land cover type is actively utilized crop production and includes areas bound by the Union Pacific Railroad and the California Aqueduct to the south, the Delta-Mendota Canal to the north, and the Corral Hollow Road to the east. This type is used for annual and biannual row crops. Agricultural is the dominant vegetation community in Area A and does not occur in Areas B or C.

ANNUAL GRASSLAND

The Project Site primarily consists of an annual grassland plant community dominated by non-native grasses and forbs. The annual grassland plant community has been subject to excessive cattle grazing activities, disturbing the area, keeping vegetation open and sparse, and has restricted the colonization of native shrubs and trees. Plant species found in this plant community include wild barley (Hordeum ssp.), soft chess (Bromus hordeaceus), red brome (Bromus rubens), ripgut (Bromus diandrus), and wild oats (Avena ssp.). This community also contains small areas of anthropogenic structures that are generally associated with active cattle ranches (i.e., fences, gates, water tanks, troughs, wells, cattle guards, corrals, dirt and gravel roads). Some structures also occur within the Project Site, such as a cabin, out buildings, remnant ornamental trees, power poles and lines. In addition the southeastern portion of this land cover type has been leveled. Therefore remnant berms are present as well; indicating signs of historically irrigated pasture lands. A few ornamental trees, mostly blue gum (*Eucalyptus globulosus*) also occur in this vegetation community. This plant community is found on the undeveloped foothills of Area C on the southwestern portion of the Project (south of I-580) and in Area B. This habitat comprises of the majority of Areas B and C, and does not occur in Area A.

ORCHARD

The orchard land cover type within the Project Site includes active orchards with regular applications of herbicides to manage weed populations. These orchards include annual and biannual crops located in the southeastern portion of Area A.

NON-NATIVE GRASSES

The non-native grasses vegetation community is characterized by nonnative, typically early successional plant species, which are tall and accumulate as thatch due to their non-grazed condition. This plant community generally occurs on the sides of elevated berms of the California Aqueduct and roads. Dominant plant species observed in this plant community include shortpod mustard (*Hirschfeldia incana*), gumweed (Grindelia ssp.) and telegraph weed. This plant community generally occurs on the sides of elevated berms of the California Aqueduct and roads, and is found on the western corner of the intersection of I-580 with Corral Hollow Road (Area C), on the southwestern side of Corral Hollow Road north of I-580 (Area B), and along the banks of the California Aqueduct, Delta-Mendota Canal, and I-580 (Areas A and B).

CALIFORNIA AQUEDUCT/OPEN WATER

Open water occurring within the Project Site is characterized by deep water (>4 feet in depth) that is general devoid of vegetation. This habitat occurs within the California Aqueduct and is of human construction. The California Aqueduct is a concrete lined trapezoidal channel that flows in a northwest to southeast direction along the northern boundary of Area B and on the southern boundary of Area A. No plant species have established within this watercourse.

DEVELOPED

The Project Site includes developed areas primarily consisting of paved roads and rail road appurtenances. The developed areas include I-580, Corral Hollow Road, California Aqueduct, Delta-Mendota Canal, and several existing homes. This land cover type also includes remnant buildings and foundations not currently associated with a commercial grazing operation. These developed areas occur in Areas A and B.

Before surveys were conducted, CDFW's California Natural Diversity Database (CNDDB) was queried for reported locations of listed and sensitive plant species in the broader Project Site area. Based on this review of applicable literature (Appendix C-2, NOREAS Report, Figure 4, Appendix A), special-status species with a potential to occur on or within ten miles Project Site were identified. (*See also,* Appendix C-1, 2014 RBF Report, pp. 12-13.) The pedestrian-based surveys performed by RBF in 2014 and NOREAS in 2015, including NOREAS' 2015 focused special status plant survey, did not observe any of the Special Status plants that are known to occur within 10 miles of the Project Site. (Appendix C-2, NOREAS Report, Appendix E.) These 2014 and 2015 surveys were conducted pursuant to professional industry standards and published guidelines. Community type descriptions were based on observed dominant vegetation composition, and derived from the criteria and definitions of widely accepted vegetation classification systems (Holland 1986; Sawyer et al. 2009). Plants were identified to the lowest taxonomic level sufficient to determine whether the species observed were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common names of plants were recorded according to Baldwin et al. (2012). (*See,* Appendix C-2, NOREAS Report, Appendix E, pp. 3-1 & 3-2.)

No State or federally-listed plant species, nor any otherwise protected or special status plant species, have been detected during any of pedestrian-based biological surveys that have been performed within discrete portions of the Project Site over a 25 year period from 1989 to 2015, nor have any State or federally-listed plant species been documented within 2 miles of the Project Site. (Appendix C-2, NOREAS Report, Figure 4, Appendix E.) The Project Site does not include any USFWS critical habitat for plants. (*Id,* Figure 5.)

WILDLIFE

Before the most recent wildlife surveys were conducted, the CNDDB was queried for reported locations of listed and sensitive wildlife species in the general Project area. Based on the review of applicable literature (Appendix C-2, NOREAS Report, Figure 4), special-status species with a potential to occur within the Project Site were identified. (*Id.,* Appendix A; *see also,* Appendix C-1, 2014 RBF Report, pp. 12-13) Ultimately, through the 2014 and 2015 surveys conducted by RBF and NOREAS, the determination of whether or not a wildlife species is present on the Project Site was based on direct observation or wildlife signs (e.g., tracks, burrows, nests, scat, or vocalization). Field data compiled for wildlife species included scientific name, common name, and evidence of sign when no direct observations were made. Wildlife of uncertain identity was documented and subsequently identified from specialized field guides and related literature (Burt and Grossenheider 1980; Halfpenny 2000; Sibley 2000 and Stebbins 2003). For species that could not be identified during the survey, the plant communities were evaluated for their potential to support targeted special status species of fauna and flora. This evaluation was based on comparisons of observed habitat characteristics with reported occupied habitats and species distributions.

The 2014 and 2015 surveys conducted by NOREAS cover all three areas of Project Site, and consist of 2014 field reconnaissance surveys and 2015 focused protocol-level surveys for the relevant species detailed below. It bears noting that in the professional opinion of NOREAS, the Project Site has been subjected to an incredibly extensive amount of biological analyses – more than other development projects of which NOREAS is aware. (See, Table 4.1-1; Appendix C-2, 2015 NOREAS Report.) As confirmed by the 2014 and 2015 surveys, the conditions on the Project Site have not meaningfully changed over the last quarter century.

Relatively few wildlife species were detected in the 2014 reconnaissance surveys conducted by both RBF and NOREAS throughout the Project Site, the majority of which were birds. (See, Appendix C-2, NOREAS Report, Appendix D; *see also,* RBF C-1.) Generally, wildlife species richness improved within the residences surrounded by agricultural fields due to increase availability food (e.g., bird feeders), water (i.e., irrigation and bird baths), and shelter (e.g., diverse assemblage of ornamental trees and shrubs), but on the whole, while the Project Site is large in total size, the Project Site has very low species richness and diversity, and those lands proposed for development do not support habitat for any State or Federal-listed species. Generally, the Project Site's porous soils quickly absorb rainfall, and any flows within it are predominately ephemeral, fast and short lived, ultimately reducing water availability for plants and wildlife within the Project Site.

2015 FOCUSED SURVEYS

To clarify baseline conditions within the Project Area and to substantiate that biological circumstances have not changed significantly over the past twenty-five years, based on literature review and the actual results of the many surveys conducted over twenty-five years (summarized above), including the 2014 reconnaissance surveys, the following additional targeted survey activities were performed within the Project Site in 2015:

SPECIAL STATUS/RARE PLANTS

As discussed above, in 2015, botanists performed a rare plant surveys within the Project Area. (Appendix C-2, 2015 NOREAS Report, Appendix E.) Survey methods were derived from the published regional procedures established by the USFWS, CDFW, and California Native Plant Society (CNPS). The surveys coincided with the known flowering period of local species. No state- or federally-listed plant species were documented within 1 mile of the Project, the Project site does not include any USFWS-critical habitat for plants, and no rare plant species were detected anywhere in the Project Site. (*Id.,* Figures 5, 6 & 7.) Consistent with the history of the Project Site, this 2015 focused, pedestrian-based rare plant survey found that the Project Site does not contain any listed, candidate, other special status or rare plant species, and therefore concluded that the proposed Project would not result in the loss of individual special status plants, nor would it adversely affect local or regional populations of the same.

BURROWING OWL

Biologists performed focused burrowing owl surveys within the Project Area during 2015. (Appendix C-2, 2015 NOREAS Report, Appendix F.) Survey methods were derived from generally accepted professional standards including the 1993 California Burrowing Owl Consortium Burrowing Owl Survey Protocol and Mitigation Guidelines, and 2012 CDFW Staff Report on Burrowing Owl Mitigation. This survey detected one pair of owls in Area C – which is subject to programmatic analysis in this EIR – that were using a discrete burrow complex. (*Id.,* Figure 3.) Based on the survey results, NOREAS found that given the low quality habitat present (i.e., limited prey base, absence of irrigated agricultural lands, and presence of predators), the likelihood of a significant population of Burrowing Owls being supported by the Project Site is negligible. NOREAS therefore concluded that the Project is not likely to adversely affect Burrowing Owls, and moreover, the mitigation measures imposed by this Section (*e.g.,* pre-construction surveys) ensure that the Project would not result in a "take" of Burrowing Owl.

CALIFORNIA RED-LEGGED FROG (CRLF)

Biologists performed an assessment for the CRLF on the Project Site in 2015. (Appendix C-2, 2015 NOREAS Report, Appendix G.) Survey methods were derived from the 2005 USFWS California red-legged frog Survey Protocol (USFWS 2005). The assessment for CRLF was performed within 1 mile of the area of the Project Site that could potentially support the CRLF. The assessment did not find any breeding habitat that could support development of the CRLF, and in fact, no CRLF breeding habitat has ever been identified on the Project Site. Nonetheless, under the appropriate suite of environmental factors, a series of ephemeral drainages running south to north through the southwestern portion of the Project Site could function as dispersal habitat – albeit extremely low quality (i.e., presumed to be fast–flowing, ephemeral features that only convey water during, and immediately following, storm events). The value of these features as adult CRLF dispersal habitat is not significant because there are no known aquatic breeding habitats within the vicinity of these drainages, and these areas are severely movement constrained as a result of the Project Site's topography, presence of the I-580 and man-made aqueducts, lack of appropriate cover to elude predators or exposure to desiccation, disked fields, and livestock grazing. (Appendix C-2, NOREAS Report, Appendix G, p. 5-1.)

No CRLF were documented on the Project Site. Historically, the CRLF has only been documented outside the Project Site in the 3,500 acre open space preserve area. While small, discrete subset of land within Area C of the Project is co-located with USFWS-designated critical habitat for CRLF, that portion of the Project Site does not actually support CRLF, and the CRLF has never been documented in that area (or any area of the Project Site).

Accordingly, the 2015 CRLF assessment concluded that, given the lack of breeding habitat and movement constrained dispersal habitat within the Project Site, the likelihood of CRLF successfully reproducing within the Project Site or even utilizing it for dispersal is negligible. (*Id.*; *see also,* p. 6-1.) Moreover, there is much higher quality habitats are available within the region (*e.g.,* the 3,500 acre open space preserve), and any CRLF habitat loss associated with the Project would be insignificant. (*Id.*) Moreover, the mitigation measures imposed by this Section (*e.g.,* pre-construction surveys) ensure that the Project would not result in a "take" of CRLF.

CALIFORNIA TIGER SALAMANDER (CTS)

Biologists also performed a focused assessment for the CTS in 2015. (Appendix C-2, 2015 NOREAS Report, Appendix H.) Survey methods were derived from generally accepted professional standards including the 2003 Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. No CTS were documented on the Project Site, nor was any CTS aquatic breeding habitat, which has never been detected within the Project Site. Od only low quality, severely movement constrained CTS dispersal habitat is present. (*Id.* at pp. 1-2, 5-1, 6-1.)

This focused CTS habitat assessment found that the likelihood of CTS successfully reproducing within the Project Site or even utilizing it for dispersal is negligible, and concluded that the habitat loss associated with the Project would be insignificant, particularly considering the higher value vegetation communities and land cover types within the region located outside the Project Site, specifically including the 3,500 acre preserve. Moreover, the mitigation measures imposed by this Section (*e.g.,* pre-construction surveys) ensure that the Project would not result in a "take" of CTS.

SAN JOAQUIN KIT FOX (SJKF)

Biologists performed focused surveys for the SJKF in 2015, even though many SJKF focused surveys have been conducted throughout the Project Site – including a series of focused scat detection surveys conducted in 2010, 2012, 2013, 2014 – and every single survey has concluded that the SJKF is not present on the Project Site. (Referenced within Appendix C-2, Working Dogs for Conservation Foundation, Scat Detection Dog Surveys; 2015 NOREAS Report, Appendix L.) Survey methods were derived from generally accepted professional standards, including the 1999 USFWS SJKF survey protocol for the Northern Range. Census activities also included spotlighting, infrared triggered digital imaging stations and scent stations.

During the approximately 30 days of SJKF surveys, a single SJKF was observed in May of 2015 via binoculars during a spotlighting survey. The animal was foraging within the fenced right-of-way of the California Aqueduct, which is not within the Project Site. This observation lasted approximately 20 seconds, as the fox ultimately moved along the California Aqueduct's gravel security road in a southern direction until it was out of site. No other SJKF has ever been detected within the Project Site, including the other 2015 surveys. It bears noting that some argue that spotlighting may be less reliable compared to other forms of surveys – *e.g.,* SJKF scat surveys, which when conducted on the Project Site, have been consistently negative – because spotlighting relies on observations made under poor lighting conditions. (Appendix C-2, NOREAS Report, Appendix I [citing Howard O. Clark, Jr, "Analysis of San Joaquin Kit Fox Element Data with The California Diversity Database: A Case For Data Reliability" (2007)].)

The survey results indicated that given the low quality habitat present (i.e., limited rodent population, depauperate landscape, competition and territorialism among other mammals within the Project Site, such as coyotes), the likelihood of SJKF successfully establishing a natal den or utilizing the Project Site as valuable foraging habitat is negligible. Although little can be concluded from a single observation of one animal, it is conceivable, albeit unlikely, that the California Aqueduct is functioning as a movement corridor for a small number of SJKF.

The 2015 SJKF survey ultimately concluded that, considering targeted surveys for SJKF on the Project Site have been consistently negative for twenty- five years, and that the 2015 survey documented only a single SJKF outside the Project Site, the proposed Project would not result in the loss of individual SJKF or adversely affect local or regional SJKF populations. (Appendix C-2, NOREAS Report, Appendix I, pp. 6-1 & 6-2.) Accordingly, the proposed Project would result in an a less than significant impact on SJKF. (*Id.*) Moreover, the mitigation measures imposed by this Section (*e.g.,* pre-construction surveys and other preventative measures) ensure that the Project would not result in a "take" of SJKF.

SWAINSON'S HAWK

Finally, biologists also performed focused surveys for the Swainson's Hawk in 2015. (Appendix C-2, 2015 NOREAS Report, Appendix J.) Survey methods were derived from generally accepted professional standards including the 2000 Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000). This survey identified one unpaired Swainson's Hawk soaring and sitting on a remnant/abandoned nest. The abandoned nest was in a Eucalyptus tree located within the road right-of-way of Interstate Highway 580, outside of the Project Site boundaries. This individual hawk was never observed actively nesting and no mate was detected during any of the 2015 survey events. Given the low quality habitat present (i.e., limited prey base, depauperate landscape, competition, and territorialism among nesting raptors), the likelihood of Swainson's Hawk successfully nesting or utilizing the Project Site as valuable foraging habitat is negligible, particularly considering the much higher quality habitats available within the region, specifically including the 3,500 acre preserve area.

Accordingly, NOREAS concluded that the proposed Project would result in an insignificant impact on the Swainson's Hawk. Moreover, the mitigation measures imposed by this Section (*e.g.,* pre-construction surveys) would ensure that the Project would not result in a "take" of Swainson's Hawk or other raptors, such as the Northern Harrier or Loggerhead Shrike, which are not State or Federally-listed, or even candidates to be listed, but are considered "special status" species by the State of California.

In sum, no State or Federally-listed, proposed, or candidate plant or animal species have been detected within lands proposed for development on the Project Site during field surveys from 1989 to 2015, including in the aforementioned focused surveys. Furthermore, the Project would not result in additional State or Federal protection, loss of viability, or substantially modify regional habitat availability for any common or special status species. (Appendix C-2, 2015 NOREAS Report, p. 5-1.)

Notwithstanding the foregoing, while not specifically documented in the 2015 surveys, under the appropriate suite of environmental conditions, the Project Site could hypothetically support the Prairie falcon, San Joaquin Whipsnake, and Coast Horned Lizard, none of which are State or Federally-listed, or even candidates to be listed, but are considered "special status" species by the State of California. Additionally, the American Badger was documented during the 2015 surveys, but that species also not State or Federally-listed, or even a candidate to be listed, but is a California "special status" species. (*Id.*) The NOREAS biological assessment concluded

that, considering the low quality habitat on the Project Site, coupled with higher quality habitat available nearby the Project Site, including the 3,500 acre preserve, the proposed Project would result in a less than significant impact on these species, even if they are found on the Project Site. Moreover, the mitigation measures herein require pre-construction surveys and avoidance measures that would avoid ay "take" of special status species documented on the Project Site.

WILDLIFE MOVEMENT, MIGRATORY CORRIDORS AND LINKAGES

As has been concluded in twenty-five years of study and confirmed by the 2014 and 2015 updated surveys, the Project Site is not likely or expected to support State or Federally-listed flora and fauna, and Interstate 580 is a significant barrier which impedes and curtails wildlife movement across the Project Site.

Area C of the Project Site is adjacent to the eastern foothills of the Diablo Mountain Range. The Diablo Mountain Range provides a natural wildlife corridor to the north and the south extending along the southern coastal mountain ranges of California. Development of Area C will be limited to the relatively flat grasslands south of I-580 and east of the foothills of the mountains, which is on the opposite side of the 3,500 acre preserve area, discussed below. As a result, the migration corridor west of the Project Site consisting of the Diablo Mountain Range will not be obstructed or significantly impacted. Additionally, the Project has been designed such that development of Area C will completely avoid direct impacts to the Corral Hollow Creek key linkage corridor and it corresponding flood plain and alluvial sand movement areas, which are located south of Area C in the 3,500 acre open space preserve area. (Appendix C-2, 2015 NOREAS Report.) Corral Hollow Creek has higher species diversity and value for local and migratory wildlife than adjacent locales, and accordingly, the proposed Project is designed to completely avoid development of the Corral Hollow Creek area to maintain local existing wildlife movement and dispersal linkages.

The aforementioned 3,500-acre open space preserve area adjacent to Area C was set aside by the previous owners of the Project Site under a series of conservation easements, and as such, it provides a natural corridor to the north and the south extending along the southern coastal mountain ranges of California by preventing any development that would affect the Diablo Mountain Range. This preserve contains higher quality habitat for all relevant species than the low grade habitat found on the Project Site.

Interstate 580 – which runs through the middle of the Project Site, separating Areas A and B from Area C – is a significant barrier which impedes and curtails wildlife movement throughout the region, severely limiting the Project Site's utility as a wildlife movement corridor or linkage area. Due to the fact that the I-580 completely separates Areas A and B from Area C, even without any development of Areas A and B, species are not able to migrate from Areas A and B to the Diablo Mountain Range and associated wildlife corridor. Accordingly, Areas A and B do not function as significant wildlife movement corridors nor do they provide linkage to significant habitats. A 100-foot setback from I-580, in the form of conservation easements, will be implemented to provide a migratory corridor down a portion of the middle of the Project Site (as discussed below, the California Aqueduct serves this same purpose in a different area of the Project Site), allowing wildlife to move north and south through Areas B and C. In sum, development of the proposed Project would not impede any wildlife movement that is currently occurring without development.

The California Aqueduct – which separates Areas A and B – and Delta-Mendota Canal, which is located on the northeast boundary of the Project Site (Area A), are the only other portions of the Project Site that function as wildlife corridors or promotes linkage. These man-made waterways act as stepping stone refugia habitat for

the dispersal of SJKF and other wildlife species that exist in the region outside of the Project Area by providing unobstructed travel corridors for wildlife species to connect to habitats located to the north and south of the Project Site. These waterways would not be affected by development of the proposed Project, which includes a 100-foot setback from the California Aqueduct to allow wildlife movement to persist north and south through Areas A and B without any significant barriers or blockades.

It also bears noting that approximately 9 miles east of the Project Site, the San Joaquin River traverses the agricultural fields on the valley floor of the Central Valley. The River was once dominated by riparian forest habitats and provided a major migration corridor through the middle of the State. This corridor was primarily used by migratory avian species (Pacific Flyway) but was also utilized by mammalian species. The San Joaquin River system is one of the most highly altered water systems in the state due to the diversion of water for agricultural purposes. A proposal has been prepared by the USFWS to restore a major migratory corridor through the center of California by expanding the San Joaquin River National Wildlife Refuge along the lower San Joaquin, Tuolumne, and Stanislaus Rivers to protect and restore riparian habitat. This would not occur on the Project Site, as the Project Site is separated from this regional migratory corridor by extensive existing urban development in the City of Tracy and extensive agricultural operations. There are no natural interconnecting habitats between the San Joaquin River and the proposed Project Site.

Area A, B, and the portion of Area C that will be developed do not function as significant wildlife movement corridors nor do they provide linkage to significant habitats, particularly when taking into consideration the barrier effect of the I-580. Moreover, the above-described Project design features, such as the 3,500 acre preserve, avoidance of impacts to Corral Hollow Creek, the setbacks from the California aqueduct or other riparian features, and the setbacks from I-580 operate to allow the development of the proposed Project without adversely impacting the limited wildlife movement that currently occurs in discrete locations within the Project Site area. (Appendix C-2, 2015 NOREAS Report, also referenced within Jones & Stokes Evaluation of a Proposed Corridor for the San Joaquin Kit Fox in the Tracy Hills Development [states that avoiding adverse impacts to the California Aqueduct and Corral Hollow Creek – which, as explained above, the proposed Project would avoid – would be adequate to maintain local existing wildlife movement and dispersal corridors linkages].)

In sum, the only wildlife movement and migratory corridors are either located off the Project Site (*e.g.,* the San Joaquin River and the 3,500 acre preserve/Diablo Mountains), or are completely avoided and unaffected by the proposed Project, particularly with the proposed setbacks (Corral Hollow Creek, the man-made waterways, any other riparian futures on the Project Site, and I-580).

PROTECTED PLANT SPECIES, WILDLIFE SPECIES, AND HABITAT

Federal Endangered Species Act

The USFWS administers the federal Endangered Species Act (FESA). Section 2 of the FESA provides policy for the conservation of sensitive plant and wildlife species whose numbers have been drastically depleted and are considered in danger of or threatened with extinction. Plant and wildlife species protected under the FESA are classified into various levels of sensitivity and assigned a listing status by the USFWS, in terms of their ability to persist in the environment: federally endangered species, federally threatened species, and federally proposed endangered, proposed threatened, federal candidate, and federal species of concern.

Federally Endangered Species

Species listed as a "federally endangered species" are generally those species considered in danger of extinction throughout all or a significant portion of their known range.

Federally Endangered Plant Species

No federally endangered (or threatened) plant species are known to occur on or in the vicinity of the Project Site. In fact, no federally-listed (or state-listed) plant species have been detected during any of pedestrian based biological surveys which were performed within discrete portions of the Project area from 1989 to 2015 (*See,* Appendix C-2). As discussed above, an updated survey for special status plant species listed by the USFWS, CDFW and/or CNPS was performed by NOREAS in 2015 (focused on the special-status species plants known to occur within 10 miles of the Project Site – NOREAS Report, Appendix A), and consistent with the history of the Project Site, no listed, sensitive or otherwise special status plant species were identified on the Project Site. (Appendix C-2, 2015 NOREAS Report, Appendix E.) In fact, no State or federally-listed plant species were documented within 2 miles of the Project Site. (*Id.*, Figure 4.)

Additionally, the Project site does not contain any suitable habitat to support federally endangered (or threatened) plant species (Appendix C-2, NOREAS Report, Appendix E), making the occurrence of such species unlikely and not expected. The data collected during the twenty-five years the Project site has been studied suggests that there is extremely low potential for any special-status plants species to recruit into the Project Site. The habitat within the Project Site includes existing livestock grazing and agricultural activities which have greatly reduced the Project Site's ability to the support special-status plant species that have the potential to occur in the vicinity. The Project Site lacks vernal pools, alkali and clay soils, serpentine soils, and native vegetation, which are the features where professionals would typically expect to find special status plants. (*Id.*)

Federally Endangered Wildlife Species

No federally endangered wildlife species are known to occur on or in the vicinity of the Project Site, nor have any such species been observed during the many surveys of the Project Site. (*See,* Appendix C-2, 2015 NOREAS Report.)

The SJKF – a federally endangered wildlife species – has never been observed on the Project site over twenty-five years of study. In 2015, a single SJKF was spotted for 20 seconds near the Project Site within the right-of-way for the California Aqueduct. However, based on the Project Site's general location rather than anything specific to the Project Site, portions of the Project Site could hypothetically support the SJKF under the appropriate suite of environmental conditions. (Appendix C-2, 2015 NOREAS Study, Appendix I.) No portion of the Project Site has ever been designated by the USFWS as "critical habitat" for the SJKF.[1]

Over the past twenty-five years, many surveys directly aimed at finding evidence of SJKF have been conducted on the Project Site, including the most recent 2015 pedestrian-based focused surveys (2015 NOREAS Report, Appendix I), yet no such evidence has ever been found, outside the isolated observation discussed above. (Referenced within Appendix C-2, 1993 Evaluation of a Proposed Corridor for the San Joaquin Kit Fox in the Tracy Hills Development; 1999 Habitat Conservation Plan for Lakeside Tracy Development; 2004 Environmental Assessment for the Tracy Hills HCP; 2006 Tracy Hills San Joaquin Kit Fox Analysis; 2006

[1] The USFWS designates specific geographic areas as "critical habitat" when it determines that the area contains features essential for the conservation of a threatened or endangered species. (*See,* http://www.fws.gov/midwest/endangered/saving/CriticalHabitatFactSheet.html)

Tracy Triangle San Joaquin Kit Fox Surveys #2689-01[2]; 2010 Biological Resources on the Tracy 580 Business Park Property; 2011 Preserve Management Plan for the Tracy 580 Business Park Preserve; 2010, 2012, 2013 and 2014 Scat Detection Dog Surveys for the Endangered San Joaquin Kit Fox at the Tracy Hills Project Site.) The quarter century worth of surveys conducted for the SJKF consist of an incredibly comprehensive data set that goes well beyond the amount of data available for other projects located in the City, and conclusively show that SJKF is not present on the Project Site.

Of particular note are the Scat Detection Dog Surveys that were conducted for all three areas of the Project Site. Consistent with prior survey findings (Smith 2010, 2012, Woollett (Smith) 2013), the results of the scat-detection dog surveys conducted in November 2014 do not support the presence of kit fox on the Project Site: "Dogs are capable of locating scats that range from fresh (<8 days old) to several weeks to several months old (Smith et al. 2003, D.A.(Smith) Woollett unpubl. data), and here, no kit fox scats of any age were located across the [Project Site] or at numerous, conspicuous objects occurring on the property. If scats were available for detection it is highly likely that they would have been detected within the distance of each transect route, and through the extensive transect system established. The lack of kit fox scats found on the [Project Site] suggests that currently it is not supporting a resident population." (Referenced within Appendix C-2, Working Dogs for Conservation Foundation, 2014 Scat Detection Dog Surveys for the Endangered San Joaquin Kit Fox at the Tracy Hills Project Site.) That report goes onto state that "[a]s the number of kit fox in an area can vary greatly from year to year (Moehrenschlager et al. 2004), and successful dispersal between populations has been documented and shows that individuals may occupy areas between established populations (Koopman et al. 2001), it is possible that foxes occur intermittently in this area, as transient individuals, or use the site opportunistically. However, positive sightings or other confirmation of kit fox presence on or adjacent to the [Project Site] have not been noted in recent years, and findings from the scat detection dog surveys conducted in 2010, 2012, 2013, and 2014 continue to be consistent with this observation." (*Id.*)

In sum, the results of the 2010, 2012, 2013 and 2014 scat detection surveys provide strong evidence that the SJKF is not present on the Project Site (Areas A, B, and C). This conclusion was confirmed by NOREAS' 2015 focused SJKF protocol-level surveys. (Appendix C-2, 2014 NOREAS Report, Appendix I.)

Moreover, the fact that areas of the Project Site could hypothetically support SJKF is not unique to the Project Site. As referenced above, the SJKF has been studied in connection with the Project Site due to the Project Site's general geographic location, not because of its particular suitability to support the SJKF. Indeed, the 3,500 acres preserve located adjacent to Area C of the Project Site contains higher quality SJKF habitat than the Project Site. While the entire central valley can hypothetically support the SJKF, in reality the SJKF are concentrated in the southern areas of the Valley. (Referenced within Appendix C-2, USFWS 5 Year Review of the San Joaquin Kit Fox, pp. 9-11.) Indeed, according to the CNDDB, few SJKF have been cited in the northerly portions of the San Joaquin Valley, and only 2% of the statewide occurrences of SJKF have occurred in San Joaquin County. (*Id.* at 11.)

In light of the dearth of evidence of SJKF presence on the Project site, the SJKF is not likely or expected to occur on the Project Site. No suitable habitat was found on the Project Site to support any other federally endangered wildlife species. Therefore, it is not likely nor expected that any federally engaged wildlife species occur on the Project Site.

[2] Berryman Ecological and H.T. Harvey & Associates conducted a SJKF aerial survey by flying transects over the Project Site and general area. The results of the aerial survey concluded that no potential kit fox dens were observed on the Project site.

Federally Threatened Species

Species listed as a "federally threatened species" are generally those species considered likely to become an endangered species within the foreseeable future throughout all or a significant portion of their known range.

Federally Threatened Plant Species

As discussed above, no federally threatened plant species are known to occur on or in the vicinity of the Project Site, none have been observed in any of the many surveys of the Project Site, and no suitable habitat occurs onsite for any federally threatened plant species. (Appendix C-2.) As also discussed above, an updated survey for special status plant species listed by the USFWS, CDFW and/or CNPS was performed by NOREAS in 2015 (focused on the special-status species plants known to occur within 10 miles of the Project Site – NOREAS Report, Appendix A), and consistent with the history of the Project Site, no listed, sensitive or otherwise special status plant species were identified on the Project Site, or within 2 miles of the Project Site. (Appendix C-2, 2015 NOREAS Report, Appendix E.) Therefore, no federally threatened plant species are not likely or expected to occur on the Project site.

Federally Threatened Wildlife Species

Extensive surveys have been conducted over the course of many decades regarding the potential for the CRLF, a federally threatened species, to occur on the Project Site. The surveys have confirmed that the CRLF does not occur on the Project Site. More specifically, this species has only been detected in one discrete location completely off the Project Site, near Corral Hollow Creek, in a small area that has already been designated by the USFWS as critical habitat for CRLF. The USFWS-designated CRLF critical habitat overlaps with a very small portion of Area C, but no CRLF have ever been documented in this area. As confirmed by the 2015 NOREAS Report, this portion of Area C does not actually contain high quality CRLF habitat. (Appendix C-2, 2015 NOREAS Report, Appendix G.) As explained below, the mere fact that an area is mapped by the USFWS (through a large, macro rule-making process) as "critical habitat" for a certain species does not necessarily mean that species is actually present in that area or that the habitat in fact supports the species on the actual land that is designated as critical habitat. Instead, the proposed Project does not contemplate development of any areas where the CRLF has been documented. No CRLF were documented in the 2015 focused CRLF assessment. (*Id.*)

As a result of the extensive research and surveys that have been conducted on the Project Site over the past twenty-five years, including the 2015 surveys of the Project area, it has been concluded that no other federally threatened wildlife species are expected to occur on the Project site. In fact, no other State- or Federally-listed wildlife or fauna have been detected during any of the pedestrian based biological surveys which have been performed over a twenty-five year period, despite specifically targeting species that are occur in the general Project Site area based on appropriate literature review of species expected to occur in the broader area. (Appendix C-2, NOREAS Report, Appendices A, E-J.) Accordingly, it is not likely and not expected that any federally threatened species occur within the Project Site.

Federally Proposed Endangered, Proposed Threatened, Federal Candidate, and Federal Species of Concern

The USFWS has also developed several other categories for sensitive species not yet determined to have reached endangered or threatened status. Generally, federally proposed endangered or threatened species are species are being considered to be listed endangered or threatened but formal rule-making, including scientific

confirmation of the necessity of such listing, has not yet occurred. Federal candidate species are species who are candidates for becoming listed as endangered or threatened, and federal species of concern are species whose numbers are considered low enough to have approached federal candidate status.

Protected Plant Species

As discussed above, no federally-protected plant species are known to occur on or in the vicinity of the Project Site, none have been observed in any of the many surveys of the Project Site, and no suitable habitat occurs onsite for any federally threatened plant species. As also discussed above, an updated survey for special status plant species listed by the USFWS, CDFW and/or CNPS was performed by NOREAS in 2015 (focused on the special-status species plants known to occur within 10 miles of the Project Site – NOREAS Report, Appendix A), and consistent with the history of the Project Site, no listed, sensitive or otherwise special status plant species were identified on the Project Site, or within 2 miles of the Project Site. (Appendix C-2, 2015 NOREAS Report, Appendix E.) Therefore, federally-protected plant species are not likely or expected to occur on the Project Site.

Protected Wildlife Species

No federally proposed endangered, federally proposed threatened, federal candidate, or federal wildlife species of concern are known to occur on or in the vicinity of the Project Site, nor have any been observed in any of the decades-long surveys of the Project Site, including the updated 2014 and 2015 surveys. (*See,* Appendix C-2.) Additionally, no suitable habitat occurs onsite for any federally proposed endangered, federally proposed threatened, federal candidate, or federal wildlife species of concern. (*Id.,* NOREAS Report.) Therefore, no federally proposed endangered, federally proposed threatened, federal candidate, or federal wildlife species of concern are likely to occur on the Project Site.

California Endangered Species Act

The CDFW administers the California Endangered Species Act (CESA). CESA includes Fish and Game Code Sections 2050 - 2068, and provides policy for the protection of endangered, threatened, and rare species in California. The classification of sensitive species under CESA generally parallels the FESA with respect to California State endangered species and California State threatened species.

California State Endangered Species

California State Endangered Plant Species

No California State endangered plant species are known to occur on or in the vicinity of the project site. (Appendix C-2, NOREAS Report, Appendix E.) No California State endangered plant species were observed during the twenty-five years of surveys of the Project Site, including the updated survey for special status plant species listed by the USFWS, CDFW or CNPS was performed by NOREAS in 2015, and no suitable habitat was found on the Project Site to support California State endangered plant species. (*Id.*) Indeed, as discussed above, no listed, sensitive or otherwise special status plant species were identified within 2 miles of the Project Site, and no listed, sensitive or otherwise special status plant species are likely to migrate onto the Project Site. (*Id.*) Therefore, California State endangered plant species are not likely nor expected to occur on the Project Site.

California State Endangered Wildlife Species

No California State endangered wildlife species are known to occur on or in the vicinity of the Project Site. (Appendix C-2.) Additionally, no suitable habitat occurs onsite for any California State endangered wildlife species, except for the fact that as discussed above, the Project Site could hypothetically support the SJKF due to the Project Site's general geographic location, not because of its particular suitability to support the SJKF.

As also discussed above, over the course of 25 years of focused studies covering all areas of the Project Site, the SJKF has never been observed or documented (outside an isolated observation of one SJKF outside the Project Site), nor has any evidence been detected that would suggest that it the SJKF is present, or has ever been present, on the Project Site. (*Referenced within* Appendix C-2, 1993 Evaluation of a Proposed Corridor for the San Joaquin Kit Fox in the Tracy Hills Development, 1999 Habitat Conservation Plan for Lakeside Tracy Development, 2004 Environmental Assessment for the Tracy Hills HCP, 2006 Tracy Hills San Joaquin Kit Fox Analysis, 2006 Tracy Triangle San Joaquin Kit Fox Surveys #2689-01, 2010 Biological Resources on the Tracy 580 Business Park Property, 2011 Preserve Management Plan for the Tracy 580 Business Park Preserve, 2014 Scat Detection Dog Surveys for the Endangered San Joaquin Kit Fox at the Tracy Hills Project Site.) This conclusion was confirmed in 2015 focused SJKF studies. (*Id.,* 2015 NOREAS Report, Appendix I.) Therefore, California State endangered wildlife species are not likely or expected to occur on the Project Site.

California State Threatened Species

California State Threatened Plant Species

No California State threatened plant species are known to occur on or in the vicinity of the Project Site. No California State threatened plant species were observed during the many surveys of the Project Site, including the updated survey for special status plant species listed by the USFWS, CDFW or CNPS was performed by NOREAS in 2015 (Appendix C-2, NOREAS 2015 Study, Appendix E), and no suitable habitat occurs onsite for any California State threatened plant species. Indeed, as discussed above, no listed, sensitive or otherwise special status plant species were identified within 2 miles of the Project Site, and no listed, sensitive or otherwise special status plant species are likely to migrate onto the Project Site. (*Id.*) Therefore, California State threatened plant species are not likely or expected to occur on the Project Site.

California State Threatened Wildlife Species

No California State threatened wildlife species have been observed on the Project site, nor does any suitable habitat occur onsite for any California State threatened wildlife spices. (Appendix C-2.) Therefore, California State threatened wildlife species are not likely or expected to occur on the Project Site.

Special-Status Species

Special-status species are plant and wildlife species that have been afforded legal protection under the FESA, CESA, or any other local regulations, or are considered rare, threatened, or endangered by any other resource agency, or organization in the scientific community.

California State Fully Protected Species

California State Fully Protected status applies to animals that are rare or face possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully

protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

California State Fully Protected Wildlife Species

No suitable habitat was found on the project site to support any California State Fully Protected wildlife species, nor were any such species observed on the Project Site over twenty-five years of surveys. (Appendix C-2.) The absence of California State Fully Protected wildlife species was confirmed by the most recent 2014 and 2015 surveys of the Project Site. (*Id.,* 2014 RBF Report; 2015 NOREAS Report.) Therefore, California State Fully Protected wildlife species are not likely to occur nor expected on the Project Site.

California State Rare and Species of Special Concern

California State "Species of Special Concern" (SSC) status applies to animals not listed under the FESA or CESA, but which nonetheless (1) are declining at a rate that could result in listing, or (2) historically occurred in low numbers and known threats to their persistence currently exist.

California State Rare Plant Species

As discussed above and confirmed by the updated, focused special status plant survey performed by NOREAS in 2015 (Appendix C-2, NOREAS Report, Appendix E), no plant species that are protected by the State of California are known to occur on or in the vicinity of the Project Site, none have been observed in any surveys of the Project Site, and no suitable habitat occurs onsite for any such plant species, including California State Rare Plant Species. (*Id.*) Therefore, State-protected plant species are not likely or expected to occur on the Project Site.

California State Wildlife Species of Special Concern

Special-status wildlife species known to occur within 10 miles of the Project Site and their potential for occurrence are detailed in the 2015 NOREAS Report, Appendix A. Under the appropriate suite of environmental conditions, the Project Site could potentially support the Burrowing Owl (*Athene cunicularia*), Northern Harrier (*Circus cyaneus*), Loggerhead Shrike (*Lanius ludovicianus*), American Badger (*Taxidea taxus*), San Joaquin Whipsnake (*Coluber flagellum ruddocki*), Coast Horned Lizard (*Phrynosoma blainvillii*), and Prairie Falcon (*Falco mexicanus*). None of these species are State or federally-listed. No suitable habitat was found on the Project Site to support any other California State SSC wildlife species, nor were any other such species observed, including all of those species listed in Appendix A.

Given the extent of anthropogenic disturbance (i.e., existing livestock grazing and agricultural activities) and low quality habitat present, the likelihood of any of these species utilizing locales proposed for development within the Project Sote as functional habitat is minor. This is because of the amount of similar, and higher-quality habitats available within the region, specifically including the 3,500 acre open space preserve that is adjacent to Area C of the Project Site. (*See,* Appendix C-2, 2015 NOREAS Report, p. 4-4; *see also,* Appendices F & J.)

In accordance with CDFW protocol, a focused survey for the burrowing owl was conducted during the 2009 breeding season in Area B, which is the only area of the Project Site subject to a project-level analysis in this EIR. No burrowing owls were observed within the boundaries of Area B during the focused surveys conducted between June 28 and July 14, 2009. (Referenced within Appendix C-2, Burrowing Owl Surveys for Tracy 580 Business Park) Similarly, burrowing owls were not observed in an updated, focused survey of Areas A and B

(Appendix C-2, 2015 NOREAS Report, Appendix F), which shows that at least as to Areas A and B, burrowing owls are not likely or expected on the Project Site.

Historically, burrowing owls have been observed on Area C of the Project Site during reconnaissance surveys in 2006 and 2014. (Referenced within Appendix C-2, 2006 H.T. Harvey & Associates Study) No focused surveys were conducted on Area C until 2015, and that survey found one pair of Burrowing Owl in discrete burrow complexes located in Area C. (Appendix C-2 2015 NOREAS Report, Appendix F, Figure 3.)

However, the Project Site does not contain historical native grassland or burrowing owl habitat, but burrowing owls possess high tolerance for human encroachment and therefore highly disturbed non-native grassland may at times provide suitable nesting habitat. Indeed, in urban areas, burrowing owls are often found nesting within landfills, golf courses, airports, vacant lots, and under concrete foundations, meaning that even after development of the Project, burrowing owl could still inhabit and, in fact, thrive on the Project Site. Thus, while the burrowing owl has been observed in Area C of the Project Site, the Project Site does not contain significant natural habitat for this species, which would be historical native grasslands. By contrast, the 3,500 acre conservation preserve set aside by the Project applicant consists of high quality habitat that the USFWS and CDFW have specifically confirmed is suitable for burrowing owls, and the preserve is directly adjacent to the only portion of the Project Site where burrowing owls have been observed (Area C).

The 2015 focused surveys conducted by NOREAS also concluded that any effects on the CTS and Swainson's Hawk would be insignificant. As discussed above, one Swainson's Hawk was identified using an abandoned nest outside the Project Site, and no CTS nor any CTS breeding habitat as documented. The NOREAS Report also concludes that the 3,500 acre open space preserve has much higher quality habitat for these species, and by contrast, the Project Site consists of low quality habitat for these species. Moreover, the mitigation required by this Section ensures that neither of these species would be impacted.

Considering the low quality habitat on the Project Site for all of the SSC that the Project Site could potentially support, coupled with the available of higher quality habitat in areas adjacent to the Project Site (specifically including the 3,500 acre open space preserve), the proposed Project is not expected to have a significant impact any wildlife SSC.

California Native Plant Society

The California Native Plant Society (CNPS) is a non-profit organization whose collaborative efforts in research help maintain an inventory of rare and endangered plants that occur throughout California. The CNPS has developed its own classification system in defining the degree of endangerment for sensitive plant species that models that of the FESA and CESA. Plants considered to be rare, threatened, or endangered in California have been given the classification code of being a List B or List 2 species; plants for which more information is needed to determine their status have been given the classification code of being a List 3 species; and plants with limited distribution have been given the classification code of being a List 4 species.

CNPS Listed Plant Species

There is no evidence of any CNPS listed plant species occurring on the Project Site. As discussed above, this conclusion was recently confirmed by the updated survey for special status plant species listed by the USFWS, CDFW and/or CNPS, which was performed by NOREAS in 2015. (Appendix C-2, 2015 NOREAS Report, Appendix E.) In addition, no suitable habitat for such species occurs onsite due to ongoing grazing activities and the dominance of low quality non-native vegetation on the Project Site. No suitable habitat was found on

the project site to support other CNPS List plant species, nor were any such species found within 2 miles of the Project Site. (*Id.*) Therefore, CNPS listed plant species are not likely or expected to occur on the Project.

JURISDICTIONAL AREAS

There are three key agencies that regulate development or disturbance activities occurring within inland streams, wetlands, and riparian areas in California. The U.S Army Corps of Engineers (USACE) Regulatory Branch regulates discharge of dredge or fill materials into "waters of the United States" pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act.

The CDFW regulates alterations to streambeds and bank under Fish and Wildlife Code Sections 1600 *et seq.*.

The Regional Water Quality Control Board (RWQCB) regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

A jurisdictional assessment was prepared by Olberding Environmental, Inc. in 2013. The 2013 jurisdictional assessment identified approximately 2.33-acres of wetlands (observed wetland habitats include wetland swales, seasonal wetlands, and vegetated drainage channels), and approximately 2.68-acres (14,117 linear feet) of drainage channels. In total, 5.01-acres of wetlands/waters were identified within the boundary of the entire Project Site (Figure 4.4-3a-d, Jurisdictional Delineation Map).

Table 4.4-2: Jurisdictional Summary

Agency	Total Jurisdiction On-Site (acres)		Totals
	Wetlands (acres)	Waters (acres/linear feet)	
Corps	-	-	-
RWQCB	2.33	2.68 (14,117)	5.01
CDFW	2.33	2.68 (14,117)	5.01

The 2013 jurisdictional assessment concluded that all wetland and water features occurring on the Project Site are considered isolated, since surface flow does not have "significant nexus" or pathway to the ocean or any Traditional Navigable Water (TNW). Therefore, no Waters of the United States under the jurisdiction of the USACE are located onsite. However, these wetlands and waters would continue to be regulated by the RWQCB and CDFW as state jurisdictional waters. No riparian habitats are located within the footprint of Project site. (*See,* Appendix C-2, 2015 NOREAS Report.)

Source: Olberding Environmental, Inc. Tracy Hills Project – U.S. Army Corps of Engineers Jurisdiction Assessment. 2013

FIGURE 4.4-3a
CNDDB

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Source: Olberding Environmental, Inc. Tracy Hills Project – U.S. Army Corps of Engineers Jurisdiction Assessment. 2013

FIGURE 4.4-3b
CNDDB

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Source: Olberding Environmental, Inc. Tracy Hills Project – U.S. Army Corps of Engineers Jurisdiction Assessment. 2013

FIGURE 4.4-3c
CNDDB

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Source: Olberding Environmental, Inc. Tracy Hills Project – U.S. Army Corps of Engineers Jurisdiction Assessment. 2013

FIGURE 4.4-3d
CNDDB

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4.4.2 REGULATORY FRAMEWORK

FEDERAL

FEDERAL ENDANGERED SPECIES ACT

As discussed above, federally listed threatened and endangered species and their habitats are protected under provisions of the ESA. A "take" under the ESA is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." "Harm" has been defined by the regulations of the USFWS to include types of "significant habitat modification or degradation." The U.S. Supreme Court, in *Babbit v. Sweet Home*, 515 U.S. 687, ruled that "harm" may include habitat modification "...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." Activities that may result in "take" of individuals are regulated by USFWS.

USFWS produced an updated list of candidate species for listing in June 2002 (Federal Register: Volume 67, Number 114, 50 CFR Part 17). Candidate species are regarded by USFWS as candidates for addition to the "List of Endangered and Threatened Wildlife and Plants." Although candidate species are not afforded legal protection under the ESA, they typically receive special attention from federal and state agencies during the environmental review process.

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

CLEAN WATER ACT SECTION 404

Areas meeting the regulatory definition of "Waters of the United States" are subject to the regulatory jurisdiction of the USACE under the Clean Water Act (CWA) (1972). The USACE, under provisions of Section 404 of the CWA, has jurisdiction over "Waters of the United States" (jurisdictional waters). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as Waters of the U.S., tributaries of waters otherwise defined as Waters of the U. S., the territorial seas, and wetlands adjacent to Waters of the U.S. (33 CFR, Part 328, Section 328.3).

Areas generally not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and, under certain circumstances, water-filled depressions created in dry land incidental to construction activity (51 Federal Register 41217, November 13, 1986).

STATE OF CALIFORNIA

CALIFORNIA FISH AND GAME CODE

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in "take" of individuals (defined in CESA as: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by California Department of Fish and Wildlife (CDFW). Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has

interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE AND UNITED STATES FISH AND WILDLIFE SERVICE SPECIES OF CONCERN

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, an informal term that refers to species which might be in need of concentrated conservation actions.

As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

CALIFORNIA DEPARTMENT OF FISH AND GAME CODE SECTION 3503.5

Birds of prey are protected under the California Fish and Game Code. Section 3503.5 of the code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by CDFW.

CALIFORNIA NATIVE PLANT SOCIETY RARE OR ENDANGERED PLANT SPECIES

Vascular plants listed as rare or endangered by CNPS (2001), but which have no designated status under state or federal endangered species legislation, are defined as follows:

- List 1B. Plants rare, threatened, or endangered in California and elsewhere.
- List 2. Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3. Plants about which we need more information - a review list.
- List 4. Plants of limited distribution - a watch list.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE REGULATION OF JURISDICTIONAL WATER AND STREAMBED ALTERATION AGREEMENTS

Fish & Game Code section 1600 – 1607 regulate the alteration of jurisdictional water, which may include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, lakes, and watercourses with subsurface flows, and mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, steam or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity." CDFW's jurisdiction includes ephermeral, intermittent and perennial watercourses (including dry washes) characterized by (1) the presence of hydrophytic vegetation; (2) the location of definable bed and banks; and (3) the presence of existing fish or wildlife resources.

Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high water mark (OHWM) to be claimed as jurisdiction. However, CDFW does not regulated isolated wetlands; that is, those that are not associated with a river, stream or lake.

SAN JOAQUIN COUNTY

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) was developed in the late 1990s – around the same time as the approval of the original 1998 THSP – and was ultimately enacted by the San Joaquin Council of Governments (SJCOG) in 2000. The key purpose of the SJMSCP is to provide a strategy for balancing the need to conserve Open Space and the need to convert Open Space to non-Open Space uses while protecting the region's agricultural economy, preserving landowner property rights, providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under ESA or CESA, providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County, and accommodating a growing population while minimizing costs to Project Proponents and society at large.

Specifically, the SJMSCP functions as a joint ESA Section 10(a)(1)(B) and CESA Section 2081(b) incidental take permit for listed species by providing a formula for compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the SJMSCP. Accordingly, the SJMSCP allows developers to convert habitat that supports listed species while still complying with the ESA and CESA – obviating the need to obtain separate permits from the USFW or CDFW – provided that mitigation land is provided at appropriate ratios based on the type of habitat that will be developed, or in-lieu/mitigation bank fees are paid. (*See,* SJMSCP, Table 1-3.)

Compliance with the SJMSCP provides coverage for a project's impacts to a wide variety of listed and non-listed species pursuant to ESA, CESA and CEQA. (SJMSCP, Table 2-2.) For example, any impacts to the CRLF, SJKF, Swainson's hawk, CTS and Loggerhead shrike are fully covered under ESA, CESA, and CEQA, and impacts to the Northern harrier, San Joaquin whipsnake and California horned lizard are covered under CESA and CEQA, and impacts to the American badger are covered under CEQA. (*Id.*)

As discussed herein, the Project will not have any significant impacts on listed species, or non-listed species of special concern, specifically including all of the specific species listed in the foregoing paragraph. However, the Project owners set aside approximately 3,500 acres subject to conservation easements recorded in favor of SJCOG. In addition, the Project applicant will be pay any applicable in-lieu fees and/or dedicate in lieu land.

As discussed throughout this EIR, many years ago, the owners of the Project Site began processing a project known as the "Tracy 580 Business Park" project, which contemplated development of Area B and a small portion of Area A, anticipating development only on the northern side of I-580. The 3,500 acre preserve originally came about during the processing of the original THSP in 1998. In 2012, SJCOG, Inc. approved a minor amendment at the request of the project owners to the SJMSCP to allow coverage for the Tracy 580 Business Park project (the development of Area B) by annexing the approximately 680-acre Area B into the SJMSCP. (*See,* Appendix C-2.) Thus, this acreage is completely covered by the SJMSCP and development can occur in this area in accordance with the SJMSCP.

As stated in the 2011 Preserve Management Plan ("Management Plan") for the Tracy 580 Business Park Preserve (Appendix C-2), the 3,500 acre preserve area can be broken down into three components:

- Conservation Easement 1 (CE 1) is an approximately 790-acre area in the northern portion of the Preserve, adjacent to I-580. Included in the easement are an approximately 41-acre corridor along the

California Aqueduct and a 100-foot wide corridor along both sides of a portion of I-580 from the northern boundary of CE 1 to the intersection with Corral Hollow Road (except for the parcel closest to the I-580/Corral Hollow interchange), which do not count as mitigation, and SJCOG, Inc. will not assume any management or monitoring responsibility. CE 1 is a project design feature intended to compensate for the anticipated development of Area B. No grading or other development-related activity will be allowed on this conservation easement, except for temporary access on the California Aqueduct corridor associated with adjacent development.

- Conservation Easement 2 (CE 2) is an approximately 2,429-acre area that includes the majority of the Preserve. This easement was intended to serve as a design feature to compensate for the anticipated development of Areas A and C (CE 1 serves as the design feature that will compensate for the anticipated development of Area B). Although SJCOG, Inc., is the beneficiary of the easement, SJCOG, Inc., will not have management or monitoring responsibility on this easement. A management and funding agreement will be approved as part of implementation of this Project, in accordance with the mitigation measures imposed by this Section.
- Conservation Easement 3 (CE 3) is an approximately 316-acre area that occupies slopes adjacent to the proposed development within the Project Site. This easement allows for limited future grading, slope stabilization, road construction, and other temporary ground disturbance associated with the potential need to remediate the existence of landslide deposits that may be necessary if future adjacent development within the Project Site occurs. Although SJCOG, Inc., is the beneficiary of the easement, SJCOG, Inc., will not have management or monitoring responsibility on this easement. A management and funding agreement will be approved as part of implementation of this Project, in accordance with the mitigation measures imposed by this Section.

As also stated in the Management Plan, the 688-acre portion of CE 1 west of I-580 was provided to SJCOG as land in lieu of fees pursuant to the SJMSCP to compensate for impacts from implementation of the Tracy 580 Business Park Project, which is now Phase 1a and 1b of the proposed Project (the proposed development of Area B). Additionally, the approximately 41-acre portion of CE 1 along the California Aqueduct was provided to enable habitat connectivity for SJKF and other covered species in the Transition Zone, as described in the SJMSCP.

CEs 2 and 3 have been recorded to lessen impacts associated with potential future development of Areas ~~A and~~ C. The USFWS, CDFW, and SJCOG entered into a Habitat Conservation Agreement with the Project owner, acknowledging that the owner of the Project Site may, in the future, count this property toward habitat mitigation requirements for development of adjacent property owned by the Project applicant or any other property subject to the SJMSCP. This Agreement covers CEs 2 and 3 only.

Specifically, on or about May 15, 2012, the USFWS and CDFW ("Agencies") confirmed that 2,753 acres of the approximately 3,500 acres open space area, which are covered by CE 1 & 2, provide conservation value for the SJKF, burrowing owl, and a known location for the CRLF. (Appendix C-2.) The Agencies also confirmed that the CE 1 & 2 are located within an alleged SJKF corridor and provide habitat for a recently-documented burrowing owl population. (*Id.*; *see also,* January 2011 SJMSCP Minor Amendment Proposal, p. 4.) Finally, the Agencies indicated that other species covered by the SJMSCP would also benefit from the conservation of this area, including the Swainson's hawk. The USFWS also sent a letter to SJCOG on May 16, 2012 concurring with and supporting its decision to process a minor amendment to the SJMSCP to cover the Tracy 580 Business Park. (Appendix C-2.)

As stated above, SJCOG approved a minor amendment to provide coverage for the immediate development of Area B. Thus, both Area A, which was always covered, and Area B are fully covered by the SJMSCP. The Project will be required to implement standard SJMSCP pre-construction surveys and/or Incidental Take Minimization Measure prescribed in SJMSCP Section 5.2 for SJKF, burrowing owl, CRLF, the CTS, and other applicable species. As discussed below, these measures have been implemented as part of this DEIR, even though these species are not expected to occur on the Project Site. (See, Mitigation Measures 4.4-1a through 4.4-1o.)

On April 24, 2014, SJCOG, Inc., confirmed again to the City of Tracy that Phase 1a and 1b of the proposed Project – the development of Area B – is fully covered by SJMSCP.

In sum, while the absence of any listed or otherwise special status species on the Project Site indicates that implementation of the proposed Project would not create any significant biological impacts, the Project owners nonetheless agreed to set the approximate 3,500 acres aside as a project design feature that was subsequently imposed as a mitigation measure in the 1998 THSP EIR. Even though the proposed Project is still not anticipated to result in any significant impacts to biological resources, the Project applicant will still be required to maintain the recorded conservation easements and to implement a funding agreement. The current SJMSCP coverage for the development of the three areas of the Project Site is summarized as follows.

The development of Area A was included for coverage by the SJMSCP when it was originally adopted. Area A has historically been under separate ownership from the Areas B and C, and it was never included in the previous efforts to adopt a habitat conservation plan for the Tracy Hills Specific Plan, which occurred in connection with the 1998 THSP.

The development of Area B – which would be developed in Phases 1a and 1b of the proposed Project – is covered under the SJMSCP as provided by the minor amendment to the SJMSCP approved by SJCOG in 2012, as discussed above.

The development of Area C – which is being analyzed by this EIR at the programmatic level – is not covered under the SJMSCP and may require additional permitting before development. Additional protocol surveys will be conducted for Area C closer in time its development, and in the event a federal or state take permit is required for the future development of Area C, the applicant will be required to pursue its inclusion in the SJMSCP or otherwise pursue permits from the USFWS and CDFW. Because the proposed development of Area C is being analyzed at the programmatic level, additional biological impact assessments (as well as further review of all impacts on the environment) will be required before the development of Area C.

CITY OF TRACY

City of Tracy General Plan The Open Space and Conservation Element of the General Plan contains the following relevant goals, objectives, and policies to Biological Resources. Key policies from the General Plan are listed in Table 4.4-3.

Table 4.4-3: General Plan Policies Relevant to Biological Resources

Open Space Element	
Goal/Policy No.	Goal/Policy Content
Goal OSC-1	The protection of rare, endangered and threatened plant and animal species.
Objective OSC-1.1	Preserve habitats that may support rare, endangered or threatened plant and animal species.
Policy P1	New development shall meet all federal, State and regional regulations for habitat and species protection.
Policy P2	The City shall continue to participate with the San Joaquin Council of Governments and other agencies to implement and enforce the San Joaquin Multi Species Habitat Conservation and Open Space Plan.

4.4.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. The criteria used to determine the significance of an impact to biological resources are based on the initial study checklist in Appendix G of the State CEQA Guidelines. Significant impacts on biological resources could result from implementation of the Project if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected "wetlands" or "Waters of the U.S." 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;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,
- 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 IMPACTS AND MITIGATION MEASURES

Impact 4.4-1 Does the proposed project has a potential to result in 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?

Project Specific Impacts

Plants

No state or federally-listed plant species have been detected during any of pedestrian based biological surveys that have been performed over the Project Site from 1989 to 2015, including an updated survey for special status plant species listed by the USFWS, CDFW or CNPS was performed by NOREAS in 2015, nor were any such species documented within 2 miles of the Project Site. (*See,* Appendix C-2, 2015 NOREAS Report, Appendix E.) Additionally, no suitable habitat was found on the Project site that would support any candidate, sensitive, or special status plant species. The habitat within the project area includes existing livestock grazing and agricultural activities which have greatly reduced the habitats ability to support candidate, sensitive or status species that have the potential to occur in the vicinity, and the Project Site does not have vernal pools, alkali and clay soils, serpentine soils, and native vegetation, which are the type of locales that support special candidate, sensitive or status plant species. Therefore, implementation of the proposed Project would result in a less-than-significant impact on sensitive plant species. Nonetheless, implementation of Mitigation Measure 4.4-1b is recommended to ensure impacts related to special status plant species remain less-than-significant.

Wildlife Species

As explained herein, no federally or state listed species have ever been documented on the Project Site, and the areas adjacent to the Project Site – including the a 3,500 acre preserve – contain much higher quality habitat for any special status species that could potentially occur on the Project Site.

The CRLF was documented off of the Project Site in the Corral Hollow Creek area, which is located in the adjacent 3,500 acre preserve area, and has been designated as critical habitat for the CRLF by the USFWS. The USFWS-designated CRLF critical habitat area overlaps with a very small portion of Area C., which is the only critical habitat on the entire Project Site. (Appendix C-2, 2015 NOREAS Report, Figure 5.)

The USFWS maps critical habitat without regard for the presence or absence of the actual species, and therefore the existence of critical habitat within the Project Site does not automatically indicate that the project will actually impact the CRLF or CRLF habitat. Here, over twenty five years of studies, including a CRLF focused study performed in 2015, the CRLF has never been documented on the Project Site, including the very small portion of Area C that is designated as CRLF critical habitat. Indeed, the 2015 focused CRLF habitat assessment performed by NOREAS concludes that this area – and in fact, the entire project site – does not support the CRLF, and does not contain any meaningful CRLF habitat. (Appendix C-2, NOREAS Report, Appendix G.) In other words, all areas of the Project Site that could potentially support the CRLF are outside the proposed Project's footprint.

Accordingly, the Project avoids any impacts to the CRLF, particularly with the CRLF pre-construction surveys required by the mitigation measures articulated herein. (*See,* EIR Figure 3-4; Mitigation Measure 4.4-1g.)

Additionally, as explained in detail below, based solely on its general location rather than any specific about the actual site, Project Site could hypothetically support the SJKF, which is State and federally-listed. However, as discussed above, the Project Site has been extensively studied for the past twenty-five years, and no evidence of the SJKF on the Project Site has ever been documented, other than the one observation of a SJKF in 2015, which occurred outside the Project Site in the California Aqueduct right-of-way. The utter lack of evidence of the SJKF anywhere on the Project Site was confirmed by NOREAS in its 2015 focused SJKF survey. (Appendix C-2, 2015 NOREAS Report, Appendix I.)

Finally, the Project Site could potentially support Burrowing Owl, Swainson's Hawk, Northern Harrier, Loggerhead Shrike, American Badger, San Joaquin Whipsnake, Prairie falcon, and Coast Horned Lizard. None of these species are federally or state listed, or even candidates to be listed, but they are considered by the State of California to be wildlife "species of special concern." However, even though some of these species have been spotted on the Project Site in a limited quantity, as stated in the NOREAS Report and discussed extensively above, the lack of quality habitat on the Project Site for these species, combined with the higher quality habitat in the neighboring 3,500 open space preserve, the Project's potential impacts on any of these species would be less than significant. (Appendix C-2, NOREAS Report, p. 4-4.)

No other listed, sensitive or special status wildlife species are known to occur on the Project Site, and no suitable habitat was found on the Project Site to support other listed, sensitive or special status wildlife species.

As explained below, the Project's impacts on wildlife species will be less-than-significant. However, this EIR imposes mitigation measures that require standard pre-construction surveys and avoidance measures, including compliance with SJMSCP mitigation requirements, to ensure that the Project's impacts on wildlife species remain less than significant. The Project's potential impacts on the above-discussed species, and recommended mitigation measures, are discussed in turn below.

California Red-legged Frog: The decades-long surveys conducted on the Project Site have not detected any CRLF on the Project Site. This species has only been detected in one discrete location outside the Project Site in the riparian habitat along Corral Hollow Creek, in an area designated by the USFWS as CRLF critical habitat. (See, Appendix C-2, 2015 NOREAS Report, Figure 5; 2011 Preserve Management Plan for the Tracy 580 Business Park Preserve.) This critical habitat just slightly overlaps with a small portion of Area C, but as discussed above, the area of the Project Site designated as CRLF critical habitat does not actually contain CRLF habitat or the CRLF. (Appendix C-2, 2015 NOREAS Report, Appendix G.) The Project also includes a design feature incorporating 50 foot setbacks from any stream or riparian resources. Accordingly, the Project will have a less-than-significant impact on the CRLF. However, implementation of Mitigation Measure 4.4-1g, which requires preconstruction surveys for the CRLF and other avoidance measures, is recommended to ensure all impacts remain less-than-significant. (*See also,* Mitigation Measures 4.4-1a, 4.4-1h, and 4.4-1l.)

San Joaquin Kit Fox. The SJKF is a small, primarily nocturnal fox that is known to occur throughout the Central Valley. Lower elevation native grasslands and sparse scrubs are this species primary natural habitat. SJKF has never been observed on the Project Site, nor has any evidence the of SJKF's presence on the Project Site been discovered, other than a single observation of a SJKF within the California Aqueduct right-of-way. A number of surveys of the Project Site have specifically focused on finding the SJKF, but that species, nor evidence showing its existence on the Project site, has still never been observed. Focused surveys for the SJKF

that have been conducted on the project site specifically include the 1993 Jones & Stokes corridor analysis, the 1996 Multi-Species Habitat Management Plan (HMP) prepared by LSA, and the 2006 Tracy Hills SJKF Analysis prepared by Berryman Ecological. Berryman Ecological and H.T. Harvey & Associates conducted a SJKF aerial survey by flying transects over the Project Site and general area. (Referenced within Appendix C-2.) The results of the aerial survey concluded that no potential kit fox dens were observed on the Project Site.

Additionally, Scat Detection Dog Surveys for SJKF were conducted for all areas of the Project Site in 2010, 2012, 2013 and 2014. No SJKF scats, nor other signs of SJKF were observed during surveys. As stated in the 2013 survey, the results of the surveys "do not support the presence of kit foxes on the [Project] Site . . . no kit fox scats of any age were located across the Project Site or at numerous, conspicuous objective occurring on the site . . . it is highly likely that if scats were available for detection they would have been detected within the distance of each transect route, and through the extensive transect established. The lack of kit fox scats found at the [Project S]ite suggest that currently the [P]roject [S]ite is not supporting a resident fox population . . . positive confirmation of kit fox presence at the [Project S]ite has not been noted in recent years" and all of the surveys continue to be consistent. (Referenced within Appendix C-2, Working Dogs for Conservation Foundation, 2013 Scat Detection Dog Survey, pp. 5-6.) The negative findings of the four years of scat detection surveys provide strong evidence that the kit fox is not present on the Project Site.

Finally, all of these findings were confirmed by a 2015 focused SJKF survey performed by NOREAS, which like all the studies before it, found no evidence of the SJKF on the Project Site, and only identified one isolated SJKF outside the Project Site. (Appendix C-2, 2015 NOREAS Report, Appendix I.) Notwithstanding this one SJKF near the Project Site, NOREAS concluded that the proposed Project would a have a less than significant impact on SJKF based on historical studies, its own surveys, the lack of quality habitat, and the existence of much higher quality habitat in the adjacent 3,500 acre preserve. (*Id.*)

In light of the foregoing findings consistently showing that the SJKF has not been present on the Project Site for twenty-five years, even though the Project Site could hypothetically support the SJKF based solely on its general location, the proposed Project's impacts on the SJKF will be less-than-significant because SJKF simply do not occur on the Project Site.

Notwithstanding the foregoing, this EIR recommends the imposition of Mitigation Measures 4.4-1a, 4.4-1c, 4.4-1d, 4.4-1h, and 4.4-11, which require pre-construction surveys to confirm the absence of SJKF on the Project Site before construction activities commence (consistent with the SJMSCP's requirements), additional preventive/avoidance measures to ensure there is no impact the SJKF, and compliance with the SJMSCP.

Additionally, as explained above, the USFWS and CDFW confirmed that the 3,500 acre open space preserve confirmed contains suitable habitat for the SJKF. Accordingly, the preserve will even further limit impacts to the SJKF by permanently providing higher quality habitat for the SJKF adjacent to the Project Site. (*See,* Appendix C-2, 2015 NOREAS Report, Appendix I.)

While this EIR concludes that implementation of the proposed Project will not create significant impacts to SJKF or SJKF habitat, the USFWS and SCJOG have indicated that at least portions of the preserve area would nevertheless serve as adequate mitigation for impacts to SJKF, if such impacts were deemed to exist. Prior to the eventual development of Area C, the impacts of which are being analyzed on a programmatic level, additional SJKF surveys will be conducted, and if necessary, the Project applicant(s) will pursue the annexation of Area C into the SJMSCP or otherwise pursue the necessary permits, which will be subject to subsequent environmental review.

Burrowing Owl: The burrowing owl is a resident, ground-dwelling, crepuscular raptor that primarily inhabits native grasslands and sparse scrubs within the lower elevations of the Central Valley and associated foothills. The burrowing owl was observed in Area C of the Project Site in 2006 and 2014 (Appendix C-2, 2006 Tracy Triangle San Joaquin Kit Fox Surveys, Project #2689-01), and one pair of owls were observed in Area C in the 2015 NOREAS surveys. The Project Site does not contain historical native grassland or desert burrowing owl habitat, but burrowing owls possess high tolerance for human encroachment and therefore highly disturbed non-native grassland may at times provide suitable nesting habitat. Indeed, in urban areas, burrowing owls are often found nesting within landfills, golf courses, airports, vacant lots, and under concrete foundations. In fact, the burrowing owl is known to thrive in urban environments, such as the residential environment that would exist after the Project is developed. Thus, while the burrowing owl has been observed in Area C of the Project Site, the Project Site does not contain significant habitat for the species which are historical native grasslands. In accordance with CDFW protocol, Berryman Ecological conducted a focused survey during the 2009 breeding season in Area B, which is the area of the Project site subject to a project-level analysis in this EIR. No burrowing owls were observed within the boundaries of Area B during the focused surveys conducted between June 28 and July 14, 2009. (Appendix C-2) In fact, no burrowing owls have ever been detected in Area B during the twenty-five years of study and surveys, indicating that no burrowing owls are present in Area B. This conclusion has been confirmed by the 2015 focused survey, which documented no burrowing owls in Areas A or B of the Project Site. (Appendix C-2, NOREAS Report, Appendix F.) Accordingly, all project-level impacts to the burrowing owl will be less-than-significant. Additional surveys and environmental analysis will be required before the development of Area C, which is the only portion of the Project Site where the burrowing owl has been observed.

Additionally, the USFWS and CDFW have confirmed that the 3,500 acre preserve directly adjacent to Area C contains suitable habitat for the burrowing owl. As such, this project design feature further limits any impacts to the burrowing owl by providing a permanent higher quality habitat for burrowing owl than the Project Site, which is also directly adjacent to the only portion of the Project Site where burrowing owl has ever been observed. (Appendix C-2, NOREAS Report, Appendix F.) As such, any burrowing owl that could potentially be impacted by the eventual development of Area C can easily migrate to the 3,500 acre preserve. While the Project will not result in significant impacts to the burrowing owl, the EIR nonetheless recommends imposing Mitigation Measures 4.4-1a, 4.4-1h, and 4.4-1i, which require focused pre-construction surveys, other preventative/avoidance measures, and compliance with SJMSCP to ensure that any potential impact to the burrowing owl is avoided and impacts in this regard remain less-than-significant.

Fish & Game Code section 3503 makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes (birds of prey, such as hawks and owls), such as the burrowing owl, and their eggs and nests from any form of take. Section 3511 of the Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. To the extent that burrowing owls are found on any area of the Project Site, the mitigation measures recommended by this section will ensure that any impacts to the burrowing owl remain less than significant, including both pre-construction surveys and compliance with the SJMSCP mitigation requirements, which serves as the Project's "take" permit with regard to Areas A & B, if such a permit was required, which this DEIR has concluded is unlikely.

Swainson's Hawk, Loggerhead Shrike and Northern Harrier: These species are birds of prey that are endemic to North America. These species are not federally or state listed, but State species of special concern. While these species were observed during NOREAS' 2015 surveys – and a focused survey for Swainson's Hawk

only identified a single Swainson's Hawk utilizing an abandoned nest located outside the Project Site – the Project Site contains low quality habitat for reproductive purposes, breeding, rearing, nesting, roosting, refuge and foraging activities for these species. (Appendix C-2, NOREAS Report, Appendix J.) By contrast, a large amount of similar, but higher quality habitat exists within the region, specifically including the 3,500 acre conservation area. (*Id., see also,* NOREAS Report, p. 4-4.) Particularly considering the ease with which birds migrate, the Project's impacts on these species will be less-than-significant. However, notwithstanding the Project's less-than-significant impacts with regard to these species, the DEIR still recommends Mitigation Measures 4.4-1e, 4.4-1j and 4.4-1k to eliminate all impacts to this species, including pre-construction surveys, avoidance measures and compliance with the SJMSCP.

American Badger: This species is not federally or state listed, but a State species of special concern. While these species were observed during NOREAS' 2015 surveys, the Project Site contains low quality habitat for this species, and the likelihood of any of this species utilizing locales proposed for development within the Project Site as functional habitat is slight. (Appendix C-2, NOREAS Report, p. 4-4.) Accordingly, the proposed Project's impacts on this species would be less-than-significant. However, notwithstanding the Project's less-than-significant impacts with regard to these species, the DEIR still recommends Mitigation Measure 4.4-1o to eliminate all impacts to this species, including pre-construction surveys, avoidance measures and compliance with the SJMSCP.

California Tiger Salamander: Throughout twenty-five years of studies and surveys, this species has not been documented on the Project Site, and therefore the Project will have no impact on these species. This was confirmed by the focused assessment performed for this species in 2015 by NOREAS, which found that the Project Site does not contain any CTS breeding habitat. (Appendix C-2, 2015 NOREAS Report, Appendix G.) However, there is a small probability that these species could hypothetically occur the Project site. Accordingly, the EIR recommends Mitigation Measure 4.4-1f requiring pre-construction surveys and other avoidance measures to ensure that the proposed Project does not impact these species.

Cumulative Impacts

Plants

Due to the absence of suitable habitat on the Project Site for any candidate, sensitive, or special status species, the Project's potential contribution to cumulative impacts on sensitive plant species and their habitat is not be considered cumulatively considerable, and therefore the Project's cumulative impact is less-than-significant.

Wildlife

The proposed Project's impacts on listed, candidate, sensitive or special status wildlife species are considered cumulatively insignificant. There is no evidence that any listed species are located within the footprint of the proposed Project, and the site contains highly disturbed, low grade marginal habitat for any listed, candidate, sensitive special status that could hypothetically occur on the Project Site. (*See,* Appendix C-2, 2015 NOREAS Report.) Given the extent of anthropogenic disturbance (i.e., existing livestock grazing and agricultural activities) and low quality habitat present, and the fact that there is a significant amount of similar, but higher-quality habitats available within the region, specifically including the 3,500 acre open space preserve directly adjacent to the Project Site, the proposed Project's cumulative impacts in this regard will be less-than-significant.

Mitigation Measure:

Project Specific

4.4-1a Construction operations will be overseen by an appropriately-credentialed biologist (biological monitor), and the Project will implement a worker environmental awareness training program to reduce the Project's potential adverse effects to special status species. This measure is specific to Areas A, B and C of the Project.

4.4-1b Prior to commencement of ground disturbing activities in any areas of potentially suitable habitat to support special status plant species, pre-activity clearance surveys shall be initiated by a qualified botanist. This measure is specific to Area A, B and C.

- Surveys shall be floristic in nature and timed during appropriate blooming periods.
- Surveys shall target those locales within the Project Site of direct and indirect effects. The results of these surveys shall be submitted to CDFW and USFWS for review.
- In the event special-status plant species are detected within portions of the Project Site proposed for development, individual plant(s) or populations shall plant be avoided whenever possible by delineation and observing a no disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species.
- If buffers cannot be maintained, then consultation with CDFW and USFWS is warranted to determine appropriate minimization measures for impacts to special-status plant species.

4.4-1c Prior to commencement of ground disturbing activities in any areas of potentially suitable habitat to support San Joaquin Kit Fox, no less than sixty (60) days prior to any ground disturbing activates or grading, pre-construction clearance surveys shall be initialed by a qualified biologist to reinforce negative findings (the continued absence of SJKF) on the Project Site with substantial evidence. A second SJKF survey shall be conducted no more than thirty (30) days prior to the onset of construction or ground disturbing activities. If SJKF are detected within portions of the Project Site proposed for development, the developer shall immediately contact the USFWS telephonically and in writing, and following consultation with the USFWS, avoidance and minimization measures specific to SJKF will be incorporated into the Project as described in the USFWS "Standard Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbing Activities (1999)" and the USFWS "San Joaquin Kit Fox Habitat Evaluation Forms (2001)" to reduce impacts to this species to a less-than-significant level. These SJKF avoidance and minimization measures shall include the following:

1) No later than forty five (45) days prior to any ground disturbing activities or grading, the developer shall contact a qualified biologist holding proper permits and provide approval to that biologist to relocate known SJKF located on site to the 3,500 acre open space preserve or another relocation preserve approved by the USFWS or covered by the SJMSCP.

2) No later than fourteen (14) days prior to any ground disturbing activities or grading, all known dens shall be monitored for at least three (3) consecutive days to ensure that SJKF dens, to the extent they exist on the Project Site, are unoccupied prior to den excavation.

3) No later than five (5) business days prior to the initiation of any ground disturbing activities or grading (Grading Start Date), developer shall notify the Regional Offices of CDFW and USFWS

in writing of its intent to destroy unoccupied SJKF dens and initiate grading. At this time, Developer shall again authorize qualified representative of CDFW and USFWS to attempt to relocate known SJKF, to the extent feasible. If CDFW and USFWS are unable to relocate known SJKF by the Grading Start Date, Developer shall be required to eliminated known SJKF dens in the manner set forth below:

- Known SJKF dens located on the Project Site shall be excavated and destroyed under the direct supervision of a qualified biologist. Prior to the destruction of the dens, the dens shall be monitored for at least three (3) consecutive days to determine whether the den is active or dormant. Activity at the den can be monitored by placing tracking medium at den entrances and by spot lighting. If no den activity is observed during this period, then den should be destroyed immediately, pursuant to the den destruction procedures set forth below.
- Destruction of dens shall be accomplished by careful excavation with hand tools until it is certain that no kit foxes are inside. The den shall be fully excavated and back filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period.
- If a kit fox is found inadvertently inside a den during excavation, the animal shall be allowed to escape unhindered, or, to the extent feasible, representatives from the CSFW or USFWS shall be contacted to attempt to relocate and/or collar the kit fox pursuant to SJMSCP or other applicable protocol.

4.4-1d During construction, temporary disturbances and Project-related vehicle traffic will be restricted to established roads, construction areas, and other designated lands. Also during construction:

1) Project-related construction vehicles will observe a daytime speed limit of 20-mph, except on County roads and State and Federal highways.

2) Night-time construction will be minimized to the greatest extent feasible. However if it does occur, then the speed limit will be reduced to 10-mph.

3) Project-related, non-ranch operations off-road traffic outside of designated Project areas that are undergoing construction will be prohibited.

4) To prevent inadvertent entrapment of small mammals, including SJKF, during construction, excavated, steep-walled holes or trenches more than 2-feet deep will be covered at the close of each working day by plywood or similar materials. Each excavation shall contain at least one ramp, with long trenches at least one ramp shall be placed every .25 mile. Slope of ramps shall be now steeper than 1:1. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks will be installed. Before such holes or trenches are filled, they will be thoroughly inspected for trapped wildlife. If at any time a trapped or injured SJKF is discovered, the USFWS and the CDFW will be contacted immediately to attempt to relocate and/or collar the SJKF. Escape ramps shall also be installed immediately to allow trapped animals to escape.

5) Construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored within Project limits for one or more overnight periods will be thoroughly inspected for any SJKF before the pipe is subsequently buried, capped, or otherwise used or moved. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS and CDFW

has been consulted. If necessary, and under the direct supervision of a biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

6) All food, garbage in plastic shall be disposed of in closed containers and regularly removed from the site to minimize attracting SJKF and other sensitive species to the site.

7) Use of rodenticides and herbicides within Project limits will be restricted. Uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide or an equivalent material will be used because of a lower adverse health risk to kit fox.

8) No dogs, cats or other animals shall be permitted on the Project Site.

9) Developer shall provide a sensitive species identification and avoidance education program for all construction employees that consists of a consultation in which persons knowledgeable in kit fox biology and legislative protection to explain endangered species protocols, habitat needs and the measures and conditions of approval being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to all contractors, their employees, and any and all other personnel who are working on the construction site.

4.4-1e Prior to commencement of ground disturbing activities in all areas of potentially suitable habitat to support Swainson's hawk, pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. If Swainson's hawk is detected within portions of the Project Site proposed for development, then avoidance and minimization measures specific to Swainson's hawk will be incorporated into the Project as described in the CDFW "Staff Report on Mitigation for Impacts to Swainson's Hawk (2012)" to reduce impacts to Swainson's hawk to less-than significant. This measure is applicable to Areas A, B and C of the Project.

1) If an active nest site is found, the Project will allow sufficient foraging and fledging area to maintain the nest.

2) The Project will not remove historic or known Swainson’s hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February.

4.4-1f Prior to commencement of ground disturbing activities in all areas of potentially suitable habitat to support California Tiger Salamander (CTS), pre-activity clearance surveys shall be initialed by a qualified biologist in accordance with published guidelines and protocols. Survey methods shall be derived from published protocols, and to reinforce positive or negative findings with substantial evidence. If CTS is detected within portions of the Project Site proposed for development, then avoidance and minimization measures specific to CTS will be incorporated into the Project as necessary to reduce impacts to CTS to less-than significant. This measure is specific to Areas A, B and C of the Project.

1) Temporary construction disturbances to CTS habitat will be minimized to the extent practicable. All Project-related vehicle traffic will be restricted to established roads, and construction areas.

2) A qualified biologist will be on site during all activities that may result in the take of CTS. The biologist will be given the authority to stop any work that may result in the take of this listed species.

3) The biologist will be responsible for ensuring that the exclusion fence installed around occupied CTS habitat inspected before the start of each day and remains intact until project construction is complete.

4) Plastic monofilament netting (erosion control matting) or similar material will not be used for erosion control or other purposes around occupied CTS habitat because CTS may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding.

5) The project proponent or its contractor will implement BMPs to prevent sediment from entering suitable CTS habitat through the use of silt fencing and sterile hay bales.

6) A worker training program that includes the CTS will be conducted for construction personnel before groundbreaking at individual redevelopment project sites.

7) A speed limit of 20 (mph) will be observed within construction areas, particularly on rainy nights when CTS are most likely to be moving between their breeding ponds and upland habitat. To the extent possible, nighttime construction will be minimized. Off-road traffic outside designated construction areas will be prohibited.

8) To prevent entrapment of CTS during construction, any trenches, holes, or other excavations into which CTS could fall and become trapped will be covered. The opening will be completely covered at the end of each workday.

4.4-1g Prior to commencement of ground disturbing activities in all areas of potentially suitable habitat to support California red-legged frog (CRLF), pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. This measure is specific to Areas B and C of the Project.

1) Survey will occur during the wet season (generally October 15 to April 15), no more than 48 hours before new ground disturbance.

2) A worker training program that includes the CRLF will be conducted for construction personnel before groundbreaking at individual redevelopment project sites.

3) If a CRLF is found, the construction supervisor shall halt work immediately within a buffer area of 50 feet of any discovered CRLF. The construction supervisor will also contact the project biologist and will suspend all construction activities in the immediate construction zone (50-foot radius) until the animal leaves the site voluntarily or is removed by the biologist to a release site using USFWS-approved transportation techniques.

4) To prevent entrapment of CRLF during construction, any trenches, holes, or other excavations into which CRLF could fall and become trapped will be covered. The opening will be completely covered at the end of each workday.

4.4-1h All applicants who conduct Projects within Areas A and B of the Project Site shall adhere to the terms of the SJMSCP. Participation in the SJMSCP includes compliance with all incidental take measures as required in the SJMSCP, including but not limited to preconstruction surveys to determine presence for special status flora and fauna. Notwithstanding this biological resource section's less-than-significant impact conclusions, if required by applicable law, projects being implemented within Area C shall voluntarily secure Section 7 and/or Section 10 permits in consultation with the appropriate wildlife agencies.

4.4-1i Pre-construction surveys shall include a survey for burrowing owl and raptor nests, which will be conducted prior to grading. Pre-construction surveys for burrowing owl will be conducted weekly, beginning no later than thirty (30) days and ending no earlier than three (3) days prior to the commencement of disturbance. If burrowing owls are found during the pre-construction survey, then replacement burrows and habitat shall be provided prior to the commencement of construction within the 3,500 acre preserve area. The Project applicant shall provide artificial replacement burrows in the event that owls are detected, either as wintering or breeding within Project boundaries.

Construction activities associated with project features that occur within portions of the Project Site containing occupied or suitable habitat for the burrowing owl and raptor nests shall be restriction to periods outside the breeding season for this species. The breed season for burring owl runs from February 15 through August 31.

If construction or operation activities occur during the breeding season for burrowing owls, surveys are required prior to such construction to determine the presence or absence of this species within the impact area. Focused surveys shall be conducted under CDFW and Burrowing Owl Consortium protocol by a qualified biologist from February 15 to August 31. If this species is determined to occupy any portion of the Project Site, consultation with the CDFW and USFWS is required and no construction activity shall take place within 500 feet of an active nest/burrow until it has been determined that the nest/burrow is no longer active, and all juveniles have fledged the nest/burrow. No disturbance to active burrows shall occur without appropriate permitting through the SJMSCP or CDFW.

If active burrows are detected outside the breeding season, passive and/or active relocation may be approved following consultation with the CDFW and USFWS. The installation of one-way doors may be installed as part of a passive relocation program. Wintering individuals may be evicted with the use of exclusion devices followed by a period of seven days to ensure that animals have left their burrows. Burrowing owl burros shall be excavated with hand tools by a qualified biologist when determined to be unoccupied, and backfilled to ensure that animals do not reenter.

4.4-1j To avoid the potential for disturbance of nesting birds on or near the Project Site, schedule the initiation of any vegetation removal and grading for the period of September 1 through February 15. If construction work cannot be scheduled during this period, a qualified biologist shall conduct pre-construction surveys for nesting birds according to the following guidelines:

1) The preconstruction surveys shall be conducted by the qualified biologist no later than 14 days prior to the start of vegetation removal or initiating project grading.

2) If birds protected under the Migratory Bird Treaty Act are found nesting, then appropriate construction buffers shall be established to avoid disturbance of the nests until such time that the young have fledged. The size of the nest buffer shall be determined by the biologist in consultation with CDFW, and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. Typically, these buffers range from 75 to 250 feet from the nest location.

3) Nesting activities shall be monitored periodically by a qualified biologist to determine when construction activities in the buffer area can resume.

4) Once the qualified biologist has determined that young birds have successfully fledged, a monitoring report shall be prepared and submitted to the City of Tracy Development Services for review and approval prior to initiating construction activities within the buffer area. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds. Construction within the designated buffer area shall not proceed until the written authorization is received by the applicant from the Development Services Director. The above provisions are in addition to the preconstruction surveys to confirm presence or absence of nesting Swainson's hawk, burrowing owl, and other special-status species as required under the Incidental Take Minimization Measures of the SJMSCP.

4.4-1k In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site shall take place outside of the typical avian nesting season (e.g., February 1st until September 1st) to the maximum extent practical. If work needs to take place between February 1st and September 1st, a pre-construction survey for nesting birds should be completed prior to the onset of Project activities. If a lapse in Project activity occurs for 7 days or more during the bird nesting season than initial avian clearance surveys shall be repeated. A buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed.

4.4-1l Prior to construction, the Project applicant will stake, flag, fence or otherwise conspicuously delineate all environmentally sensitive areas that are to be protected in place and remain undisturbed during construction. Environmentally sensitive areas would include wetland, riparian habitat, aquatic habitat, raptor nesting locations, etc. The construction materials used to delineate environmentally sensitive areas would be removed no later than 30 days following physical completion of construction.

4.4-1m The discovery of any previously unidentified protected species that are not covered by the SJMSCP, including those protected under the MBTA and the Fish and Game Code, shall be avoided and evaluated by a qualified biologist during surveys. The USFWS and CDFG shall be notified of the presence of any previously unreported protected species. Any unanticipated take of protected wildlife shall be reported immediately to the USFWS and CDFG.

4.4-1n Prior to commencement of ground disturbing activities in areas of potentially suitable habitat to support Western spadefoot toad, pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence.

1) For work conducted within suitable habitat and during the western spadefoot toad migration and breeding season (November 1 to May 31), a qualified biologist will survey the active work areas (including access roads) in mornings following measurable precipitation events. Construction may commence once the biologist has confirmed that no spadefoot toads are in the work area.

2) If western spadefoot toad is found within the construction footprint, it will be allowed to move out of harm's way of its own volition or a qualified biologist will relocate the organism to the nearest burrow that is outside of the construction impact area.

4.4-1o Prior to commencement of ground disturbing activities in areas of potentially suitable habitat to support American Badger, pre-activity clearance surveys shall be initialed by a qualified biologist to reinforce positive or negative findings with substantial evidence. If American badger is located within the Project Site, potential loss of individual animals must be mitigated through one of the following: (1) an on-site passive relocation program, through which badgers are excluded from occupied burrows by installation of a one-way door in burrow entrances, monitoring of the burrow for one week to confirm badger usage has been discontinued, and hand excavation and collapse of the burrow to prevent reoccupation; or (2) active trapping and relocation of badgers to suitable off-site habitat by a qualified biologist.

4.4-1p The Project applicant shall execute a management and funding agreement for the managing and monitoring of one hundred percent of the approximately 3,500 acre open space preserve subject to the three conversation easements discussed in this Section, which shall occur before the commencement of any ground disturbing activities in Area C. (Note Areas A and B are already subject to a management and funding agreement and therefore this Measure applies to Area C.)

Cumulative

The above measures adequately ensure that the Project's cumulative impacts in this regard will remain less-than-significant, and therefore no measures beyond those identified for project-specific impacts are required.

Level of Significance After Mitigation

Project Specific

While not necessary, for the reasons explained above, the implementation of Mitigation Measures 4.4-1a through 4.4-1p, along with Project's design features, will ensure that all of the proposed Project's impacts on candidate, sensitive and special status species remain less-than-significant.

Cumulative

As explained above, the proposed Project would not result in the development of any high quality habitat for candidate, sensitive and special status species, and does not result in significant impacts to candidate, sensitive and special species. Accordingly, the proposed Project's contribution to cumulative impacts on candidate, sensitive and special status species, specifically including, not limited to the SJKF, CRLF and burrowing owl, are insignificant. Indeed, higher quality habitat for all candidate, sensitive and special status species is known

to occur in the Project vicinity is located in the 3,500 acre open space preserve area. Moreover, the implementation of Mitigation Measures 4.4-1a through 4.4-1p, along with Project's design features, will ensure that proposed Project impacts on candidate, sensitive and special status species or their habitat remain less-than-significant. Therefore, the Project would not result in cumulatively considerable impacts, and its cumulative impact in this regard would be less-than-significant.

Impact 4.4.B The proposed project would not result in potential substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.

Project Specific

As stated above, the Project Site is significantly disturbed from years of grazing and other activities, and does not include any sensitive natural communities identified in local in local or regional plans, policies, regulations or by the California Department of Fish and Game or USFWS, except for the very small portion of USFWS designated critical habitat for the CRLF in Area C, which as discussed above, does not actually support CRLF or contain CRLF habitat. (Appendix C-2, NOREAS Report, Appendix G.) No riparian habit was observed within the footprint of the proposed Project. (*Id.,* NOREAS Report, p. 4-4) The only potential riparian habitat near the Project Site is the Corral Hollow Creek area, but the Project has been designed to ensure that this area is not impacted by the development of the proposed Project, as that area is not actually on the Project Site. Moreover, not only will the Project avoid development of any portion of Corral Hollow Creek, but it will also will implement 50-foot setbacks from any stream or riparian resources. Therefore, the proposed Project's potential impacts on any riparian habitat or other sensitive natural community will be less-than-significant.

Cumulative

The proposed Project shall comply with all applicable codes, laws, ordinances, and regulations to minimize or avoid adverse effects to riparian habitat and other sensitive natural communities, including wetlands, waters, and State and Federally-listed species, or any species proposed for listing to the greatest extent practical. Furthermore, any other projects – even if not planned at the present time – would also be required to comply with the same local, state, and federal codes, ordinances, laws, and other required regulations. Therefore, this Project's incremental contribution to cumulative effects on riparian habitat and sensitive natural communities would not be considerable, and therefore would be less-than-significant.

Mitigation

Project Specific

None Required.

Cumulative

None Required.

Significance After Mitigation

Project Specific

No Impact.

Cumulative

No Impact.

Impact 4.4.C Would the Project have a potential 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?

Project Specific

The 2013 jurisdictional assessment indicated that there are 5.01 acres of RWQCB and CDFW jurisdictional wetlands or Waters of the State on the project site. (Appendix C-3, 2013 Wetland Delineation.) No federal waters under the jurisdiction of the USACE have been identified on the site. The Project is designed to avoid any impacts to these jurisdictional waters.

Cumulative

The Project Site has no federal wetlands, and a relatively small amount of isolated RWQCB and CDFW jurisdictional wetlands that will most likely be completely avoided by the proposed Project.

Mitigation Measure:

Project Specific

4.4-3a The project area includes numerous small episodic drainage features. If adverse effects to them cannot be avoided, then the Project shall notify the appropriate regulatory agency (i.e., USACE, CDFW and RWQCB) prior to impacting the feature, to comply with the requisite permitting requirements.

1) Section 401 of the CWA requires a water quality certification for discharges and/or adverse impacts to regulated waterways and aquatic environments. The RWQCB is empowered to enforce this regulation through the Water Quality Certification Program. For this Project, activities may require a CWA Section 401 Water Quality Certification (WQC).

2) Section 1600 of the California Fish and Game Code (CFGC) regulates substantial alteration of waters and their adjacent riparian lands within the State. For this Project, activities may require Lake and Streambed Alteration Notification.

3) If impacts to special aquatic resource areas are ultimately unavoidable within the Project Site, then the applicant should develop an informal plan to offset or compensate for adverse effects to these resources to ensure rapid and favorable action during any warranted permitting processes. With regard to Waters of the State, the Project has voluntarily elected to offset locales associated with permanent losses, at a mitigation to impact ratio of 3:1, and 1:1 for temporary disturbances to regulated waters, riparian habitats or other sensitive natural communities in all areas where Project

related activities would be expected to adversely affect watercourses, streams, drainages, and their tributaries. The offset associated with permanent losses would occur by purchasing conservation credits from an approved mitigation bank, in-lieu fee program, or equivalent resource agency-approved process.

4) Avoidance measures being utilized by the Project include but are not be limited to the following: 1) complete avoidance of wetlands and other water features; 2) construction of structures to maintain natural floodplains; 3) installation of open channel drainages, swales or bottomless culvert systems to maintain the integrity of natural water features; 4) installation of culverts for wildlife crossings in sensitive and unique habitats to allow connectivity among water features or natural lands; 5) use natural/biological materials in armoring of structures (i.e. bridges, culverts, etc.) to the greatest extent practical; 6) when feasible, install exclusionary fencing to guide wildlife away from roadways and into water features or sensitive habitats; and 7) consult with regulatory agencies to determine the most environmentally sound methods and alternatives prior to Project implementation.

4.4-3b A Jurisdictional Determination would be required from the USACE documenting isolated conditions and lack of jurisdictional authority on the Project site.

4.4-3c A RWQCB Report of Waste Discharge (ROWD) pursuant to the California Water Code Section 13260 would need to be acquired for impacts to "waters of the State" under the jurisdictional authority of the RWQCB.

4.4-3d A CDFW Streambed Alteration Agreement shall also be obtained, where necessary under applicable laws and regulations, for any proposed Project activities that would affect State waters regulated by the CDFW within the Project Site.

Cumulative

No additional measures beyond those identified above are required.

Level of Significance After Mitigation

Project Specific

Mitigation Measures 4.4-3a through 4.4-3d ensure that the proposed Project's impacts on jurisdictional waters/wetlands of the U.S. or State of California remain less-than-significant. Mitigation Measure 4.4-3a implements avoidance measures recommended by the CDFW, and ensure that to the extent avoidance becomes infeasible, the jurisdictional waters are replaced at mitigation ratios recommended by the CDFW. Additionally, Mitigation Measures 4.4-3b through 4.4-4d require cooperation with the appropriate agencies to ensure impacts remain *less-than-significant.*

Cumulative

There are no high value jurisdictional waters on the Project Site, and in fact, no federal jurisdictional waters at all. Nonetheless, the proposed Project is designed to avoid impacts on those waters. Accordingly, the proposed Project's impacts on jurisdictional waters/wetlands of the U.S. or State of California would not be cumulatively considerable, and the proposed project will have no cumulative impacts in this regard, particularly after the implementation of Mitigation Measures 4.4-3a through 4.4-3d.

Impact 4.4.D Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?

Project Specific

As has been concluded in twenty-five years of study and confirmed by the 2014 and 2015 updated pedestrian-based surveys, the portion of the Project Site that will be developed is not likely to support any State or Federally-listed flora and fauna, and is comprised entirely of non-native vegetation and low-grade habitat for any native wildlife species. Indeed, the main species of concern in the general Project Site area – the SJKF – has never been observed on the Project Site in a quarter century of focused studies, and the Project Site is unlikely to contain native wildlife nursery sites. (Appendix C-2, 2015 NOREAS Report.)

Additionally, Interstate 580 – which runs through the middle of the Project site, separating Areas A and B from Area C – is a significant barrier which impedes and curtails wildlife movement throughout the region, severely limiting the Project Site's utility as a wildlife movement corridor or linkage area. With the exception of the parcel closet to the I-580 and Corral Hollow Road interchange, the proposed Project also includes 100-foot setbacks from I-580 in the form of conservation easements to provide a migratory corridor down the middle of the Project Site, between Areas B and C, allowing north-south movement of wildlife. As discussed below, the California Aqueduct, and the Project's setbacks from the same, serves this same purpose in a different area of the Project Site.

The California Aqueduct – which serves as the border between Area A and Area B – and Delta-Mendota Canal, which is located on the edge of Area A/the Project Site, act as stepping stone refugia habitat for the dispersal of SJKF and other wildlife species that exist in the region outside of the Project Area. These man-made waterways provide unobstructed travel corridors for wildlife species to connect to habitats located to the north and south of the Project Site, and would not be affected by development of the Project. Furthermore, the proposed Project includes a setback from the California Aqueduct to allow wildlife movement to persist throughout the Project Site without any significant barriers or blockades.

Area C of the Project Site is adjacent to the eastern foothills of the Diablo Mountain Range. The Diablo Mountain Range provides a natural wildlife corridor to the north and the south extending along the southern coastal mountain ranges of California. Development of Area C will be limited to the relatively flat grasslands south of I-580 and east of the foothills of the mountains, which is on the opposite side of the preserve area. As a result, the migration corridor west of the Project Site consisting of the Diablo Mountain Range will not be obstructed or significantly impacted. Additionally, the Project has been designed such that development of Area C will completely avoid direct impacts to the Corral Hollow Creek key linkage corridor (which is located just south of Area C) and it corresponding flood plain and alluvial sand movement areas. (Appendix C-2, NOREAS Report.) Corral Hollow Creek has higher species diversity and value for local and migratory wildlife than adjacent locales, and accordingly, the Project complete avoids development of the Corral Hollow Creek area to maintain local existing wildlife movement and dispersal linkages.

The aforementioned 3,500-acre open space area adjacent to Area C was set aside by the Project owner under a series of conservation easements to protect the integrity of the natural corridor to the north and the south extending along the southern coastal mountain ranges of California (*e.g,* the Diablo Mountain Range). This preserve contains higher quality habitat for all relevant species than the low grade habitat on the Project Site.

Due to the fact that the I-580 completely separates Areas A and B from Area C, even without any development of Areas A and B, species are not able to migrate from these Areas to the Diablo Mountain Range wildlife corridor. Accordingly, Area A and B (which encompasses the portion of the Project being analyzed by this EIR at the "project-level") do not function as significant wildlife movement corridors nor do they provide linkage to significant habitats. Additionally, as stated above, the setbacks from the California Aqueduct and the I-580, as well as the complete avoidance of the Corral Hollow Creek area, provides sufficient wildlife movement such that any impacts from the development of the proposed Project would be less-than-significant. (See Reference within Appendix C-2, Jones & Stokes Evaluation of a proposed Corridor for the San Joaquin Kit Fox in the Tracy Hills Development [states that avoiding adverse effects to California Aqueduct and Corral Hollow Creek would be adequate to maintain local existing wildlife movement and dispersal corridors linkages]; *see also,* NOREAS Report, pp. 4-3, 4-4 [in accord].) In sum, development of the proposed Project will not impede any wildlife movement that occurs before development, nor result in any significant impacts on the same.

Finally, it also bears noting that approximately 9 miles east of the Project Site the San Joaquin River traverses the agricultural fields on the valley floor of the Central Valley. The River was once dominated by riparian forest habitats and provided a major migration corridor through the middle of the State. This corridor was primarily used by migratory avian species (Pacific Flyway) but was also utilized by mammalian species. The San Joaquin River system is one of the most highly altered water systems in the state due to the diversion of water for agricultural purposes. However, the Project Site is separated from this regional migratory corridor by extensive existing urban development in the City of Tracy and extensive agricultural operations. There are no natural interconnecting habitats between the San Joaquin River and the proposed Project Site.

Cumulative

For the reasons discussed above, the proposed Project's potential impacts on the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites are considered cumulatively insignificant. The Project Site does not contain undisturbed native habitat, and the primary species of concern with regard to migration – the SJKF – has never been documented on the Project Site during twenty-five years of study. Moreover, unlike the Project Site, the 3,500 acre open space preserve actually serves as a migratory corridor, and the implementation of the proposed Project will result in the permanent conservation of that area. (See reference within Appendix C-2, Preserve Management Plan for the Tracy 580 Business Park Preserve) In sum, no migratory corridor will be impacted by the proposed Project, making impacts in this regard less than cumulatively considerable.

Mitigation Measure:

Project Specific

4.4-4a A 100-foot setback from the California Aqueduct shall be required to allow wildlife movement to persist throughout the Project Site without any significant barriers or blockades. Prior to development of properties adjacent to I-580 or the south side of the California Aqueduct that do not have a 100-foot wide conservation easement placed adjacent to these facilities, a 100-foot wide conservation easement shall be recorded along the I-580 and the Aqueduct. These measure ensures that known wildlife movement corridors remain intact, and allow for an appropriate number and size of permeable wildlife passages through Project boundaries, ensuring connectively to areas that already are subject to conservation easements, such as the 3,500 acre preserve located adjacent to Area C.

Cumulative

No additional measures beyond those identified above for project-specific impacts are required.

Level of Significance After Mitigation

Project Specific

Implementation of Mitigation Measure 4.4-4a provides a 41-acre portion along most of the California Aqueduct to enable habitat connectivity wildlife species that may travel along the canal corridors, and 100-foot wide wildlife corridors would be maintained along both sides of I-580 to provide an undeveloped area for wildlife to travel between the freeway and proposed Project in order to move north and south of the Project site. This will ensure that the Project's impacts in this regard *remain less-than-significant.*

Additionally, the Project is designed such that it will completely avoid impacts to Corral Hollow Creek, and the Project's design will ensure that wildlife migration in the Diablo Mountain Range will not be impacted by virtue of the 3,500 acre preserve and the proposed footprint of the development of Area C.

For the reasons discussed above, implementation of the proposed Project would not significantly interfere with the movement of resident or migratory wildlife, and all impacts in this regard will be *less-than-significant.*

Cumulative

As discussed above, the proposed Project would not result in cumulatively considerable impacts, making its cumulative impacts in this regard less-than-significant. Implementation of Mitigation Measure 4.4-4a will ensure that the proposed Project's cumulative impacts remain *less-than-significant for* the reasons discussed above.

Impact 4.4.E Would the proposed Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Project Specific

The Project adheres to all federal, state and local regulations regarding sensitive species. While not necessary to avoid significant impacts given the dearth of sensitive species documented on the Project Site during twenty-five years of study, implementation of Mitigation Measure 4.4-1h requires participation in the SJMSCP, or as to Area C (the only portion of the Project Site not currently part of the SJMSCP)[3], if required, the Project applicant must obtain permits through the USFWS and CDFW for any impacts to sensitive species that are documented before the development of Area C. However, considering the history of biological studies conducted on the Project Site, it is not likely that such permits will be required after implementation of the pre-construction surveys and other preventative measures required by Mitigation Measures 4.4-1a through 4.4-1o.

[3] Area A and Area B of the Project Site are located within the Central/Southwest Transition Zone of the SJMSCP. The Central/Southwest Transition Zone was established by the SJMSCP primarily to allow a special exception to the Plan requirement that impacts to the Covered Species in any given SJMSCP Index Zone be compensated in the same Index Zone (See Section 5.1.2.6 of the SJMSCP). Section 5.1.2.6 describes the basis for this exception. Primarily, it involves the fact that the SJKF may sometimes occur outside the Southwest Zone in areas that are part of the Central/Southwest Transition Zone. This provision allows compensation for habitat conversions in the Central/Southwest Transition Zone to occur in either the Central Zone or the Southwest Zone. In addition, the exception placed a high priority on the establishment of stepping stone refugia for the SJKF within the Central/Southwest Transition Zone. Recent studies indicate that SJKF may travel along the canal corridors. Area C of the THSP Project is located within the Southwest Zone of the SJMSCP. However, Area C is not covered under the SJMSCP. SJMSCP Permitted Activities in the Southwest Zone primarily consist of aggregate mining, widening of the I-205 freeway corridor, and housing developments. Urban development impacts would be concentrated primarily within current urban growth boundaries and along the I-580 transportation corridor in the City of Tracy. However, the majority of the Southwest Zone would remain in natural grassland and would be used for livestock grazing.

The City of Tracy's General Plan includes goals, objectives and policies that pertain to the protection of sensitive species and habitats. The Project Site does not contain any sensitive habitats, other than the small portion of Area C that overlaps with the USFWS-designated CRLF critical habitat, which as confirmed by the 2015 focused CRLF habitat assessment, does not actually support the CRLF or contain CRLF habitat, and the CRLF has not been documented in this area over 25 years of study. (Appendix C-2, NOREAS Report, Appendix G.) Similarly, the portion of the Project Site that will be developed is not expected to support any federally or State listed species, and pre-construction surveys and other preventative measures required by Mitigation Measures 4.4-1a through 4.4-1o will ensure that in the unlikely event these species are found on the Project Site, impacts to those species will be avoided. These same Mitigation Measures assure that any impacts on California species of special concern that may occur on the Project Site will be less-than-significant. Therefore, the Project is consistent with all of the City's goals, objective and policies because the proposed Project will not result in significant impacts to sensitive species and habitats.

Accordingly, the proposed Project would result in a less-than-significant impact in this regard.

Cumulative

Based on a consistency analysis of the SJMSCP and the City of Tracy's General Plan, the proposed Project would not contribute to the potential cumulative impact on the local policies and ordinances protecting biological resources. The proposed Project's consistency with the SJMSCP is demonstrated by the 2014 Consistency Analysis performed by RBF in 2014 (Appendix C-1.) The proposed Project's consistency with the City's General Plan is demonstrated as follows.

Table 4.4-4: Consistency Analysis of General Plan Policies Relevant to Biological Resources

Open Space Element of the City of Tracy General Plan		
Goal/Policy		Consistency Analysis
Goal OSC-1	The protection of rare, endangered and threatened plant and animal species.	The proposed Project will not impact any rare, endangered or threatened plant and animal species, and no such species have ever been documented within the development footprint of the proposed Project. Nonetheless, Mitigation Measures 4.4-1a through 4.4-1o, which require, among other things, pre-construction surveys and avoidance measures approved by USFWS and CDFW, have been imposed to ensure that no rare, endangered or threatened species are affected by the proposed Project. Therefore, the implementation of the Project will be consistent with this Goal.
Objective OSC-1.1	Preserve habitats that may support rare, endangered or threatened plant and animal species.	The proposed Project will not impact any habitat that currently supports any rare, endangered or threatened plant or animal species. However, as part of the Project's design, the applicant has dedicated approximately 3,500 acres as permanent open space to serve as habitat for any rare, endangered or threatened species that may exist in the Project area. Therefore, the implementation of the Project will be consistent with this objective.
Policy P1	New development shall meet all federal, State and regional regulations for habitat and species protection.	The proposed Project will not impact any rare, endangered or threatened plant and animal species. Notwithstanding the foregoing, Mitigation Measures 4.4-1b, 4.4-1c, 4.4-1d, 4.4-1e, 4.4-1g, 4.4-1h, 4.4-1i, 4.4-1j, 4.4-3a, and 4.4-3d require compliance with various USFWS, CDFW and SJMSCP requirements regarding habitat and species protection to ensure all federal, State and regional

Table 4.4-4: Consistency Analysis of General Plan Policies Relevant to Biological Resources

Open Space Element of the City of Tracy General Plan		
Goal/Policy		Consistency Analysis
		regulations are met. Therefore, the implementation of the Project will be consistent with this policy.
Policy P2	The City shall continue to participate with the San Joaquin Council of Governments and other agencies to implement and enforce the San Joaquin Multi Species Habitat Conservation and Open Space Plan.	Areas A and B are part of and covered by the SJMSCP. Pursuant to Mitigation Measure 4.4-1h, prior to development of Area C, if required, the Project applicant(s) will either seek an amendment to the SJMSCP or pursue Section 7 and/or Section 10 permits from the appropriate agencies. As part of the Project's design, the applicant has dedicated approximately 3,500 acres as permanent open space. To the extent mitigation is necessary, the San Joaquin Council of Governments (SJCOG) has already accepted a portion of the preserve to mitigate impacts for development of Area B, which is the only area subject to project level analysis in this EIR. Additionally, the CDFW and USFWS have indicated that the preserve area serves as sufficient mitigation for the species that could potentially occur on the Project Site. Therefore, the implementation of the Project will be consistent with this policy.

Mitigation

Project Specific

See Mitigation Measures 4.4-1a through 4.4-1o.

Cumulative

No additional measures beyond those identified above for project-specific impacts are required.

Level of Significance After Mitigation

Project Specific

Less-than-significant.

Cumulative

Less-than-significant.

Impact 4.4.F The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Project Specific

As discussed throughout this section, the relevant habitat conservation plan with regard to the proposed Project is the SJMSCP. The City of Tracy is a signatory to the SJMSCP. Projects covered by the SJMSCP receive clearance under both the state and federal endangered species acts (FESA and CESA) if they are consistent with the SJMSCP. Compliance with the Plan ensures that the impacts are mitigated below a level of significance in compliance with CEQA. The City of Tracy retains responsibility for ensuring that the appropriate Incidental

Take Minimization Measure are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP.

Areas A and B of the Project Site are currently covered by the SJMSCP. Area A was originally covered by the SJMSCP when it was adopted, and Area B was added via minor amendment in 2012, when the Project owner set aside the 3,500 acre area adjacent to Area C. Area C is currently not covered under the SJMSCP. In the unlikely event that before development of Area C, sensitive habitat or species are documented in the proposed Project's footprint, the Project applicant would be required to apply independently for coverage and may require additional permitting under FESA and CESA, which may include a Major Amendment to the SJMSCP, a project specific HCP in accordance with Section 10 of the FESA, Biological Opinion under Section 7 of the FESA, and/or Section 2081 of the CESA.

However, the requirement to comply with the SJMSCP pre-supposes that the proposed Project will impact covered species and habitats. Twenty-five years of study of the Project Site have revealed that it has low species diversity and does not support any federally or state listed species, and that higher quality habitat for any special status species, including State species of special concern that have been documented on the Project site, exists nearby the Project Site, including the 3,500 acre preserve set aside by the Project owner. The Project is designed to completely avoid impacts to the Corral Hollow Canyon Creek area, as well as implementing setbacks from the California Aqueduct and the I-580. (*See*, Mitigation Measure 4.4-4a.) Therefore, compliance with the SJMSCP to mitigate for "takes" is unnecessary, as the Project's impacts are less than significant. However, notwithstanding the foregoing, to ensure that all impacts remain less-than-significant and to further reduce already less-than-significant impacts, this Section imposes mitigation measures that require compliance with the SJMSCP, including all of its pre-construction survey requirements and other preventative/avoidance measures. (*See,* Mitigation Measures 4.4-1h, 4.4-1j, 4.4-1m, and 4.4-4a; *see also,* Mitigation Measures 4.4-1a through 4.4-1o.)

Accordingly, the Project will not conflict with the SJMSCP, and therefore the proposed Project's impacts would be less-than-significant in this regard.

Cumulative

As described above, the portion of the Project Site analyzed at the "project level" is located within the boundaries of the SJMSCP. Area C, which is not currently part of the SJMSCP, will be subject to a separate subsequent environmental review before it is developed. If determined that it is necessary, Area C will be required to apply for coverage under the SJMSCP or otherwise obtain the necessary take permits from applicable regulatory agencies before it is developed, which will be part of the subsequent environmental review already required for Area C, as its impacts are only being analyzed on a programmatic level. Development of Area C will still be subject to the above-discussed mitigation measures requiring compliance with the SJMSCP, or if applicable, the project applicant(s) will be required to obtain Section 7 or 10 permits to the extent such permits are required as a result of future surveys of Area C. Accordingly, the proposed Project would not contribute to potential cumulative impacts to the SJMSCP.

Mitigation

Project Specific

See Mitigation Measures 4.4-1h, 4.4-1j, 4.4-1m, and 4.4-4a.

Cumulative

No additional measures beyond those identified above for project-specific impacts are required.

Significance After Mitigation:

Project Specific

Less-than-significant. Mitigation Measures 4.4-1h, 4.4-1j, 4.4-1m, and 4.4-4a ensure that the proposed Project's impact will remain less than significant by ensuring compliance and consistency with the SJMSCP, including following all of its requirements regarding pre-construction surveys and preventative/avoidance measures. Additionally, the Project has been designed such that 3,500 acres of land – which the USFWS and CDFW has confirmed contains suitable habitat for the SJKF, the burrowing owl, and other relevant special status species in the general Project Site area – will be permanently preserved directly adjacent to Area C. Even if the proposed Project required SJMSCP coverage and mitigation to comply with FESA, ESA and CEQA – which it does not, as a result of its already less-than-significant impacts – the 3,500 acre preserve provides a method for such compliance, in addition to the Project applicant's agreement to pay applicable maintenance fees. (*See,* Mitigation Measure 4.4-1p)

Cumulative

Less-than-significant.

4.4.4 COMPARING THE CONCLUSIONS HEREIN WITH THE 1998 EIR'S CONCLUSIONS

As made clear through review of twenty-five years of previous studies, the development of the Project Site would have always had a less-than-significant impact on biological resources. However, the 1998 EIR, as well as the previous draft of this EIR, *assumed* development would result in potentially significant impacts without reference to the actual results contained in the numerous biological resource studies (i.e., the "facts on the ground") or the reality of the condition of the Project Site. Accordingly, the previous 1998 EIR imposed mitigation measures, specifically including the use of the 3,500 acre open space preserve as legally required mitigation, rather than a voluntary design feature that reduces already less-than-significant impacts. This design feature, along with documented absence of species and other project design features, such as setbacks from the California Aqueduct, the I-580 and riparian habitat – ensure that the proposed Project would have a less-than-significant impact on biological resources.

As explained herein, after a comprehensive analysis of the actual conditions on the Project Site through updated surveys, as well as detailed review of the previous biological studies prepared for the Project, it is clear that the proposed Project will result in less-than-significant impacts on biological resources, even before mitigation. No State or Federally-listed, proposed, or candidate plant or animal species have ever been detected proposed Project's footprint, despite that fact that many field surveys have been conducted over a twenty five year period from 1989 to 2015. The results of the various biological surveys of the Project area have not changed significantly over this time period, as shown by the surveys performed in 2014 and 2015 by RBF and NOREAS, respectively, including the 2015 focused surveys for any sensitive plant and wildlife species surveys that could potentially occur on the Project Site. (Appendix C-2, 2015 NOREAS Report, Appendices A through J.) Although the Project Site is relatively large in size, it has very low species richness and diversity, and the area

proposed for development does not support habitat for any State or Federal-listed species. (*Id.,* p. 1-3.) The Project is not expected to result in significant impacts to any special status species protected under State or Federal law, nor will implementation of the Project contribute to loss of viability, or substantially modify regional habitat availability for any common or special status species. Implementation of the Project will not create barriers to wildlife corridors or otherwise significantly impede wildlife movement in the region.

Indeed, the less-than-significant conclusion is not surprising considering that the majority of the Project Site consists of highly disturbed non-native vegetation and grasslands, as well as agricultural and developed areas. Given the extent of anthropogenic influence (i.e., existing and extensive historical livestock grazing and agricultural activities) and low quality habitat present, the likelihood of any special status species utilizing the Project Site as functional habitat is extremely minor, as a result of the amount of higher-quality habitats available within the region and immediate adjacent to the Project Site, specifically including 3,500 acres adjacent to the Project Site that have been set aside for conservation. (*See,* Appendix C-2, 2015 NOREAS Report.) This set-aside occurred as a previous Project design feature to preserve higher quality habitat areas in the foothills of the Diablo Mountains, and concentrating development in the low-lying, highly disturbed, low quality habitat areas of the Project Site. (As stated, the previous 1998 THSP EIR assumed that implementation of the 1998 Project would create significant impacts to San Joaquin Kit Fox – even though previous surveys did not ever record the presence of a single Kit Fox on site in either Area A, B, or C.)

In sum, the 1998 EIR and earlier version of this EIR assumed the existence of impacts, while this DEIR undertook comprehensive analysis of the actual conditions on the Project Site to determine that the Project's impacts on biological resources are less-than-significant. Nonetheless, this Section still imposes a host of mitigation measures to ensure that any impacts remain less-than-significant, as well as further reduce impacts or even completely avoid impacts that are already less-than-significant.

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4.5 CULTURAL RESOURCES

This section discusses the environmental setting, existing conditions, regulatory context and potential impacts of the Project area in relation to cultural and paleontological resources. Cultural resources include places, objects, and settlements that reflect group or individual religious, archaeological, architectural, or paleontological activities. Such resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. By statute, CEQA is primarily concerned with two classes of cultural resources: "historical resources," which are defined in Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5 and "unique archaeological resources," which are defined in Public Resources Code Section 21083.2. The information and analysis presented in this section is based on the *Cultural and Paleontological Resources Assessment for the Tracy Hills Specific Plan* prepared by DUKE Cultural Resources Management, LLC (DUKE CRM) in May 2015 and peer-reviewed by RBF Consulting, a Michael Baker International Company in June 2015. Other sources include technical reports prepared by LSA Associates in 1991 and Foster in 1996, and reviewed, updated and validated by Pacific Legacy in March 2014.

Cultural resources include both historical and prehistoric remains. Prehistoric remains may consist of immovable features such as mounds or housepit depressions. More commonly, however they comprise scatters or concentrations of flaked stone debris or debitage, rock, ash, animal bone, greasy organic or "midden" soil, charcoal, shell, items of personal adornment (e.g., shell beads, charmstones, etc.), groundstone artifacts (e.g., stone mortars, pestles, handstones, millingstones, etc.), flaked stone artifacts (e.g., projectile points, bifacially worked flakes, awls, etc.) and/or human remains. Historical remains may consist of features in the built environment such as buildings, roads, trails, homesteads, bridges, cemeteries, wells, pits and other structures relating to historical domestic, industrial or commercial activity, occupation or use. Historical remains may also comprise scatters or concentrations of glass, metal, ceramic, wood, brick, bone and/or other items relating to the public or private use of space.

Traditional cultural resources most often include Native American sacred sites, sites of resource procurement or sites of special cultural significance, though they may also comprise areas important to a specific ethnic community that are regarded as seminal to maintaining a community's cultural traditions.

In order to explore existing conditions within the Project area as they relate to known and previously undiscovered archaeological, traditional and/or built environment resources, the following methodology was employed:

- An intensive pedestrian survey was conducted on 97 percent of the 2,732 THSP Project area by DUKE CRM in early 2015. The remained of the Project was surveyed at the reconnaissance level due to active crops and slopes greater than 30 percent;
- An in-depth archival and records search was conducted by DUKE CRM. on February 25th, 2015 at the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS) and the University of California, Museum of Paleontology;
- Native American input was solicited from local Native American groups;
- A thorough review was undertaken of site records and reports relating to cultural resources previously documented within the Project area; and

- Pacific Legacy Inc. undertook a critical review of "An Archaeological and Historical Resource Investigation of the Proposed Tracy Hills Project, Tracy, California" prepared by John Foster in 1996 for the area encompassing the original THSP Project Area.

Information presented on existing conditions is based primarily on the results of the field surveys and archival and records search conducted at the Central California Information Center in 2015 by DUKE CRM. The records search included a review of all recorded historic and prehistoric archaeological sites within one-half mile radius of the project area, as well as a review of known cultural resource survey and excavation reports. In addition, DUKE CRM examined the California State Historic Property Data File (HPD), which includes the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). DUKE CRM conducted a search of the University of California Museum of Paleontology (UCMP) online collections. The internal archives at DUKE CRM were also inspected for relevant background information.

Five cultural resource studies have included portions of the Project area and two of these extend to areas outside the Project area. LSA Associates, Inc conducted a records search for the entire Project in 1991 and the entire Project was surveyed previously by Foothill Archaeological Services (Foster 1996). Partial surveys were completed for the PG&E Pipeline Expansion Project (Infotech Research Inc. 1990, 1992) and the South Schulte Specific Plan (Foster 1995). Additionally there have been as least nine cultural resource studies within one half mile of the project area. Most cultural resource surveys have been large, from over 100 acres to many hundreds of acres in size and one was linear along the PG&E corridor through the project. Approximately 20% of the ½ mile radius has been surveyed. See Table 4.5-1 for a list of the cultural resource studies within the project and the record search area.

There are two previously recorded cultural resources mapped within the Project. Both of these are historic in age and date to the American Period. These will be discussed under Section 4.5.3 *Environmental Analysis*.

A search of the Sacred Lands Inventory maintained by the Native American Heritage Commission (Foster 1996) failed to result in the identification of traditional sites significant to Native Americans within the Project area.

4.5.1 ENVIRONMENTAL SETTING

A discussion of the environmental setting, or the prehistoric and historical cultural history of the Project area, is presented in the following sections so that the context for known and previously undiscovered cultural resources may be better understood. This cultural history is presented in two main sections. In the first, a summary of the prehistoric occupation of the region is presented as it is understood through the archaeological and ethnographic record. An overview of regional cultural chronology and material culture is then highlighted. This is followed by a discussion of the historic period occupation and use of the region surrounding the Project area. These sections rely on the 2015 *Cultural and Paleontological Resources Assessment for the Tracy Hills Specific Plan*, prepared by DUKE CRM, and technical reports prepared by LSA Associates in 1991 and Foster in 1996, and reviewed, updated and validated by Pacific Legacy in March 2014.

The vast majority of the Project area, or that portion west of Interstate 580, is largely unmodified by human occupation. Corral Hollow Road and a network of unimproved roadways provide maintenance access to power

lines and grazing operations, which make up the predominant land use within that portion of the Project area. The portion of the Project area east of Interstate 580 has been used for agriculture for many years. This agricultural land, particularly the area between the California Aqueduct and the Delta Mendota Canal, has been leveled and graded for row crops.

PREHISTORIC CULTURAL HISTORY

The present-day City of Tracy is located in the traditional territory of the Northern Valley Yokuts. This territory extends south from the confluence of the Calaveras and San Joaquin Rivers to the point at which the San Joaquin River turns abruptly east; it encompasses the central San Joaquin Valley east from the Diablo Range to the Sierra Nevada. Linguistically, the Northern Valley Yokuts are relative newcomers to the central San Joaquin Valley. They were pushed north by the Numic-speaking Monache, beginning about 500 years ago (Kroeber 1959:269-277). Approximately 50 linguistically identifiable tribes were known to exist under the umbrella of "Yokuts" (Kroeber 1976:474).

The Project area lies within the ethnographic territories of the Chulamni Tribe of the Northern Valley Yokuts (Wallace 1978). Their territory extended down the San Joaquin River and the Calveras, possibly as far west as Mount Diablo (Kroeber 1976:486). The pre-contact Yokuts population has been estimated as three to four hundred people in each tribe, with a total of 15,000 to 20,000 people for the entire group (Kroeber 1976:488). Another estimate, based on available food resources, suggests that the population was as high as 31,404 (Baumhoff 1963:221). The Northern Valley Yokuts territory included riparian woodland, freshwater marsh, valley grassland, oak woodland, open river channels, lakes, and sloughs (Schulz 1981:8). Little ethnographic information exists for the Northern Valley Yokuts. The rapid spread of disease during the early nineteenth century and the Euro-American invasion of their territory for gold-mining and related activities in the early to mid-nineteenth century led to rapid declines in their population and to their displacement from their traditionally held territory (Wallace 1978).

The Northern Valley Yokuts relied heavily on fishing in the rivers, sloughs and streams throughout their territory in the central San Joaquin Valley. Salmon spawned during the fall in the San Joaquin River and its tributaries, and sturgeon was also an important food resource. Dragnets, stone sinkers and antler-tipped harpoons were used for fishing. Aquatic birds, such as duck and geese, and plant foods were an integral part of Northern Valley Yokuts subsistence. Fire was commonly used to encourage seed-bearing grasses and plants.

Food processing implements included the mortar and pestle, hand and milling stones, and wood mortars. Baskets were also used in seed winnowing and acorn storage. The bow and arrow were the primary means for hunting mammals, such as tule elk, deer and pronghorn antelope. Arrow points were made of local chert, jasper and chalcedony. Obsidian was rare, and only available through trade. In terms of volume, acorns were the single most important food in Native Central California. During the winter months, when hunting and fishing could be difficult and fresh plant foods were unavailable, consumption of acorn products may have exceeded that of all other foods combined (Schulz 1981:46).

Most Yokut houses were circular or oval semi-subterranean single family dwellings of tule mats over pole frames. Large communal residences sheltering ten or more families were also constructed (Moratto 1984:174). Sweathouses and larger ceremonial chambers are documented in ethnographies (Gayton 1936:83). Settlements were reported on mounds above permanent waterways, likely because these elevated areas were safe from flooding and contained abundant food resources.

Trade was focused primarily north and south along the San Joaquin River. Tule rafts were used for transportation as well as trade (Gayton 1936:83). Baskets, blankets and arrows were traded from the Miwok in exchange for dogs (Barrett and Gifford 1933:270). Abalone and mussel shell was imported from the coast. Obsidian was most commonly acquired from sources on the eastern slope of the Sierra Nevada.

During the Mission Period (ca. 1776-1830s), large numbers of Northern Valley Yokuts were relocated to Spanish missions in the San Francisco Bay Area, including Mission San Jose (Milliken 2008:9). Yokuts was one of the most oft-spoken languages at Mission San Jose from 1812 to 1826, as well as at Mission Santa Clara and Mission San Juan Bautista (Milliken 2008:9). Most frequently represented during this time period are the Jalalons and Nototomnes from the delta, Yatchicumnes and Passasimis from the main channel of the San Joaquin River, and Lacquisemnes from the lower Stanislaus River (Milliken 2008:61). Large numbers of clamshell disk beads, likely associated with Yokuts groups from the Central Valley, have been found in later mission-period deposits at Mission Santa Clara. The presence of such items may reflect enduring exchange practices but also may reflect the shifting recruitment practices of missionaries as they increased their efforts to proselytize further east and inland (Allen et al. 2010:171). In addition to participating in missions, Northern Valley Yokuts also actively resisted them, at times fleeing to impenetrable tule marshes (the "Tulares," *see* Teggart 1913) and at other times participating in raids that resulted in the theft or destruction of mission property (Cook 1960, 1962; Milliken 1995, 2008; Phillips 1993). Pacheco Pass and similar canyon passes would have doubled as routes of exchange and as avenues of cultural survival for Yokuts speakers and other groups entangled with the missions.

Introduced diseases, irreparable damage to native ecosystems, and the displacement of indigenous communities through missionization was compounded in subsequent years by Mexican and American settlement. Northern Valley Yokuts and other Native Californian tribal populations declined dramatically as Native people were decimated by epidemic diseases in the early nineteenth century and then by the tremendous influx of Euro-Americans participating in mining, milling, farming and ranching from the mid-nineteenth to twentieth centuries (Wallace 1978). Today, however, there are still several Yokuts communities, many of which have been federally recognized as extant, sovereign tribes.

MATERIAL CULTURE AND CULTURAL CHRONOLOGY

The Project vicinity lies within the Central Valley Region of California, which is bounded by the Siskiyou Mountains to the north, the Tehachapi Mountains to the south, the Coast Ranges to the west, and the Sierra Nevada and Cascade ranges to the east. The archaeological record within the Central Valley Region encompasses the full range of hunter-gatherer adaptation. Rosenthal, White and Sutton (2007) have noted that prehistoric peoples within the Central Valley Region developed a sophisticated material culture, became the nexus for an extensive trade system incorporating distant and neighboring regions, and reached population densities equaled only by agricultural societies in the American Southwest and Southeast. Despite the region's centrality, however archaeological research within the Central Valley Region has progressed relatively little within the three decades since Moratto's (1984) synthesis of California archaeology.

Divided into two main physiographic provinces, the Central Valley Region is characterized by the Sacramento Valley to the north and the San Joaquin Valley to the south. The San Joaquin Valley is characterized by quaternary landscapes with low-elevation alluvial plains, river channels, lakebeds, sloughs, marshes and low-relief uplands. Dramatic environmental changes occurred within the San Joaquin Valley during prehistory, including faunal extinctions, the emergence of wetlands, flooding and siltation of bottom lands, the cyclical advent and disappearance of shallow lakes and climatic fluctuations (Moratto 1984).

No single cultural historical framework has been established that accommodates the entire prehistoric record of the Central Valley Region, though detailed cultural chronologies have been derived for certain sub-regions such as the lower Sacramento Delta. In discussing the cultural history of the Central Valley Region and, more specifically, the Project vicinity, it is therefore appropriate to use the broad period and stage classification system developed by Fredrickson (1973, 1974) and refined by Rosenthal, White and Sutton (2007:150) while referencing more localized cultural historical sequences put forth by Olsen and Payen (1969) and Moratto (1984). Broad periods identified for the Central Valley Region include the Paleo-Indian (11,550-8,550 BC), Lower Archaic (8,550-5,550 BC), Middle Archaic (5,550-550 BC), Upper Archaic (550 BC-1100 AD), and Emergent (1000 AD-Historic) periods. A more localized sequence relevant to the project vicinity is defined largely by distinctive artifact types and mortuary practices, and includes the Positas (ca. 3300-2600 BC), Pacheco (2,600 BC- AD 300), Gonzaga (AD 300-1000), and Panoche (AD 1500-1850) complexes.

Evidence for human occupation of the Central Valley Region during the Paleo-Indian Period (11,550-8,550 BC) is sparse, though chipped stone tools have been recovered from several locations throughout the southern portion of the basin that may be dated to ca. 11,550-9,550 BC (Fiedel 1999; Rondeau et al. 2007). Within the area surrounding Tulare Lake, human bone from site CA-KIN-32 has produced similar date ranges (Rondeau et al. 2007).

As with the Paleo-Indian Period, evidence for human occupation within the Central Valley Region during the Lower Archaic Period (8,550-5,550 BC) is meager. Lower Archaic Period materials are typically encountered as isolated, chipped stone tools, though CA-KER-116, located near Buena Vista Lake, revealed a Lower Archaic deposit dating to ca. 7,175-6,450 BC. That deposit featured chipped stone tools, a human skull fragment, and a diverse faunal assemblage (Rosenthal et al. 2007). Though largely absent from the Central Valley basin, abundant milling implements have been recovered from the Sierra Nevada and Coast Ranges foothills, indicating that Native Californians within the Central Valley Region may have relied heavily on seasonal acorn and pine nut procurement from a very early time period (Rosenthal and McGuire 2004; Meyer and Rosenthal 1997). Marine shell beads from the Pacific Coast and obsidian from the eastern Sierras recovered from archaeological contexts on both sides of the Central Valley suggest that regional trade and interaction spheres also had been established within the region by the Lower Archaic Period (Bennyhoff and Hughes 1987; Fitzgerald et al. 2005; Rosenthal et al. 2007:151–152). No materials dating to the Paleo-Indian or Lower Archaic periods have been recovered from the project vicinity, though it is likely that erosional and depositional episodes dating to the Late Pleistocene (ca. 9,050 BC) and the Middle Holocene (ca. 5,550 BC) have obscured many early archaeological deposits within the Central Valley.

The Middle Archaic Period (5,550-550 BC) witnessed substantial climatic changes in the form of warmer, dryer conditions and the formation of new wetland habitats produced by rising sea levels. Alluvial fans and floodplains also stabilized during the Middle Archaic Period, evidenced by buried alluvial landforms throughout Central California (Atwater et al. 1990; Rosenthal et al. 2007; Rosenthal and McGuire 2004). Archaeological sites dating to the Middle Archaic have yielded evidence for increased residential stability, logistical organization, riverine adaptation and far ranging regional exchange networks (Rosenthal et al. 2007:153-155).

The earliest evidence for human occupation of the Project vicinity dates to the Middle Archaic Period, specifically the Positas Complex (3,300-2,600 BC). The Positas Complex, known from the basal deposit at archaeological site CA-MER-94, is distinguished by small shaped mortars, short cylindrical pestles,

millngstones, perforated flat cobbles and spire-lopped *Olivella* beads (Moratto 1984:191; Olsen and Payen 1969). The Pacheco Complex (2,600 BC-AD 300) also was represented at CA-MER-94. This complex was marked by two distinctive phases: Pacheco B, which pre-dated 1,600 BC, and Pacheco A, which post-dated 1,600 BC. Pacheco B was marked by foliate bifaces, rectangular Haliotis ornaments, and thick Olivella beads; Pacheco A was distinguished by a proliferation of *Olivella* bead types; perforated canine teeth; bone awls, whistles, and saws; stemmed and side-notched projectile points; and abundant millingstones, mortars, and pestles.

The Upper Archaic (550 BC-AD 1100) witnessed the onset of cooler, wetter but more stable climatic conditions within the Central Valley Region. Those conditions resulted in renewed fan and floodplain deposition that formed many of the surface soils observable today. Archaeologically, the Upper Archaic Period is better represented and understood than earlier periods. It was marked by cultural, technological, and economic diversity and saw the rise of large, mounded villages in the lower Sacramento Valley (Rosenthal et al. 2007:156). The localized Upper Archaic Period sequence documented within the Project vicinity was termed the Gonzaga Complex (AD 300-1000). The Gonzaga Complex has been noted at archaeological sites such as CA-MER-3, CA-MER-14, and CA-MER-94. It was marked by extended and flexed burials; bowel mortars and shaped pestles; squared and tapered-stem projectile points; bone awls and grass saws; distinctive *Haliotis* ornaments; and thin rectangular, split-punched and oval *Olivella* beads.

By the Emergent Period (AD 1100-Historic), Native Californians living within the Central Valley Region had developed the cultural traditions that would be noted at the time of European contact. These traditions included technological advances such as the bow and arrow and the fish weir. Native trade networks also appear to have changed during the Emergent Period, as shell beads assumed the role of currency throughout much of the region. Population densities, which had been growing steadily in the Central Valley Region since the Middle Archaic, continued to increase during the Emergent Period; this growth correlated with an intensification of hunting, gathering, and fishing as well as increased socio-political complexity (Rosenthal et al. 2007:159). Within the Project vicinity, the Emergent Period was expressed through the Panoche Complex (AD 1500-1850), which was separated from the Gonzaga Complex by a 500-year break. It has been distinguished at many western Central Valley sites by the remains of large, circular structures; flexed burials as well as primary and secondary cremations; millingstones; varied mortar and pestle types; bone awls, saws, whistles, and tubes; side-notched projectile points; clamshell disk beads; Haliotis disk beads; and *Olivella* lipped, side-ground, and rough disk beads (Moratto 1984:193).

HISTORICAL SETTING

The historical origins of Tracy may be traced to the settlement of Wickland, a site that was founded in 1861 where vessels came to load coal. Around 1878, the Southern Pacific Railroad built a branch road to San Francisco by way of Martinez, making a junction at what had by then become Tracy. Tracy was made a terminal railroad point and hundreds of railroad employees ultimately made the community their home. The railroad gave the town a permanent foundation, and nearly all of the inhabitants of Ellis moved their businesses and residences to Tracy. By 1888, Front Street within Tracy was almost solidly lined with businesses and homes.

A road segment from Mountain House to Graysonville is shown on the plat maps of the Government Land Office beginning by about 1855. As shown, this road crossed the north central portion of the Project area. Mountain House, a historical road center and stage stop in the hills due east of Tracy, was connected via a historic road to the San Joaquin River. The historic landing "Graysonville" is known on modern maps as "Grayson" or "Grayson's Landing." It is situated in Stanislaus County a few miles above the San Joaquin River

confluence with the Tuolumne River. It is likely that this roadway would have had an effect on the development of the Project area and the surrounding region. This road, some 30 miles in length, carried wagons and stage passengers on the flat terrain between the valley and foothill entrance to San Francisco Bay. Interstate 5 follows much of the same alignment today.

Corral Hollow, which approximates the southern boundary of the Project area, was a significant link between the valley and the coast. Local historians trace Corral Hollow's past to the famed Juan Bautista de Anza expedition of 1776. This landmark was reportedly called "El Arroyo de Buenos Ayres" and was part of the El Camino Viejo—a quicker route from north to south than the coastal Camino Real (Tracy Chamber 1953:2). Spanish and later Mexican cattle herds were driven through this pass to the grasslands of the central valley. During these early years, prominent landmarks such as "Black Butte" and "Castle Rock" were hideouts for various desperadoes. Among them was the famous outlaw Joaquin Murieta (Rickman n.d.:2). California Historical Landmark No. 755 is located just outside the southeastern boundary of the Project area. A plaque at the site includes the following inscription: "The Edward B. Carrell home was built here at the site of an Indian village on El Camino Viejo, an old Spanish trail. Through here passed the 49ers and the first mail to the Tuolumne mines. Men and animals received food and drink at Wright's Zink house 500 yards north of here."

A paper entitled "Corral Hollow - A Historic Treatise" by Earle E. Williams (1960) summarizes the history of the Zink House. This paper states that the Zink House was established in 1850 by Horatio P. Wright, William H. Brayton and John A. Stockholm, later joined by Edward B. Carrell. The house was established to serve those on their way to the gold mining areas to the east. The house is described in the Williams paper as "a rude looking building, with sides and roof of zinc." In an inventory dated 1852, the valuation of the house was listed as $825.

Soon after its opening, the Zink House began to collect gold from miners returning to the west. This gold was collected and hidden, with the unfortunate result that in October of 1850 William H. Brayton was robbed and murdered. The entire "hoard" was apparently taken. It is surmised that the robbers were well known to him, and that he was murdered to conceal the crime. The gold was never recovered and the perpetrators never apprehended.

Much of the subsequent history of Corral Hollow revolved around Edward B. Carrell, who built his personal residence at the site now identified by the historical marker noted above. Carrel lived at the site until his death in 1881. He was an original investor in the coal mine at Tesla, further up the Corral Hollow canyon.

During the latter half of the nineteenth century, significant coal deposits were discovered in Corral Hollow, leading to the incorporation of the Commercial Coal Mining Company. Ownership of the Commercial Coal Mining Company passed in 1894 to the Treadwell brothers, who had made a fortune in the Alaska gold fields. They expended nearly a million dollars in improvements, including acquisition of the Alameda and San Joaquin Railroad, to take the coal to Stockton. There, it was believed, the product could be sold for railroad as well as steamboat use. By 1896, the company began hauling coal to Stockton (1923:254).

By the 1890s, three company towns were developed within Corral Hollow canyon. Tesla was the site of the coal mine, a hotel, dance halls, churches, a library, jail, butcher shop, doctor's office, hospital, dairy, school, bandstand and flag pole. Further up the canyon was Harrietville. It contained 48 houses, a school, dairy and slaughterhouse. The Treadwell brothers expanded their operations to include the Carnegie Brick and Pottery

Company in 1895 and began a third town, Carnegie. By 1905, the pottery kilns at Carnegie were producing 20,000 bricks per day as well as figurines, cornice tiles, porcelains and pottery (Rickman n.d.:8). The Town of Carnegie is listed as California Historical Landmark No. 740. Italian laborers, artisans from Milan, Welsh miners, Chinese workers and Japanese bakers were among the estimated 3,000 living and working in Corral Hollow communities. Today only a few ruins and exotic trees mark the sites of towns and industry in Corral Hollow. The Tesla flag pole now reportedly dominates the main street of Livermore.

PALEONTOLOGICAL RESOURCES

According to the City of Tracy General Plan EIR (SCH: 1992122069) approximately eighty fossils have been found and recorded within San Joaquin County. Many of the fossils are dated to the tertiary, followed in frequency by find from the quaternary period. Both these periods comprise the first and second periods, respectively, of the Cenozoic Era. This was an era during which modern flora, large mammals, apes, and humans developed. The majority of fossils found in the City of Tracy SOI have been of vertebrate fauna, though one paleobotany fossil and one micro fossil have been recovered. Possible indicator formations for paleontological resources in the Tracy SOI are the Neroly Formation, Moreno Shale deposits, and the Panoche Formations. Fossil find sites are mainly located south of the I-205, along the 1-580 corridor and the Delta-Mendota Canal. Some clustering of finds has occurred in the southwest portion of the Tracy SOI in the slopes of the Diablo Range foothills.[1]

EXISTING CONDITIONS

All information regarding known cultural resources and cultural resource studies previously conducted within the Project area was derived from the *Cultural and Paleontological Resources Assessment for the Tracy Hills Specific Plan* prepared by DUKE CRM in May 2015 and peer-reviewed by RBF Consulting, a Michael Baker International Company in June 2015, and supplemented by two reports completed for the 1998 Tracy Hills Specific Plan (Foster 1996, LSA Associates, Inc. 1991) and an archival and records search of the California Historic Resources Information System conducted at the CCIC in February 2014 by Pacific Legacy, and again in 2-15 by DUKE CRM.

PREVIOUS CULTURAL RESOURCE STUDIES AND KNOWN CULTURAL RESOURCES

Five cultural resource studies have included portions of the Project area and two of these extend to areas outside the Project area. LSA Associates, Inc. conducted a records search for the entire Project in 1991 and the entire Project was surveyed previously by Foothill Archeological Services (Foster 1996). Partial surveys were completed for the PG&E Pipeline Expansions Project (Infotech Research Inc. 1990, 1992) and the South Schulte Specific Plan (Foster 1995). Additionally there have been at least 9 cultural resource studies within one half mile of the Project area. Most cultural resource surveys have been large, from over 1000 acres to many hundreds of acres in size and one was linear along the PG&E corridor through the Project. Approximately 20% of the ½ mile radius has been surveyed. Table 4.5-1 provides pertinent information regarding these studies, and Table 4.5-2 provides a list of cultural resources within ½ mile of the Project area.

[1] University of California Paleontology Museum Collections Data. Accessed April 8, 2014. http://ucmpdb.berkeley.edu/cgi/ucmp_query2

Table 4.5-1: Previous Studies Conducted within ½ Mile of the Tracy Hills Specific Plan Project Area

CCIC Report No.	Title	Affiliation	Author	Date	Resources
SJ-2857*	An Archeological and Historical Resource Investigation of the Proposed Tracy Hills Project Tracy, California	Foothill Archeological Services	Foster, John W.	1996	P-39-000118; P-39-000119; P-39-000120; P-39-000121; P-39-000122
SJ-4220	Negative Archeological Survey Report	Caltrans	Okeefe, Timothy	2001	None
SJ-748*	Cultural/Scientific Resources Tracy Hills Community, County of San Joaquin, California	LSA Associates, Inc.	Pardon, Beth et al	1991	None
ME-1846*	Cultural Resources Assessment Report PGT-PGE Pipeline Expansion Project Idaho, Washington, Oregon and California	Infotec Research Inc. and BioSystems Analysis Inc.	Moratto, M. et al	1990	317 cultural resources total; One, P-39-000048, in search of Project area
SJ-1562	Cultural Resources Investigations of 342 Acres of a Proposed Gravel Extraction Alternate Area in Tracy, California	Institute for Archeological Research	Napton, L. Kyle	1992	None
SJ-1852	Letter Report: Archeological Site Testing Evaluation, and Data Recovery Context for NRHP Evaluation of Historical Site CA-SJO-242H (PEP 12-8)	Infotec Research Inc.	Price, Barry	1993	P-39-000355
SJ-4509	GWF Tracy Peaker Project Cultural Resources (Archeological and Historic Built Environment Resources)	URS	Egherman, Rachael	2001	Eight cultural resources total. One, P-39-000090, in search of Project area
SJ-2646*	A Cultural Resource Survey and Assessment of the South Schulte Village Property Tracy, California		Foster, John W.	1995	P-39-000066
SJ-6517	Letter report: Archeological Resources Review – Tracy Municipal Airport Runaway 12-30 grading Project, City of Tracy, San Joaquin County California	Basin Research Associates	None Listed	2007	None

Table 4.5-1: Previous Studies Conducted within ½ Mile of the Tracy Hills Specific Plan Project Area

CCIC Report No.	Title	Affiliation	Author	Date	Resources
SJ-2759	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project	Woodward-Klyde	Hatoff et. al	1995	As many as 190 sites., One, P-39-000098, in two locations, in the search of Project Area
SJ-2857*	An Archaeological and Historical resource Investigation of the Proposed Tracy Hills Project, Tracy California	Foothill Archeological Services	Foster	1996	P-39-000066
FJ-2494	Cultural Resource Survey of the Corral Hollow Landfill Closure	Archeology Services Inc.	Dougherty, John	1993	P-39-000362
SJ-6625	Cultural Resources Survey South County Surface Water Project San Joaquin County, California	ASI Archeology and Cultural Resource Management	None Listed	1998	None
SJ-7779	Reclamation: Managing Water of the West: California's Central Valley Project	U.S. Department of the Interior DOR	None Listed	2007	P-39-000089
SJ-1846*	Archeological Survey Rights-of-Way Corridor and Extra Work Spaces Construction Spread 5B, California	Infotech Research Inc	Canaday, Tim et al	1992	P-39-000048

Table 4.5-2: Known Cultural Resources within the Tracy Hills Specific Plan Project Area

Primary	Brief Description	NRHP/CR HR Eligible	Proximity to Project Area
P-39-000048	Historic Isolate Horse Drawn Seed Drill	No	½ mile
P-39-000066	Prehistoric Artifact Scatter	No	¼ mile
P-39-000089	Historic Delta Mendota Aqueduct	Yes	Immediately adjacent
P-39-000090	Historic California Aqueduct	Yes	Within Project
P-39-000098	Historic Railroad Segment	Unknown	¼ mile
P-39-000118	Historic Edward Carrell's White House	No	½ mile
P-39-000119	Historic Corral Hollow Sheepherder's Homestead	No	¼ mile
P-39-000120	Historic Homestead	No	Within Project
P-39-000121	Prehistoric Bedrock Mortar	No	Adjacent
P-39-000362	Dredge Tailings	Unknown	¼ mile
BR 29C-196	Bridge along Corral Hollow Rd. over Delta Mendota Aqueduct	Unknown	¼ mile
BR 29C-185	Bridge along Corral Hollow Rd. over California Aqueduct	No	¼ mile
BR 29C-179	Bridge along Corral Hollow Rd. over Corral Hollow Creek	No	¼ mile

P-39-000120 is a historic homestead consists of a dilapidated three-room house, corrals, a pumphouse, a well/water tank, and trough. At the time of recordation the trough was still used for sheep ranching (Sandelin 1996a). P-39-000120 was determined to not be a significant resource under CEQA though it was noted as having "historic value" because it represents a "rural way of life that is rapidly disappearing across the landscape" (Foster 1996:21).

P-39-000090 is the 444 mile long main line of the California Aqueduct which begins in the Sacramento-San Joaquin Delta and terminates at the southern end of the state at Lake Perris, Riverside County. The California Aqueduct is divided into five divisions: North San Joaquin, San Luis, South San Joaquin, Tehachapi, and the East Branch that are oriented in a general north to south direction. The aqueduct has two branches: the Coastal branch, which generally extends southwest from 16 miles south of Kettleman City and terminates in San Luis Obispo and Santa Barbara Counties, and the West branch which extends southwest from the Tehachapi Afterbay in Kern County to Castaic Lake north of Santa Clarita in Los Angeles County. Each division contains such features as bridges, siphons, culverts and canal drains. The combination of these features and the canal itself forms a unified water conveyance system. The California Aqueduct appears to meet the criteria for listing in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) at the state level of significance under NRHP/CRHR Criterion A/1 representing a comprehensively planned and publicly sanctioned water conveyance public works project to facilitate development throughout the state. It also appears to meet the criteria under NRHP/CRHR C/3 for its complex design necessary to redistribute water throughout the state of California on such a massive level. The period of significance for the resource is 1960-1974 the years of construction.

CULTURAL RESOURCES LOCATED WITHIN ½ MILE OF THE PROJECT

Eleven cultural resources are located within ½ mile of the project. The Western Pacific Railroad (WPRR) contains two elements recorded separately. P-39-000098 is a segment of the WPRR constructed in 1895 with investments from James and John Treadwell as part of their expansion of coal production at Tesla. The portion of the WPRR within the Project was not included in the recordation of P-39-00098; the closest segment that was recorded is located approximately ¼ mile east of the Project (Segment WPW 5). This segment was noted to have new ballast and ties. Along with rail lines from Corral Hollow to Stockton the Treadwell's helped organize the Alameda and San Joaquin Railroad which was sold to WPRR in 1903 and completed in 1906 (Ward and Williams 1971:16). The Tesla line (P-39-000242H) was abandoned by 1916 and the rail removed by 1922 (Ward and Williams 1971:14).

The Delta-Mendota Canal, P-39-000089, is a 117-mile long canal completed in 1951. It appears to be eligible for listing in the National Register of Historic Places under Criteria A and C, at a state level of significance, with a period of significance of 1946-1952. Its significance is founded in the role of the canal as a key component in the original Central Valley Project (Foster 1995:13).

P-39-000048 is a horse-drawn seed drill recorded as a historic isolate. Manufactured by Van Brunt, the seed drill consists of a wooden plank box, molded iron brackets, hardware, and a gear mechanism. Two 30 in. diameter metal-spoked rims are located on either side of the seed box. Two 4 x 4 in. timbers are connected to the partially-buried tongue. The metal seat attaches to the box. Two foot rests and two lever adjustments are extant on either side of the seat (Bower, et al. 1992).

P-39-000066 is a prehistoric artifact scatter consisting of a "minor milling cache of three sandstone artifacts" located along the Delta-Mendota Aqueduct (Foster 1995:15). P-39-000066 is not eligible for listing on the NRHP or CHRH and the data potential was exhausted by the initial recordation of the site.

P-39-000118 is the ruins of Edward Carrell's Zink House in Corral Hollow which has been designated as California Historical Landmark Number 755. The House was located atop in the Indian village, and also along El Camino Viejo, the old Spanish Trail that followed Corral Hollow into the San Joaquin Valley (OHP 2015). The remains of the home included two concrete slabs and corral posts (Sandelin et al. 1996).

P-39-000119 records the Corral Hollow Sheepherders homestead consisting of a small cabin, a water tank, a sheep pen, a concrete water trough, and a windmill. The pen is still in use to hold sheep and the windmill has a modern pump attached and is at present being used to pump water into the troughs (Sandelin 1996b).

P-39-000121 is a prehistoric bedrock mortar located on granite outcrop. The mortar has been damaged such that only approximately two-thirds of this shallow cupule is present. The cupule measures 10 x 8 x 2 cm (Sandelin and Lasick 1996).

P-39-000362 records a small portion of a larger gravel mine. Dougherty (1993) noted that many more gravel related features were recorded outside of his project area. He noted "these tailings appear to date the construction of a private railroad line used to ship coal to Stockton during the late 19th and early 20th centuries. More work should be conducted in this locality, a more complete examination of the creek course and tailings would be in order."

Three bridges, BR-29C-196; -185; and -179 are located along Corral Hollow Rd at the Delta Mendota Aqueduct, California Aqueduct and Corral Hollow Creek respectively. Bridges BR-29C- 179 and -185 are not eligible for the National Register and it is unknown if BR-29C-196 is eligible.

The search of the University of California Museum of Paleontology (UCMP) online collections revealed eighteen vertebrate fossil localities in San Joaquin County in sedimentary deposits similar to those that occur in the project area.

FIELD SURVEY RESULTS

The intensive archaeological field survey of the Project area was conducted from March 16 through 20, 2015, by DUKE CRM archaeologists. The survey and site recordation continued March 28 and March 29, 2015 as a field was not cleared of vegetation during the initial survey. Survey protocol is described in Appendix J, *Cultural and Paleontological Resources Assessment for the Tracy Hills Specific Plan.*

Six previously unrecorded archaeological resources were located during survey. One of these is a prehistoric isolate and five are historic. The field survey crew identified a component of another cultural resource within the Project that was previously recorded outside and immediately adjacent to the Project. Of the two cultural resources previously located within the Project boundaries, one historic site was successfully relocated and updated during survey, while the other resource is the California Aqueduct and will not be impacted by the Project. All sites potentially impacted by the Project were updated with the appropriate California Department of Parks and Recreation (DPR) 523 forms, see Appendix J. No artifacts were collected during the current recordation process. The sites discovered and updated are summarized below.

C-0166-001H

C-0166-001H consists of an abandoned, ruined well and well-related artifact scatter which existed as early as 1949 according to the analysis of a historic aerial photograph from that year (NETR 2009). The features at C-0166-001H consists of a concrete pad with a partial well head and an accompanying belt drive system, a second concrete pad which likely held the now-missing motor that brought water to the surface, a mound of backdirt likely from the excavation of the well, and four galvanized angle iron pieces of unknown function that are protruding from the area around the well pad. The diffuse and sparse artifact scatter is all well or agriculture-related.

C-0166-2H

C-0166-2H is an early to mid-20th century domestic and agriculture-related refuse and architectural debris scatter located in the confluence of two washes with a rolling, open, hilly grassland. Though the site may possess buried deposits as it is located within an alluvial depositional environment, the surface has been heavily impacted by cattle grazing within its boundaries.

C-0166-3H

C-0166-003H consists of two abandoned segments of the historic in age alignment of Corral Hollow Rd. Segment 1 is gravel, oriented north to south and appears to be in use possibly as early as 1850. Segment 2 is a more recent alignment of Corral Hollow Rd. It dates to around 1955 and is finished with asphalt. The 1950s era realignment left the older Segment 1 for use as an access road to the city dump as well as also potentially used for access to a mid-20th century gravel quarry, C-0166-004H below. Segment 1 is in poor condition, with no apparent maintenance of the roadbed and Segment 2 is also in poor condition with numerous cracks and missing segments of asphalt/concrete and is mostly obscured by ruderal grasses.

C-0166-4H
C-0166-004H consists of a mine and dump. This resource has seen intensive activities during the 20th century. Currently the area within the boundary of C-0166-004H appears to be a largely rehabilitated landscape from a former city dump, with mechanically leveled and compacted areas still visible, as well as one concrete foundation. Before this location was a city dump it likely was a gravel quarry, potentially part of P-39-000362, see below for an update. Presently C-0166-004H is covered with stunted, secondary growth of and it is located within the rural landscape surrounding the city of Tracy.

C-0166-005H
C-0166-005H is a 1,883' long barbed wire fence alignment which spans across open, grass-covered land between Corral Hollow Rd. and I-580 in a north-south alignment. The fence has Allis Buckthorn (1881 Patent) and Gladdis (1878 Patent) and modern barbed wire and sheep fencing. Posts within the fence line include historic-in-age, heavily weathered hand-split redwood posts and modern T-Bar posts. A dirt two-track road is located immediately adjacent to the fence to the west.

C-0166-ISO-001
C-0166-ISO-001 is an isolated, prehistoric in age, hand-stone roughly in the shape of an exhausted pestle. It was found in a chisel-plowed field and the immediate ~75 m vicinity had 100% surface visibility. The isolated artifact had no "find" damage from the chisel plow in the form of recent impact damage or rust marks. Despite an intensive, 2m spaced survey, no other artifacts were found within a 30 m radius area of the hand stone.

P-39-000120 (Update)
This site was previously recorded in 1996 by Sandelin Archaeology and Forestry and it consisted of a three room house in a state of disrepair, corrals, a pumphouse, a well/water tank, and trough. This update to P-39-000120 details the condition of this site since 1996 adds three features not originally recorded. Refer to Appendix J for added resource codes, digitally recorded a sketch map, and details on the non-structural remains on an Archaeological Site Record.

P-39-000120 as recorded herein consists of a dilapidated three-room structure, two likely historic in age abandoned wells, a largely intact pumphouse, a concentric arrangement of concrete risers, a cattle trough, an open-air concrete water tank, seven scattered mature Pepper trees, and series of wood fences which form corrals, chutes and pens. The corral, chutes, pens, concrete water tank, and cattle trough are still in-use today for cattle ranching operations. A third but modern well is also located within the site boundaries. The dilapidated three-room structure is heavily leaning and in eminent danger of collapse likely due to its age, condition, and pressure exerted by cattle rubbing on its outer walls. A diffuse and sparse artifact scatter of 1940s age refuse consisting of small fragments of amethyst glass and window pane glass is present outside the structure, along with a pot belly stove, an electric stove and hot water heater both located within the structure as well as an electricity meter located outside of Structure 1.

IP-39-000362 (Update)
P-39-000362 is a gravel mine site which potentially dates to as early as the 1890s. The gravel quarry relied upon the WPRR (P-39-000098) for transport and consequently co-evolved with a spur of the WPRR to the Tesla coal mines in the 1890s. P-39-000362 was originally recorded in June 1993 by Archaeological Services, Inc., in a separate location that was not included in the current Project. The update to P-39-000362 herein does not replace the 1993 record for the site as the current Project area is different than the 1993 survey area. P-39-000362 described features which relate to the mining landscape originally recorded in 1993. Like in 1993, P-39-

000362 does not entirely record the resource as more features were observed outside the current Project and survey area. The portion of P-39-000362 within the Project adds to the historic background for the original record for the site and records newly discovered features for the site.

4.5.2 REGULATORY FRAMEWORK

FEDERAL

SECTION 106 FOR THE NATIONAL HISTORICAL PRESERVATION ACT (NHPA) OF 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the NHPA of 1966. Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) §800. The goal of the Section106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 CFR 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal money.

NATIONAL REGISTER OF HISTORIC PLACES (NRHP)

The NRHP is "an authoritative guide to be used by Federal, State, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." However, the Federal regulations explicitly provide that a listing of private property on the NRHP "does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property."

"Historic properties," as defined by the Advisory Council on Historic Preservation, include any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior" (36 CFR §800.16(I)). Eligibility for inclusion in the NRHP is determined by applying the following criteria, developed by the National Park Service in accordance with the NHPA:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
> B) that are associated with the lives of persons significant in our past; or
> C) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> D) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

STATE

State historic preservation regulations affecting the project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] §20183.2 and §21084.1 and §15064.5 of State CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript, which is historically or archaeologically significant (PRC §5020.1). Section 15064.5 of the State CEQA Guidelines specifies criteria for evaluating the significance or importance of cultural resources, including:

- The resource is associated with events that have made a contribution to the broad patterns of California history;
- The resource is associated with the lives of important persons from our past;
- The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, important information in prehistory or history.

Advice on procedures to identify such resources, evaluate their importance and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associates and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.

SENATE BILL 18

In order to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning, Senate Bill (SB) 18, effective September 2004, requires local government to notify and consult with California Native American tribes when the local government is considering adoption or amendment of a general or specific plan.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES (CRHR)

In 1992, the Governor signed Assembly Bill (AB) 2881 into law, establishing the California Register of Historical Resources (CRHR). The CRHR is an authoritative guide in California used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for eligibility for the CRHR are based upon NRHP criteria. Certain resources are determined by the statute to be included on the CRHR, including California properties formally determined eligible for, or listed in, the NRHP, State Landmarks, and State Points of Interest.

The State Office of Historic Preservation (OHP) has broad authority under Federal and State law for the implementation of historic preservation programs in the State of California. The State Historic Preservation Officer (SHPO) makes determinations of eligibility for listing on the NRHP and the CRHR.

The appropriate standard for evaluating "substantial adverse effect" is defined in PRC §5020.1(q) and 21084.1. Substantial adverse change means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. Such impairment of significance would be an adverse impact on the environment.

Cultural resources consist of buildings, structures, objects, or archeological sites. Each of these entities may have historic, architectural, archaeological, cultural, or scientific importance. Under State CEQA Guidelines, a significant impact would result if the significance of a cultural resource would be changed by Project area activities. Activities that could potentially result in a significant impact consist of demolition, replacement, substantial alteration, and relocation of the resource. The significance of a resource is required to be determined prior to analysis of the level of significance of project activities. The steps required to be implemented to determine significance in order to comply with State CEQA Guidelines are:

- Identify cultural resources;
- Evaluate the significance of the cultural resources based on established thresholds of significance;
- Evaluate the effects of a project on all cultural resources; and
- Develop and implement measures to mitigate the effects of the project on significant cultural resources.

Sections 6253, 6254, and 6254.10 of the California Code authorize State agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (CPRA; Government Code [GC] §6250 et. seq.) and California's open meeting laws (The Brown Act, GC §54950 et. seq.) protect the confidentiality of Native American cultural place information. The CPRA (as amended, 2005) contains two exemptions that aid in the protection of records relating to Native American cultural places by permitting any state or local agency to deny a CPRA request and withhold from public disclosure:

- "records of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in §5097.9 and §5097.993 of the Public Resources Code maintained by, or in the possession of, the Native American Heritage Commission, another state agency, or a local agency" (GC §6254(r)); and
- "records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency" (GC §6254.10).

Likewise, the Information Centers of the CHRIS maintained by the OHP prohibit public dissemination of records and site location information. In compliance with these requirements, and those of the Code of Ethics of the Society for California Archaeology and the Register of Professional Archaeologists, the locations of cultural resources are considered restricted information with highly restricted distribution and are not publicly accessible.

Any project site located on non-Federal land in California is also required to comply with State laws pertaining to the inadvertent discovery of Native American human remains.

CALIFORNIA HEALTH AND SAFETY CODE §7050.5, §7051, AND §7054

California Health and Safety Code §7050.5, §7051, and §7054 collectively address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

LOCAL REGULATIONS AND POLICIES

CITY OF TRACY GENERAL PLAN

The Tracy General Plan (2011:3-19-20) includes several policies that are relevant to enhancement and protection of cultural resources. These are found in the Community Character Element of the General Plan. Table 4.5-3 identifies the goal, objective, and policies from the General Plan.

Table 4.5-3: Tracy General Plan

Goal CC-3	**Preserve and enhance historic resources.**
Objective CC-3.1	*Identify and preserve cultural and historic resources.*
Policy P2	Identified cultural and historic landmarks and buildings shall be preserved.
Policy P3	New development, redevelopment, alterations, and remodeling projects should be sensitive to surrounding historic context.
Policy P4	As part of the development review process, there shall be a standard condition of approval that if any resources are found during construction, all operations within the project area shall halt until an assessment can be made by appropriate professionals regarding the presence of archaeological and paleontological resources and the potential for adverse impacts on these resources.
Policy P5	Any archaeological or paleontological resources on private property shall be either preserved on their sites or adequately documented and conserved as a condition of removal. If any resources are found unexpectedly during development, then construction must cease immediately until accurate study and conservation measures are implemented.
Policy P6	If Native American artifacts are discovered on a site, the City shall consult representatives of the Native American community to ensure the respectful treatment of Native American sacred places.

CITY OF TRACY RESOLUTIONS

The City of Tracy Resolution 3232, which was signed in 1978, designated fifty structures and sites to be Historic Landmarks. The resolution followed a survey of architecturally and historically significant resources in the City. Resolution 2001-076 added two more buildings to the above-referenced list of designated properties. The Tracy Historic Landmarks designation encourages public recognition and protection of resources of architectural, cultural or historical significance for local planning purposes. The City has not adopted a historic preservation ordinance, however, or other protective or restrictive regulations. Accordingly, a local Historic Landmarks designation does not equate with permanent protection for a structure from demolition or alteration.

CITY OF TRACY MUNICIPAL CODE

Title 9 of the Tracy Municipal Ordinance addresses building regulations. Chapter 9.48 adopts the California Historical Building Code. The purpose of the chapter is to "provide regulations for the preservation, restoration, rehabilitation, relocation, or reconstruction of buildings or structures designated as qualified

historical buildings or properties; provide alternative solutions for the preservation of qualified historical buildings or properties, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of occupants or users."

4.5.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Per State CEQA Guidelines, the THSP Project would result in a significant impact on cultural resources if it would cause a substantial adverse change in the significance of an historical resource as defined in §15064.5(a); would directly or indirectly destroy a unique paleontological resource or site; or would disturb human remains, including those interred outside formal cemeteries.

Section 15064.5(b) of State CEQA Guidelines defines a "substantial adverse change" as physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is considered to be materially impaired if a project:

- demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, the CRHR; or
- demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to §5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of §5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion on the CRHR as determined by a lead agency for purposes of CEQA.

CRITERIA FOR DETERMINING SIGNIFICANCE

Defining Significant Cultural Resources

As noted in Section 4.5.4.2, State CEQA Guidelines require lead agencies to consider the potential effects of a project on historical resources. CEQA Guidelines define a *historical resource* as a resource listed in or determined eligible for listing in the CRHR. This includes cultural resources that have been determined for a local register or through a local historic resources survey. A resource may be considered potentially eligible for listing in the CRHR if it meets any of the four criteria listed below:

1) The resource is associated with events that have made a contribution to the broad patterns of California history;
2) The resource is associated with the lives of important persons from our past;
3) The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
4) The resource has yielded, or may be likely to yield, important information in prehistory or history.

To be considered a *historical resource* a cultural resource should also possess integrity of location, design, setting, materials, workmanship, feeling and association. As used here, integrity is defined as the ability of a historical resource to convey its significance. To determine which of these factors are most important will depend on the property being evaluated and which particular CRHR criterion under which the resource is considered eligible for listing.

Furthermore, CEQA necessitates that the lead agency consider whether the project will significantly affect unique archaeological resources that are ineligible for listing in the CRHR and to avoid these unique archaeological resources when possible or mitigate any effects to less than significant levels (PRC 21083.2). As stated by CEQA, a *unique archaeological resource* means an archaeological artifact, object, or site which clearly demonstrates with a high probability that it meets-without merely adding to the current body of knowledge-any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

This section addresses the Project's potential to impact cultural resources. Impacts to cultural resources are generally considered to be direct (e.g. destruction or demolition of a resource) or indirect (e.g. visual or audible changes to the setting). Under CEQA cultural resources are evaluated for significance and eligibility for the California Register. If a resource is considered eligible for the California Register it is considered a historical resource under CEQA. For the purposes of CEQA impacts are only considered significant for eligible or *historical resources*.

ENVIRONMENTAL IMPACTS AND ANALYSIS

The Project area establishes land use and development standards for an approximately 2,732 acres. Each of the Project area components includes varying levels of ground disturbance, therefore each has the potential to impact previously discovered and undiscovered cultural resources through site preparation (e.g., vegetation removal, grading and filling), development of utility infrastructure or subsurface construction associated with any of the proposed elements.

Development plans have been submitted by the project applicant for Phase 1a of the Project area. Phase 1a includes an application for Tentative Subdivision Map that would allow for the development of residential lots, a business park and an elementary school in an area that lies between Interstate 580 and the California Aqueduct and between Coral Hollow Road and the future Lammers Road extension. To the east and west of Phase 1a development would include residential land use, open space, retail and commercial land use, light industrial development and facilities for parks and recreation. Development would be in the flatter areas, generally along the Interstate 580 corridor.

IMPACTS AND MITIGATION MEASURES

Impact 4.5-1: Ground disturbing activities associated with the Project have the potential to significantly disturb previously discovered or undiscovered cultural or historical resources.

Six previously unrecorded archaeological resources were located during survey. One of these is a prehistoric isolate and five are historic archaeological resources. A component of a cultural resource that was previously recorded outside of and adjacent to the current Project was discovered to extend into the Project boundaries. Of the two cultural resources previously recorded within the project boundaries, one historic site was successfully relocated and updated during survey, while the other resource is the California Aqueduct and will not be impacted by the Project. A portion of the WPRR, now Union Pacific Railroad (UPRR) is within the outer boundaries of the Project, but is not part of the Project; it will not be impacted by the project.

The records search and field survey results indicate that the surrounding area has a low sensitivity for prehistoric archaeological resources and moderate sensitivity for historic archaeological resources. The significance, eligibility for the CRHR, and project impacts to each of the eight cultural resources is discussed below.

The application of the above guidelines for evaluating the significance and eligibility of each of the cultural resources within the Project area indicates that none of the cultural resources is considered a historical resource or a unique archaeological resource as defined in CEQA. Following is an explanation of the findings.

C-0166-001H, C-0166-002H, C-0166-004H, C-0166-005H

C-0166-001H, C-0166-002H, C-0166-004H and C-0166-005H are diffuse historic refuse scatters or have historic features or a combination of refuse deposits and features. Nothing suggests that these sites are directly associated with a prominent historical event (CRHR Criterion 1). No evidence has been found to suggest that the sites are directly associated with a prominent historical figure (CRHR Criterion 2). The refuse or features do not embody distinctive characteristics of a type, period, or method of construction, nor does it exhibit any architectural or engineering merits (CRHR Criterion 3). With no known historical associations and no important information value, sites composed of the refuse, features or a combination of the two, have no archaeological data potential beyond what has already been documented. Further analysis of the artifacts or features at any of the sites is unlikely to result in any information that would be considered important to the study of local, regional, state, or national history (CRHR Criterion 4). The recordation of these archaeological resources exhausts their information potential. Therefore, it is concluded that these sites are not historical resources/unique archaeological resources under CEQA. Specific mitigation measures are not needed for any of these historic archaeological sites and *less-than-significant* impacts would occur.

C-0166-003

Corral Hollow Road (C-0166-003) and the canyon system in Corral Hollow have been used as a transportation corridor throughout the historic and likely back into the prehistoric period. The history of transportation along Corral Hollow Road suggests that the segment of C-0166-003H could be potentially directly associated with a prominent historical event like the development of the historic alignment of Corral Hollow Road (CRHR Criteria 1). To convey significance under CRHR Criteria 3, road segments like C-0166-003H should demonstrate the evolution of Corral Hollow Road in the area of Engineering. Under CEQA, roads or road segments like C-0166-003H, no specific length has been defined for a road segment to retain its integrity, but

at a minimum the length should convey the sense of a continuous road experience an unobstructed view from the road segment to the horizon with only a view of a built environment dating to the period of significance should be seen. For Criterion 1 and 3, C-0166-0003H does not meet the length requirements of a continuous road and travel experience through Corral Hollow Canyon nor does it retain any road related associated features. Impairment of these required essential physical features of a roadbed results in a loss of integrity of C-0166-003H under Criterion 1 and 3. No evidence has been found to suggest that the segment of Corral Hollow Road recorded as C-0166-003H is directly associated with a prominent historical figure (CRHR Criteria 2) nor is it likely that the road alignment will yield any information that would be considered important to the study of local, regional, state, or national history (CRHR Criteria 4). Therefore, it is concluded that C-0166-003H is not a *historical resource/unique archaeological resource* under CEQA. The recordation of this cultural resource exhausts its information potential. Impacts would be *less-than*-significant and specific mitigation measures for C-0166-003H are not required.

C-0166-ISO-1

In general, isolates like C-0166-ISO-1 are not considered significant, as their data potential is exhausted by the initial recordation. Therefore it is concluded that C-0166-ISO-1 is not a *historical resource/unique archaeological resource* under CEQA. Impacts would be *less-than-significant* and specific mitigation measures for C-0166-ISO-1 are not required.

P-39-000120

Foster's 1996 cultural resources survey previously found P-39-000120 to be in adequate condition to convey integrity. However, it was also found to be of a "small scale, typical of the many enterprises surrounding Tracy" and that the site possesses no artifacts, structures, or equipment that would provide additional information about the past." P-39-000120 was "not the work of an architectural master", nor was it "particularly distinctive or associated with people or events of great significance." The 2015 *Cultural and Paleontological Resources Assessment* prepared by DUKE CRM finds that P-39-000120 is still in adequate condition to convey integrity. While the update to P- 39-000120 now records artifacts and features not previously noted on the initial recordation of this resource, the documentation of new artifacts and features exhausts their data potential. The artifact types are not unique and do not answer any potentially important questions. Therefore, P-39-000120 is not a *historical resource/unique archaeological resource* under CEQA and can be removed if necessary. However, due to its age, there is some potential for buried features (such as a privy) that could contribute to scholarly knowledge of ranching life or homesteading in the late 19th century. The Lammers Road Homestead could possess buried resources that would illuminate the life of early homesteaders.

Because of this potential for buried resources, a trained archaeological monitor shall be present within 100 feet of the Lammers Road Homestead (P-39-000120) during ground disturbance associated with the Project, as defined in MM4.5-1a. Impacts would be *less-than-significant with mitigation.*

P-39-000362

The portion of P-39-000362 within the current Project is a diffuse historic refuse scatter and several historic features. Nothing suggests that this site is directly associated with a prominent historical event (CRHR Criterion 1). No evidence has been found to suggest that the site is directly associated with a prominent historical figure (CRHR Criterion 2). The refuse or features do not embody distinctive characteristics of a type, period, or method of construction, nor does it exhibit any architectural or engineering merits (CRHR Criterion 3). With no known historical associations and no important information value, sites composed of the refuse or features

like P-39-000362 have limited archaeological data potential beyond what has already been documented. Further analysis of the artifacts or features is unlikely to yield any information that would be considered important to the study of local, regional, state, or national history (CRHR Criterion 4). Therefore, the portion of P-39-000362 within the current Project is not classified as a *historical resource/unique archaeological resource* under CEQA, nor does it contribute to the potential eligibility or significance of the larger P-39-000362, if it were to be considered potentially eligible or significant. The recordation of this cultural resource exhausts its information potential. Impacts would be *less-than*-significant and specific mitigation measures for P-39- 000362 are not required.

P-39-000090
P-39-000090 is the California Aqueduct which was determined eligible for the NRHP/CRHR in 2010 and is therefore considered a *historical resource* for the purposes of CEQA. It crosses through the Tracy Hills Specific Plan; however, there will be no direct impacts to the aqueduct. There is a potential for indirect impacts, but these would be visual and would not detract from the significance and NRHP/CRHR eligibility of P-39-000090. The level of impact to P-39- 000090 is considered *less-than-significant* for the purpose of CEQA and specific mitigation measures for P-39-000090 are not required.

The vast majority of the Project area is natural and there is minimal disturbance to the surface of the Project. The lack of disturbance increases the sensitivity for potential historical or cultural resources within the project and the potential to impact these resources. However, most of the proposed project is located in soils with low potential for buried cultural deposits due to the stability of the landforms.

Impacts to cultural or historical resources are anticipated to be *less-than-significant* with mitigation.

Mitigation Measure:

4.5-1a **Lammers Road Homestead (P-39-000120) Monitoring**
A trained archaeological monitor (Bachelor of Arts/Bachelor of Science in anthropology or related field with an emphasis in archaeology OR adequate training and experience in archaeological field methods) shall be present within 100 feet of the Lammers Road Homestead (P-39-000120) (Lammers Road Homestead measures 490' (N-S) x 400' (E-W)) during ground disturbance associated with the Project. The archaeological monitor shall work under the direction of a qualified archaeologist (M.S./M.A. in anthropology, archaeology, or related discipline with an emphasis in archaeology and demonstrated competence in archaeological research, fieldwork, reporting, and curation and meets the Secretary of Interior standards as a qualified archaeologist). If a buried historic or archaeological feature or deposit is present it shall undergo archaeological excavation, analysis, technical reporting, and the collection shall be offered to a local repository, such as the Tracy Historical Museum. If no resources are found, the archaeological monitor shall submit a report that documents negative findings for buried historic archaeology.

4.5-1b **Construction Personnel Training**
Construction supervisory personnel shall be notified of the existence of cultural resources and required to keep personnel and equipment away from these areas. A qualified archeologist (see definition under MM 4.5-1a) shall be notified prior to initiation of construction activities. During construction and operations, personnel and equipment shall be restricted to the project work site.

Significance After Mitigation: The above mitigation measures shall be applied to all Project area components requiring ground disturbance or construction activity, or where specifically called for in individual mitigation measures. The project lead agency shall ensure that that the following measures are implemented by the selected archaeological contractor. Implementation of these measures will reduce Impact 4.5-1 to *less-than-significant* levels per §15064.5 of State CEQA Guidelines.

Impact 4.5-2: Unanticipated archaeological discoveries may be potentially significantly damaged or destroyed during Project construction.

Regardless of whether or not an area has been subject to previous archaeological inventory or reconnaissance survey, unanticipated and potentially significant cultural resources may still be encountered during ground disturbing activities. The potential to discover unanticipated cultural resources will tend to be greater in areas within or proximate to known cultural resources, in areas of poor ground visibility, in areas that have not been subject to previous cultural resource inventory or reconnaissance and/or in areas that have not been subject to previous ground disturbing activity or development. There is also the potential for the inadvertent discovery of human remains, particularly Native American remains, outside the boundaries of an established cemetery.

Destruction of potentially significant cultural resources without mitigation constitutes a significant impact per §15064.5(b) of State CEQA Guidelines. The procedures and provisions in Mitigation Measure 4.5-2 however should ensure that impacts to unanticipated archaeological discoveries are reduced to *less-than-significant* levels.

Mitigation Measure:

4.5-2a **Training and Reporting**

Prior to the initiation of disturbing activities associated with the Project area, all construction personnel shall be alerted to the potential for encountering buried or unanticipated cultural and paleontological remains, including prehistoric and/or historical resources. Construction personnel shall be instructed that upon discovery of buried cultural materials, all work within a 30 meter vicinity of the find will be halted immediately, and the lead agency will be notified. Once the find has been identified by a qualified archaeologist, the lead agency shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the find is found to be an historical resource per State CEQA Guidelines as discussed in Section 4.5.4.2.

4.5-2b **Human Remains**

If human remains are encountered during ground disturbing activities, all work within a 30 meter vicinity of the find will be halted immediately, and the City of Tracy and the San Joaquin County Coroner shall be notified. If the remains are determined to be Native American, the Native American Heritage Commission shall be notified within 24 hours as required by Public Resources Code §5097.94 and §5097.98. The Native American Heritage Commission shall notify the designated Most Likely Descendant(s), who will in turn provide recommendations for the treatment of the remains within 48 hours of being granted access to the find.

Significance After Mitigation: Mitigation Measure 4.5-2a shall be applied to all Project area components requiring ground disturbance. The lead agency shall ensure that the following measures are implemented by the

selected archaeological contractor. Mitigation Measure 4.5-2b will be applied as necessary. Implementation of these measures will reduce Impact 4.5-2 to *less-than-significant* levels per §15064.5 of State CEQA Guidelines.

Impact 4.5-3: Directly or indirectly potentially significantly destroy a unique paleontological resource or site or unique geologic feature.

The records search and field survey did not identify any paleontological resources within or adjacent to the Project boundaries. The 2015 *Cultural and Paleontological Resources Assessment* indicates that surficial sediments in most of the Project area have a low sensitivity for paleontological resources, but this sensitivity increases with depth (below 3-5 feet). In addition, the exposures of Oro Loma Formation in the southeastern portions of the Project may contain significant fossil resources. Therefore, any ground disturbance below 5 feet beneath the current ground surface has a high potential to directly impact unique paleontological resources. This would result in a potentially significant impact to paleontological resources according to CEQA. In order to mitigate this potential impact to a level that is less than significant under CEQA, MM 4.5-3 would apply. Paleontological monitoring will reduce the impact of the Project to *less-than-significant*.

Mitigation Measure:

4.5-3a **Paleontological Monitoring**

Paleontological spot check monitoring by a trained paleontologist (a trained paleontologist should have a Bachelor of Arts/Bachelor of Science in anthropology or related field with an emphasis in paleontology OR adequate training and experience in paleontological field methods, and work under the direct supervision of a qualified paleontologist) of excavations deeper than five feet in depth within the Project area, and spot check monitoring of any excavation in valleys in the eastern portion of the Project area against the hills in several of the washes (all areas of the Oro Loma Formation as mapped on the USGS Geology Map (Dibble 2006)) shall be performed by a train paleontologist.

Significance After Mitigation: Mitigation measures 4.5-2, 4 and 4.5-2a as described above, shall reduce the potential impacts to paleontological resources or resource sites, or unique geological feature from implementation of the Project to a *less-than-significant* level.

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4.6 GEOLOGIC RESOURCES

A Geologic Exploration Report was conducted for the 1998 Tracy Hills Specific Plan EIR, and was included as Appendix D. This report has been reviewed, updated and validated by ENGEO Incorporated in July 2013. The explorations and investigations were performed to evaluate the geologic and subsurface conditions and to provide geotechnical recommendations for design for the Project. The purpose of this section is to describe the geologic, seismic, and soils setting of the Project Area, identify potential impacts associated with the THSP, and recommend mitigation measures to avoid or minimize the significance of such impacts. Additional information in this section is based on the City of Tracy General Plan (General Plan) (adopted February 2011), the City of Tracy General Plan EIR (February 2011), and available information regarding the Project Area.

4.6.1 ENVIRONMENTAL SETTING

REGIONAL GEOLOGY

The Project Area is located near the margin of the Great Valley and Coast Ranges geomorphic provinces. The near-surface geology consists of alluvial deposits consisting of interbedded clay, silt, sand, and gravel and Fanglomerate consisting primarily of alluvial fan deposits of sand and gravel.[1] Alluvial fans and terraces along Corral Hollow, Lonetree, and Hospital Creeks come together to form one vast alluvial plain. The eastern edge of San Joaquin County has high terraces that have been dissected and eroded to the point that the original surface is no longer visible, leaving undulating hills that range in elevation from 170 to 360 feet.[2]

LOCAL GEOLOGY AND SOIL CHARACTERISTICS

The Project Area is located at the toe of the Tracy Foothills, the edge of the eastern foothills of the Diablo Range, and generally slopes from the southwest border of the site to the northeast border of the site. Elevations range from approximately 320 feet above mean sea level (MSL) near the southern corner of the site to approximately 245 feet MSL near the northern corner of the site.

SEISMIC AND GEOLOGIC HAZARDS

Faulting and Seismicity

The State of California Geological Survey has defined active faults as those for which there is evidence of surface displacement within about the last 11,000 years, known as Holocene time. Some faults are characterized as active based on surface displacements within historic time, about the last 200 years, while others are characterized as active based on surface displacements in rock or sediments which are less than 11,000 years old. This definition of an active fault does not mean, however, that all faults labeled inactive cannot become active. Some faults may have been active in the Holocene period, but did not result in identifiable surface displacements, while other faults may still be active although they have not been active during the last 11,000 years. Many recent, damaging California earthquakes including the 1975 Oroville earthquake, the 1983 Coalinga earthquake, and the 1987 Whittier Narrows earthquake occurred on faults not previously recognized as active.

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[1] *Geotechnical Exploration Tracy Hills Phase 1a*, ENGEO Inc., July 2013.
[2] Soil Survey of San Joaquin County, California. United States Department of Agriculture, Soil Conservation Service.

The City of Tracy is susceptible to disturbances from regional seismic activity. The Project is located in an area of moderate to high seismicity.[3] No known active faults cross the Project and the site is not located within an Alquist-Priolo Earthquake Fault Zone; however, large earthquakes, magnitude 7 and higher, have historically occurred in the nearby Bay Area and in the vicinity of the site and many earthquakes of low magnitude occur every year. The two nearest earthquake faults zoned as active by the State of California Geologic Survey are the San Joaquin segment of the Great Valley fault located approximately 4 miles to the west, and the Greenville fault located about 10 miles to the southwest.[4]

Other active faults capable of producing significant ground shaking at the site include the Calaveras fault, 32 miles west; the Hayward fault, 25 miles southwest; the Ortigalita fault, 30 miles southwest; and the San Andreas Fault, 46 miles southwest of the site. Any one of these faults could generate an earthquake capable of causing strong ground shaking at the subject site.

The data available from the U.S. Geological Survey indicates there are five minor faults located in or near the Tracy Sphere of Influence, four of which are located near the edges of the Sphere of Influence. The first is the Tracy-Stockton fault, a Pre-Quaternary fault that passes beneath the City in the deep subsurface and is considered inactive[5]. The five other faults are located in the western and southwestern portions of the Tracy Sphere of Influence: the Black Butte fault (Quaternary fault), the Midway and San Joaquin faults (late Quaternary faults), the Carnegie/Corral Hollow fault (Quaternary, with a portion as Holocene).Refer to Figure 4.6-1, *Regional Earthquake Faults.*

The following is a description of the major fault systems identified in the Project Geotechnical Exploration prepared by ENGEO Inc. that are active or potentially active within the vicinity of the THSP Project Area:

Calaveras Fault

The Calaveras Fault is considered active over a distance of more than 80 miles from Danville on the north to Hollister on the south. Tectonic creep also occurs episodically along the fault, mainly from Coyote Lake to Hollister. Seismic activity along the Calaveras Fault has been felt in the central San Joaquin Valley as recently as April 1984.

The California Division of Mines and Geology (CDMG) database lists two segments near the City of Tracy, with maximum moment magnitudes ranging from 6.2 to 6.8 and slip rates ranging from 6.0 to 15.0 millimeters per year.

Hayward Fault

The Hayward Fault is considered active and parallels the San Andreas Fault to the east. The last major earthquake on the Hayward Fault occurred in 1868 with a magnitude of 7.0. The Hayward Fault is capable of producing earthquakes ranging from 6.5 to 7.1

[3] *Geotechnical Exploration Tracy Hills Phase 1a*, ENGEO Inc., July 2013.
[4] *Geotechnical Exploration Tracy Hills Phase 1a*, ENGEO Inc., July 2013.
[5] Dames & Moore, *Geologic Hazards Assessment, Urban Growth Management Plan,* City of Tracy, CA, 7/31/91

Ortigalita Fault

The Ortigalita fault is a 48.8 mile long, north-northwest-striking, right-lateral strike-slip fault located in the southern Diablo Range. The fault extends from Panoche to southeast of Mount Stakes. The fault consists of two distinct geometric segments, separated by a 3.1-mile (5 KM) wide right-step across San Luis Reservoir. The Ortigalita fault is capable of producing a maximum 7.1 magnitude earthquake with an effective recurrence of 1100 years.

San Andreas Fault

The San Andreas Fault is associated with two of the largest earthquakes that have occurred in California during historic time: the 1857 Fort Tejon earthquake (magnitude 8.3) on the south- central portion of the fault and the 1906 San Francisco earthquake (magnitude 8.3) on the northern portion of the fault. Due in part to the length of the fault (approximately 625 miles) various portions of the San Andreas Fault can be characterized by distinctly different seismic behavior related to rupture location, length, and expected repeat time.

Great Valley Fault

The San Joaquin segment of the Great Valley Fault has a projected surface expression located approximately 4 miles to the west of Tracy. The Great Valley Fault is a blind thrust fault. Portions of the Great Valley Fault are considered seismically active thrust faults; however, since the Great Valley Fault segments are not known to extend to the ground surface, the State of California has not defined Earthquake Fault Hazard Zones around the postulated area of the fault.[6]

Greenville Fault

The Greenville Fault is northwest trending, strike-slip fault that extends for approximately 30 miles. It's a parallel secondary system to the San Andreas Fault credited with the 5.8 magnitude Livermore earthquake in 1980. The Greenville Fault is located approximately 10 miles to the southwest of the Project Area.[7][8]

[6] *Geotechnical Exploration Tracy Hills Phase 1a*, ENGEO Inc., July 2013.
[7] *Geotechnical Exploration Tracy Hills Phase 1a*, ENGEO Inc., July 2013.
[8] U.S. Geological Survey (and California Geological Survey), 2006, Quaternary fault and fold database for the United States, accessed 10/07/2014, from USGS web site: http//earthquakes.usgs.gov/regional/qfaults/

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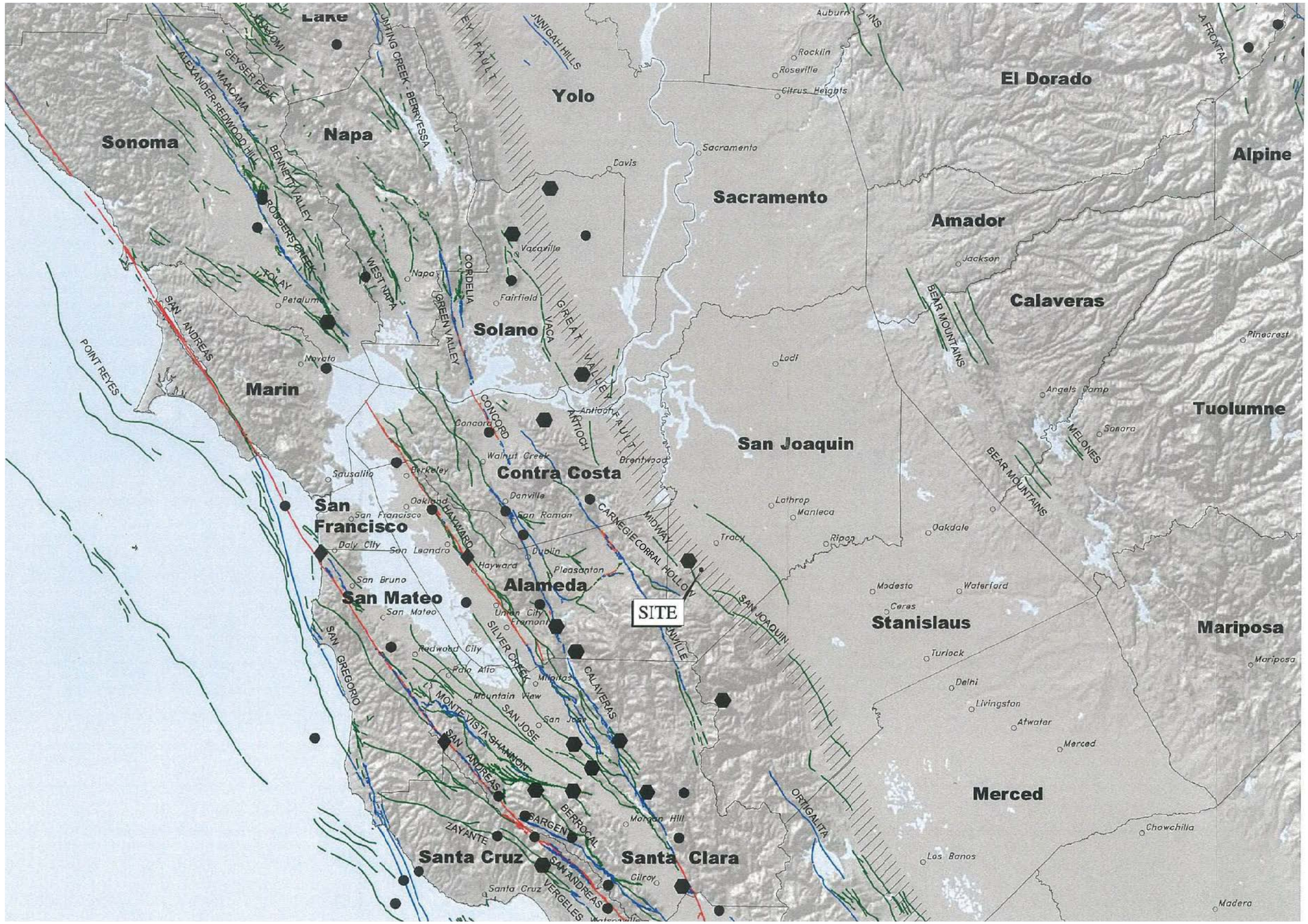

FIGURE 4.6-1
REGIONAL EARTHQUAKE FAULTS

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The California Division of Mines and Geology (CDMG) database lists six segments located near the City of Tracy, with maximum moment magnitudes ranging from 6.5 to 7.9. Slip rates for these segments range from 14 to 34 millimeters per year. These relatively high slip rates for the individual segments indicate the San Andreas Fault contributes more to the probabilistic ground motion estimate than closer, less active faults.

Ground Shaking

Earthquakes can cause strong ground shaking that may damage property and infrastructure. The severity of ground shaking at any particular point is referred to as intensity and is a subjective measure of the effects of ground shaking on people, structures, and earth materials. The intensity of shaking generally decreases with distance away from the source of an earthquake. Earthquake magnitude is a measure of the total amount of energy released in an earthquake. With increasing magnitude (i.e., larger earthquakes) ground motions are stronger, last longer, and are felt over larger areas. Magnitude refers to the energy released by an earthquake, while intensity refers to the effect ground shaking at a particular location. Ground shaking can vary by magnitude of the earthquake, location, focus of earthquake energy, and type of soil. The most common intensity scale is the Modified Mercalli Intensity (MII) scale, which ranges from I to XII. Refer to Table 4.6-1 Earthquake Intensity, for a description of the effects of earthquakes and a comparison of the Richter scale to the Modified Mercalli scale.

Table 4.6- 1: Earthquake Intensity

Richter Magnitude Scale	Modified Mercalli Scale	Effects of Intensity
0.1-0.9	I	Earthquake shaking not felt.
1.0-2.9	II	Shaking felt by those at rest.
3.0-3.9	III	Felt by most people indoors; some can estimate duration of shaking.
4.0-4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6-4.9	V	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle, and glasses clink. Doors open, close and swing.
5.0-5.5	VI	Felt by all who estimate duration of shaking and direction. Sleepers awaken, liquids spill, objects displaced, weak materials crack.
5.6-6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes/glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5-6.9	VIII	Difficult to stand, waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers and elevated tanks twist and fall.
7.0-7.4	IX	General fright as people thrown down. Hard to drive, trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5-7.9	X	General panic, ground cracks, masonry and frame buildings destroyed. Bridges destroyed, dams, dikes and embankments damaged. Railroads bent slightly.
8.0-8.4	XI	Large landslides, water thrown, general destruction of buildings, pipelines destroyed, railroads bent.
8.5+	XII	Complete destruction. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown upward in air.

Source: California Geologic Survey, Note 32, "How Earthquakes are Measured," 2002.

The Tracy area has a -moderate seismic history. The largest recorded measurable magnitude earthquake in Tracy measured 4.0 on the Richter scale in 1992.[9] The greatest potential for significant ground shaking in Tracy is believed to be from maximum credible earthquakes occurring on the Calaveras, Hayward, San Andreas, or Ortigalita faults. Possible recent movement on the Carnegie/Corral Hollow fault could mean that there is potential for significant ground shaking from a maximum credible earthquake on this fault as well. The potential for activity on the Black Butte and Midway faults is uncertain at this time. As reported in the 2011 General Plan EIR, and confirmed by additional studies, the maximum expected seismic event in the Tracy area would register 7.0 on the Richter scale.[10]

Ground Rupture

Ground rupture due to earthquakes occurs along fault lines. Since no known active faults pass through the City of Tracy, and the site is not within an Alquist-Priolo Earthquake Fault Zone, the likelihood of ground rupture is considered remote.

Liquefaction

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength because of pore build up beneath the stress associated with earthquakes. Potential for liquefaction has three factors:

- Seismic groundshaking of relatively loose, granular soils that are saturated or submerged can cause soils to liquefy and temporarily behave as a dense fluid. For liquefaction to occur, the following conditions have to occur: Intense seismic shaking;
- Presence of loose granular soils prone to liquefaction; and
- Saturation of soils due to shallow groundwater.

If these conditions occur simultaneously, then a sudden temporary increase in pore water pressure (liquefaction) can occur. Evidence of this is typically exhibited by seismic densification or displacement of submerged granular soils. Liquefaction more often occurs in earthquake prone areas underlain by young (Holocene age) alluvium where the groundwater is shallower than 50 feet below the ground surface.

Based on the densities of granular materials and the groundwater levels encountered during soil borings performed on the Project, the risk of liquefaction is low for the Project site. Additionally, the potential for densification – the earthquake induced settlement of loose granular soils above and below groundwater – is considered low at the Project site as no loose granular deposits were encountered during site exploration.

[9] USGS Earthquake Archive Search, http://earthquake.usgs.gov/earthquakes/search/. Accessed 3/10/2014
[10] The Department of Conservation Division of Mines and Geology reassessed the Tracy's seismic exposure after completion of the Tracy Urban Management Plan EIR(1993), SCH No. 91092060, and identified the thirty kilometer Coast Range-Central Valley blind-thrust fault zone along the western edge of the valley. The characteristic earthquake magnitude for this fault segment involves a potential Moment Magnitude Mw 6.7 corresponding with a close epicentral distance of seven to eight kilometers. The reassessment does not exceed the estimated maximum earthquake potential for Tracy as described in the UMP EIR.

Soil Erosion

High wind conditions and stormwater runoff can cause significant soil erosion. Soil erosion is most prevalent in unconsolidated alluvium and surficial soils and in areas that have slopes. Areas denuded of vegetation by fires are also highly susceptible to a significant increase in erosion during subsequent rainstorms until sufficient vegetation is re-established.

The Project site is situated at the toe of the Tracy Foothills and generally slopes from the southwest border to the northwest border of the site. The majority of the surface soils within the uplands area have a moderate to very severe erosion potential. Small, steep-sided gorges were observed along the transition from hills to fans. The property is currently used as grazing land for cattle, and has a sparse cover of vegetation across the site. Indications are that rapid erosion can occur in many areas once vegetation is removed, however, observations indicate that slopes are fairly stable while vegetation is present. As a result, the risks associated with the erosive surface soils can be significantly reduced by using appropriate controls during construction and properly revegetating exposed areas.

Slope Stability and Landslides

Slope stability depends on several factors including degree of slope, rock/soil type, presence of water, vegetation and previous landslide occurrence. The downslope movement of soil/rock occurs when the weight of material on the slope overcomes the force resisting the downward movement. Landslides can result when additional weight is placed on a slope, material is removed from the toe of a slope, or the strength of the material is decreased by the presence of water or groundshaking from an earthquake.

The region east of Interstate 580 is generally not subject to slope instability nor landslides due to its flat, alluvial deposits. However the region west of the Interstate is susceptible to landslides due to its rolling topography and interlaid drainage courses.

In a geologic exploration of the Project for the 1998 THSP EIR, steep hill areas were noted as having high landslide potential, however it appears the slopes remain fairly stable while vegetation is present. Disturbance or removal of vegetation from hillsides greatly increases the susceptibility of the hillsides to landsliding and acceleration of erosion. To verify the 1998 THSP EIR analysis still applies to the Project, the 1998 THSP EIR was reviewed by the Geotechnical Engineer of Record for the Project to assess its applicability to the Project at present. It was concluded the geotechnical findings in the 1998 THSP EIR are still applicable and representative of the Project site. Therefore, the assessment of landslides as discussed in the 1998 THSP EIR remains relevant for the purposes of discussing existing conditions.[11]

Lateral Spreading

Lateral spreading is a failure within a nearly horizontal soil zone, possibly due to liquefaction, that causes the overlaying soil mass to move toward a free face or down a gentle slope. Since the potential for liquefaction is low at the Project site, the potential for lateral spreading is also low.

[11] Letter from ENGO dated February 12, 2014. Subject: *Tracy Hills Specific Plan – Draft Environmental Impact Report, Section 4.7 Geology and Soils, Pages 4.7-1 through 4.7-21, provided by The Tracy Hills Project Owner LLC via email.*

Expansive Soil

Expansive soils shrink and swell as a result of moisture changes which can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. Expansive soils are measured by the Plasticity Index (PI) which has four levels of placidity using a point ranking system as shown below.

Index Score	Plasticity
0 – 3	Nonplastic
3 – 15	Slightly Plastic
15 – 30	Medium Plastic
>30	Highly Plastic

Based on findings from field explorations of the Project site and the review of previous site explorations, the Project site consists of a layer of fat clay to sandy fat clay underlain by clayey gravel and clayey sand. The clay layer at the surface ranges in thickness between 3 feet and 15 feet, and has a PI range between 16 and 42 indicating a medium to high plasticity and moderate to high expansion potential. There is potential for post-construction ground surface movement due to expansive soils.

4.6.2 REGULATORY FRAMEWORK

STATE REGULATIONS

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures used for human occupancy. The Main purpose of the Act is to prevent the construction of buildings used for human occupancy on top of the traces of active faults. Although the Act addresses the hazards associated with surface fault rupture, it does not address other earthquake-related hazards, such as seismically induced ground shaking or landslides.

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults, and to publish appropriate maps that depict these zones. The maps are than distributed to all affected cities, counties, and State agencies for their use in planning and controlling development. In general, constriction within 50 feet of an active fault zone is prohibited.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act, passed in 1990, addresses earthquake hazards other than surface fault rupture, including liquefaction and seismically induced landslides. Seismic hazard zones are mapped by the State Geologist to assist local governments in land use planning. The Act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those

hazards to protect public health and safety."[12] Section 2697(a) of the Act states that "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard."[13]

CALIFORNIA BUILDING CODE

The California Building Standards Code, also known as Title 24 of the California Code of Regulations (CCR), reflects various building criteria that have been derived from different sources. One of these sources is the International Building Code (IBC), a model building code adopted across the United States that has been modified to suit conditions in the State, thereby creating what is known as the California Building Code (CBC), or Part 2 of CCR Title 24. The CBC is updated every 3 years, and the current 2013 CBC took effect on January 1, 2014.

LOCAL REGULATIONS

CITY OF TRACY GENERAL PLAN

The Safety Element of the City of Tracy General Plan includes several policies that are relevant to geology, soils, and seismic hazards. These policies are listed in Table 4.6-2, *General Plan Policies Relevant to Geological Resources,* below.

Table 4.6-2: General Plan Policies Relevant to Geological Resources

Safety Element	
Goal/Policy No.	Goal/Policy Content
Goal SA-1	**A reduction in risks to the community from earthquakes and other geologic hazards.**
Objective SA-1	Minimize the impacts of geologic hazards on land development.
Policy	Underground utilities, particularly water and natural gas mains, shall be designed to withstand seismic forces.
Policy P2	Geotechnical reports shall be required for development in areas where potentially serious geologic risks exist. These reports should address the degree of hazard, design parameters for the Project based on the hazard, and appropriate mitigation measures.
Objective SA-1	Implement measures related to site preparation and building construction that protect life and property from seismic hazards.
Policy	All construction in Tracy shall conform to the California Building Code and the Tracy Municipal Code including provisions addressing unreinforced masonry buildings.

CITY OF TRACY MUNICIPAL CODE CHAPTER 12.04, ADOPTION OF CODES

In accordance with Title 9, Chapter 9.04, Section 9.04.030 of the City of Tracy Municipal Code, the City has adopted the 2013 CBC, Volumes 1 and 2, by reference. As previously noted, the CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition.

[12] California Public Resources Code, Division 2, Chapter 7.8, Section 2691(c).

[13] California Public Resources Code, Division 2, Chapter 7.8, Section 2697(a).

4.6.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The Project would have a significant impact with regard to geology and soils if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:
  - 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.
  - Strong seismic ground shaking.
  - Seismic-related ground failure, including liquefaction.
  - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would be-come unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, creating substantial risks to life or property.

ENVIRONMENTAL IMPACTS AND ANALYSIS

SEISMICITY AND LANDSLIDES

No known active faults cross the Project and the Project is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest mapped active fault (Carmergie/Corral Hollow) is located approximately eight miles southwest of the site. However, due to the proximity of the Project to numerous inactive and active faults in the surrounding region, the Project has the potential to experience groundshaking. The impact of groundshaking to people or property caused by seismic activity on nearby faults would be increased as a result of site development. Therefore, to minimize potential damage to the proposed structures caused by groundshaking, all construction would comply with the latest California Building Code standards, as required by the City of Tracy Municipal Code 9.04.030. Implementation of the California Building Code standards, which include provisions for seismic building designs, would ensure that impacts associated with groundshaking would be less than significant.

Landslides are not a significant threat provided vegetation on slopes is left intact. Risks associated with landslides can be reduced by using appropriate controls and Best Management Practices during construction and properly revegetating areas exposed by construction.

Building new structures for human occupancy would increase the number of people exposed to local and regional seismic hazards. Seismic hazards are a significant risk for most property in California. Implementation of the requirements of the California Building Code and the Tracy General Plan would ensure that impacts on humans associated with seismic hazards would be *Less-than-significant*. No additional mitigation is required.

EROSION

Impacts associated with future construction of land uses within the Project Area include clearing existing agricultural grazing land and demolishing out buildings and accessory structures for the building of structures, roads, landscaped areas and similar permanent improvements. During the construction preparation process, existing vegetation would be removed to grade and compact the site, as necessary. As construction occurs, these exposed surfaces could be susceptible to erosion from wind and water. Effects from erosion include impacts on water quality and air quality. Risks associated with erosive surface soils can be reduced by using appropriate controls and Best Management Practices during construction and properly revegetating exposed areas, resulting in a *Less-than-significant* impact.

LIQUEFACTION

The probability of liquefaction near the surface of the site is low when evaluated against existing site conditions, including topography, soil types and presence of groundwater. As described above, densities of granular materials encountered during soil borings indicate little risk of liquefaction. Further, ground water was not encountered during the geologic exploration. Local groundwater data obtained from the Department of Water Resources indicates that groundwater may be as deep as 150 feet below the ground surface. Liquefaction more often occurs in earthquake-prone areas underlain by young (Holocene age) alluvium where the groundwater is shallower than 50 feet below the ground surface. The Project site is not located within an Earthquake Fault Zone, as defined by the State Geologist. The nearest mapped active fault (Carnegie/Corral Hollow) is located approximately eight miles southwest of the site. This geologic condition, in conjunction with a low water table, indicates that the probability of liquefaction near the surface of the site is very low. The Safety Element of the General Plan includes Objective SA-1.1, Policy 1, which requires that geotechnical engineering studies be undertaken for any development in areas where potentially serious geologic risks exist. The implementation of this policy would reduce the potential risk of liquefaction. Any potential impact from liquefaction is therefore considered to be *Less- than-significant*, and no mitigation is required.

EXPANSIVE SOILS

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Because the Project site contains clay-type soils, onsite soils are potentially expansive.

Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections. The soils on the Project range from moderately to highly plastic on the Plasticity Index. The presence of expansive soils is considered a *Potentially significant* impact.

Implementation of Mitigation Measure 4.6-4 would reduce impacts to *Less-than-significant* levels.

CUMULATIVE IMPACTS

The cumulative impacts analysis for geology and soils considered the larger-context of future development within the City of Tracy as envisioned by the General Plan and relied upon the projections of the General Plan and General Plan EIR. Cumulative impacts to geology and soils would be incremental impacts that could aggregate into larger scale hazards.

The General Plan EIR analyzed the long-term development of the City of Tracy and found no significant impacts relative to geology and soils would occur with implementation of the General Plan. As discussed above, the development of the Project would not result in significant unavoidable impacts relative to geology and soils, either.

As with the development of the Project, the impacts associated with geology and soils are expected to be mitigated to *Less-than-significant* levels. No cumulative impacts relative to geology and soils are expected with implementation of the THSP.

IMPACTS AND MITIGATION MEASURES

Impact 4.6-1: Expose people or structures to potentially significant adverse effects, including the risk of loss, injury or death involving:

- 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.
- Strong seismic ground shaking.
- Seismic-related ground failure, including liquefaction.
- Landslides

Implementation of the requirements of the California Building Code and the Tracy General Plan would ensure that impacts on humans associated with seismic hazards would be *Less-than-significant*. No additional mitigation is required.

Impact 4.6-2: Result in potentially significant substantial soil erosion or the loss of topsoil.

As construction occurs, ground surfaces exposed through the removal of vegetation could be susceptible to erosion from wind and water. Effects from erosion include impacts on water quality and air quality. The use of appropriate controls and Best Management Practices during construction as required by the Project Stormwater Pollution Prevention Plan as further described in Section 4.9, Hydrology and Water Quality, and properly revegetating exposed areas reduce impacts as they relate to soil erosion to a *Less-than-significant* level. No additional mitigation is necessary.

Impact 4.6-3: Be located on a geologic unit or soil that is unstable, or that would be-come unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

The Safety Element of the General Plan includes Objective SA-1.1, Policy 1, which requires that geotechnical engineering studies be undertaken for any development in areas where potentially serious geologic risks exist. The implementation of this policy would reduce the potential risk of liquefaction. Any potential impact from liquefaction is therefore considered to be *Less-than-significant*, and no mitigation is required.

Impact 4.6-4: Be located on expansive soil, creating substantial risks to life or property that would be potentially significant.

Field explorations of the Project site and the review of previous site explorations reveal the presence of expansive soils within the THSP Project Area. The clay layer at the surface ranges in thickness between 3 feet and 15 feet, and has a medium to high plasticity with a moderate to high expansion potential. There is potential for post-construction ground surface movement due to expansive soils. Implementation of mitigation measure 4.6-4 would reduce Project impacts in regard to expansive soils to a *Less-than-significant* level.

Mitigation Measure:

4.6-4 During excavation activities and prior to the placement of fill on the site, a certified geotechnical engineer shall be retained by the Project Applicant/future Project Applicants to evaluate subgrade soils for the extent of their expansive potential. For areas found to contain soft, potentially expansive clays, the soil shall be removed (i.e., over excavated) and/or stabilized prior to the placement and compaction of fill. Stabilization techniques include, but are not limited to, the placement of 18 inches of ½-inch to ¾-inch crushed rock over stabilization fabric (such as Mirafi 500X or equivalent), placement of larger, angular stabilization rock (1-inch to 3-inch, clean) and use of chemical treatments such as lime to reduce the soil's expansive potential. In addition, building construction alternatives, such as the use of alternative foundation types (i.e., post-tension, piles, etc.) versus end-bearing foundations, shall be considered and implemented where appropriate. Final techniques shall be (a) developed by a certified geotechnical engineer or engineering geologist and (b) reviewed and approved by the City prior to issuance of a grading permit.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts associated with expansive soils to a *Less-than-significant* level.

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4.7 GREENHOUSE EMISSIONS

This section evaluates greenhouse gas (GHG) emissions associated with the Project and analyzes compliance with applicable regulations. Consideration of the Project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is included in this section. GHG technical data is included in Appendix B, *Air Quality and Greenhouse Gas Data*.

4.7.1 ENVIRONMENTAL SETTING

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[1] The greenhouse effect traps heat in the troposphere through a threefold process as follows: short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit it into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

GLOBAL CLIMATE CHANGE GASES

The most abundant GHGs are water vapor and carbon dioxide (CO_2). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation. Typical GHGs include the following:[2]

- Water Vapor (H_2O). Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

  The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a GWP for water vapor.

- Carbon Dioxide (CO_2). Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent.[3] Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.

- Methane (CH_4). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three

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[1] The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

[2] All Global Warming Potentials are given as 100-year Global Warming Potential. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).

[3] U.S. Environmental Protection Agency, *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2010*, April 2012.

sources of methane are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

- Nitrous Oxide (N_2O). Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.[4]

- Perfluorocarbons (PFCs). PFCs are compounds produced as a by-product of various industrial processes associated with aluminum production and the manufacturing of semiconductors. Like HFCs, PFCs generally have long atmospheric lifetimes and high Global Warming Potentials of approximately 6,500 and 9,200.[5]

- Sulfur hexafluoride (SF_6). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change (IPCC) with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively).[6]

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O_3) depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The GWPs of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.[7]

- 1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of carbon dioxide.[8]

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[4] U.S. Environmental Protection Agency, *Greenhouse Gas Emissions*, September 9, 2013. http://www.epa.gov/climatechange/ghgemissions/gases/fgases.html#Trends, accessed on October 13, 2014.
[5] Ibid.
[6] Ibid.
[7] U.S. Environmental Protection Agency, *Stratospheric Ozone Protection and Climate Change*, dated August 19, 2010. http://www.epa.gov/ozone/climate.html, accessed on October 13, 2014.
[8] Ibid.

- Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. Environmental Protection Agency's (EPA) Final Rule (57 FR 3374) for the phase out of O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with GWPs ranging from 4,600 for CFC 11 to 14,000 for CFC 13.[9]

4.7.2 REGULATORY FRAMEWORK

Regulatory oversight for air quality in the Basin rests at the regional level with the San Joaquin Valley Air Pollution Control District (SJVAPCD), the California Air Resources Board (CARB) at the State level, and the EPA Region IX office at the Federal level.

FEDERAL

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States is a strong supporter of activities under the United Nations Framework Convention on Climate Change (UNFCCC) and the IPCC.

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In December 2007, Congress passed the first increase in corporate average fleet fuel economy (CAFE) standards. The new CAFE standards represent an increase to 35 miles per gallon (mpg) by 2020. In March 2009, the Obama Administration announced that for the 2011 model year, the standard for cars and light trucks would be 27.3 mpg, the standard for cars would be 30.2 mpg; and standard for trucks would be 24.1 mpg. Additionally, in May 2009 President Barack Obama announced plans for a national fuel-economy and GHG emissions standard that would significantly increase mileage requirements for cars and trucks by 2016. The new requirements represent an average standard of 39 mpg for cars and 30 mpg for trucks by 2016.

Currently, the EPA is moving forward with two key climate change regulatory proposals, one to establish a mandatory GHG reporting system. Under the Federal Clean Air Act, the EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation. However, as of the date of this study there are no Federal regulations or policies regarding GHG emissions applicable to the Project.

[9] U.S. Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 19, 2010. http://www.epa.gov/ozone/ods.html, accessed on October 13, 2014.

STATE

Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring, and that there is a real potential for severe adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation would be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary would also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy. This would result in consistent guidance from experts on how to address climate change impacts in the State of California.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-20-04. Executive Order S-20-04, the California Green Building Initiative, (signed into law on December 14, 2004), establishes a goal of reducing energy use in State-owned buildings by 20 percent from a 2003 baseline by 2015. It also encourages the private commercial sector to set the same goal. The

initiative places the California Energy Commission (CEC) in charge of developing a building efficiency benchmarking system, commissioning and retro-commissioning (commissioning for existing commercial buildings) guidelines, and developing and refining building energy efficiency standards under Title 24 to meet this goal.

Executive Order S-21-09. Executive Order S-21-09, 33 percent Renewable Energy for California, directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002) which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006) which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State."

To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. When fully phased in, the near-term standards would result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards would result in a reduction of about 30 percent.

Assembly Bill 3018. AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC would develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy. This bill would ignite the development of job training programs in the clean and green technology sectors.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State

Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in CEQA Guidelines Section 15064.7 that would encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010.

Senate Bill 375. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that would prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, would provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets would be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets.

Senate Bills 1078 and 107. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Senate Bill 1368. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

CARB Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California would implement to reduce CO_2eq[10] emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO_2eq under a business as usual (BAU)[11] scenario. This is a reduction of 42 million MT CO_2eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

REGIONAL

The SJVAPCD is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin portion of Kern. The City of Tracy and the Project site are located within the jurisdiction of the SJVAPCD. Refer to Section 4.7.3, below, for SJVAPCD guidance to analyzing GHG emissions.

LOCAL

CITY OF TRACY GENERAL PLAN

The City of Tracy General Plan provides a number of goals, policies, and objectives that would apply to the Tracy Hills Specific Plan (THSP). Table 4.7-1, *General Plan Policies Relevant to Greenhouse Gas Emissions/Climate Change*, provides the Goals, Objectives, Policies, and Actions of the City regarding GHG emission regulations:

[10] Carbon Dioxide Equivalent (CO_2eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

[11] "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See http://www.arb.ca.gov/cc/inventory/data/forecast.htm. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

Table 4.7-1: General Plan Policies Relevant to Greenhouse Gas Emissions/Climate Change

Goal/Policy No.	Goal/Policy Content
Goal AQ-1	**Improved air quality and reduced greenhouse gas emissions.**
Objective AQ-1.1	*Improve air quality and reduce greenhouse gas emissions through land use planning decisions.*
Policy P1	The City shall promote land use patterns that reduce the number and length of motor vehicle trips.
Policy P2	To the extent feasible, the City shall maintain a balance and match between jobs and housing.
Policy P3	Higher density residential and mixed-use development shall be encouraged adjacent to commercial centers and transit corridors.
Policy P4	Employment areas should include a mix of support services to minimize the number of trips.
Policy P5	Village Centers and other retail and office areas should be located within walking and biking distance of existing and proposed residential developments.
Objective AQ-1.2	*Promote development that minimizes air pollutant and greenhouse gas emissions and their impact on sensitive receptors as a result of indirect and stationary sources.*
Policy P3	Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
Policy P4	New development projects should incorporate energy efficient design features for HVAC, lighting systems and insulation that exceed Title 24.
Policy P5	Use of solar water and pool heaters is encouraged.
Policy P6	Installation of solar voltaic panels on new homes and businesses shall be encouraged.
Policy P7	Trees should be planted on the south- and west-facing sides of new buildings or building undergoing substantial renovation in order to reduce energy usage.
Policy P8	In accordance with San Joaquin Air Pollution Control District regulations, wood burning fireplaces shall not be installed in new and significantly renovated residential projects.
Policy P9	New developments shall follow the current requirements of the SJVAPCD with respect to wood burning fireplaces and heaters.
Policy P10	Stationary air pollutant emission sources (e.g. factories) shall be located an appropriate distance away and downwind from residential areas and other sensitive receptors.
Policy P11	Residential developments and other projects with sensitive receptors shall be analyzed in accordance with CARB and SJVAPCD requirements.
Action A3	Investigate the feasibility of new development fees to be used on coordination with local air pollution reduction efforts, such as clean air transit projects (e.g. ACE, Park & Ride, TRACER, BART and school buses).
Action 4	Develop a green building standard for new development.
Action 5	The City shall evaluate the installation of light emitting diodes (LEDs) or similar technology for traffic, street and other outdoor lighting where feasible.
Objective AQ-1.3	*Provide a diverse and efficient transportation system that minimizes air pollutant and greenhouse gas emissions.*
Policy P1	The City shall continue to work with the San Joaquin Council of Governments on regional transportation solutions.
Policy P3	The City shall encourage employers to establish Transportation Demand Management programs.
Policy P4	The City shall support efforts to retain the railroad right-of-way for future public transit and bicycle facilities.
Policy P5	The City shall require direct pedestrian and bicycle linkages from residential areas to parks, schools, retail areas, high-frequency transit facilities and major employment areas.
Policy P6	The City shall coordinate with regional rideshare and transit incentive programs.
Action A1	Pursue funding sources for the planning and development of local and regional transit services.

Table 4.7-1: General Plan Policies Relevant to Greenhouse Gas Emissions/Climate Change

Action A2	Consider measures to increase the capacity of the existing road network prior to constructing additional capacity (e.g. additional lanes, etc.).
Objective AQ-1.4	*Support local and regional air quality improvement efforts.*
Policy P3	The City shall be proactive in reducing greenhouse gas emissions from City operations as well as new or renovated development.
Action A1	Notify local and regional jurisdictions of proposed projects that may affect regional air quality.
Action A3	Develop a citywide sustainability strategy that would include a baseline inventory of greenhouse gas emissions from all sources within the City; greenhouse gas emissions reduction targets; and enforceable greenhouse gas emissions reduction measures.

CITY OF TRACY SUSTAINABILITY ACTION PLAN

On February 1, 2011, the City adopted a Sustainability Action Plan (SAP) in response to AB 32. Consistent with the recommendations of the CARB Scoping Plan, the City's SAP establishes a GHG reduction goal of 29 percent of community and municipal GHG emissions from 2020 BAU projected levels. To achieve the reduction goal, the SAP provides various goals and best practices that focus on energy, transportation and land use, solid waste, water use, agriculture and open space, biological resources, air quality, public health, and economic development. The SAP reduction targets are based on the following objectives:

- 20 percent increase in the percentage of City employees who participate in travel demand management programs from 2006 levels.
- 20 percent increase in the percentage of non-City employees who participate in travel demand management programs from 2006 levels.
- 20 percent reduction in the municipal vehicle miles traveled (VMT) from 2006 levels.
- 20 percent reduction in the community VMT per capita from 2006 levels.

To make sure objectives are reached, the action plan measures were established from ideas that were developed during community workshops. Some of the ideas that are applicable to transportation planning are:

- Installing parking, shower and dressing facilities, and creating a bicycle sharing program to promote bicycle usage;
- Increasing transit route coverage to be within ½ mile of all residents and ¼ mile of 75 percent of residents in new developments;
- Filling the gaps in sidewalks along key pedestrian routes; and
- Develop a bottleneck improvement program to execute improvements along the City's key corridors.

The City of Tracy prepared a Recirculated Supplemental EIR in July 2010 (Supplemental EIR to the City's adopted General Plan EIR certified in 2006) which included an assessment of the City's proposed SAP. The Supplemental EIR concluded that SAP implementation would reduce GHG emissions by 28 percent, and would not meet the SJVAPCD's 29 percent reduction threshold.

4.7.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. Greenhouse gas emission impacts resulting from implementation of the Project could be considered significant if they would:

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

SJVAPCD THRESHOLDS

Under CEQA, the SJVAPCD is an expert commenting agency on air quality and GHG emissions within its jurisdiction or impacting its jurisdiction. The SJVAPCD adopted the *Climate Change Action Plan* in August 2008. The *Climate Change Action Plan* was developed to assist local land use agencies and businesses in complying with state requirements.

In December 2009, the SJVAPCD adopted their Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects Under CEQA (GHG Guidance) to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Joaquin Valley Air Basin. This document provides SJVAPCD-recommended procedures for evaluating potential air quality and GHG impacts during the environmental review process consistent with CEQA requirements. The SJVAPCD GHG Guidance establishes standards that require projects to reduce their GHG emissions by at least 29 percent from BAU levels, through the application of Best Performance Standards (BPS) or other mitigation measures, to achieve a less than cumulatively significant impact under CEQA. To have a less-than-significant individual and cumulative impact on global climate change, projects must be determined to have reduced or mitigated GHG emissions by 29 percent, consistent with the GHG emission reduction targets established in CARB's AB 32 Scoping Plan.

Process for Evaluating GHG Significance

- Projects determined to be exempt from the requirements of CEQA would have a less-than-significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project-specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement BPS.
- Projects complying with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would have a less-than-significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.

- Projects implementing BPS would not require quantification of project-specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions.
- Projects not implementing BPS would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29 percent, including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29 percent GHG emission reduction would be determined to have a less-than-significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring the preparation of an EIR for any other reason would require quantification of project-specific GHG emissions. Projects implementing BPS or achieving at least a 29 percent GHG emission reduction would be determined to have a less-than-significant individual and cumulative impact for GHG.

The use of BPS streamlines the significance determination process by pre-quantifying the emission reductions that would be achieved by a specific GHG emission reduction measure and pre-approving the use of such a measure to reduce project-related GHG emissions. Establishing BPS also streamlines the CEQA review process by providing project proponents, lead agencies and the public with clear guidance on how to reduce GHG emissions impacts. Thus, project proponents would be able to incorporate project-specific GHG reduction measures during the initial project design phase, which could reduce project-specific GHG impacts to less-than-significant levels.

METHODOLOGY

CalEEMod

Operation of the Project has the potential to create GHG impacts primarily from mobile sources, as well as from area sources, energy consumption, water supply, and solid waste generation. The California Emissions Estimator Model (CalEEMod) version 2013.2.2 software was used to quantify the GHG emissions that would occur as a result of implementation of the Project. According to the Tracy Hills Traffic Impact Analysis (prepared by Kimley-Horn and Associates, dated October 2014), Phase 1a of the Project would generate 25,433 daily vehicle trips. The THSP would also generate 122,836 daily trips in 2035, and 152,985 daily trips at full buildout (post-2035). Emissions from Project-generated vehicle trips were calculated with CalEEMod. Area and energy source emissions were also calculated using CalEEMod default assumptions. The CalEEMod model outputs are provided in Appendix B, *Air Quality/Greenhouse Gas Data*.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS IMPACTS

THSP BUILDOUT

GHG emissions resulting from THSP Buildout operations were estimated using CalEEMod. Table 4.7-2, *Project Buildout Business As Usual Greenhouse Gas Emissions*, presents the estimated CO_2, N_2O, and CH_4 emissions. As shown in Table 4.7-2, buildout of the Project would result in 180,147.39 $MTCO_2eq/yr$.

Table 4.7-2: Project Buildout Business as Usual Greenhouse Gas Emissions

Source	CO_2	CH_4		N_2O		Total Metric Tons of CO_2eq[3]
	Metric Tons/yr[1]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	
Area Source	9,534.38	33.23	697.87	0.04	13.55	10,245.79
Energy	43,818.91	1.60	33.50	0.54	168.33	44,020.73
Mobile Source	115,415.50	2.53	53.23	0.00	0.00	115,468.73
Solid Waste	2,591.81	153.17	3,216.60	0.00	0.00	5,808.41
Water Demand	3,233.33	48.14	1,010.93	1.16	359.48	4,603.73
Total Business as Usual Emissions[3]	**180,147.39 $MTCO_2eq/yr$**					

Notes:
1 –Emissions calculated using CalEEMod.
2 –CO_2 Equivalent values calculated using the U.S. EPA Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed October 2014.
3 – Totals may be slightly off due to rounding.
Refer to Appendix B, *Air Quality/Greenhouse Gas Data*, for detailed model input/output data.

Table 4.7-3, *Project Buildout Proposed Reduced Greenhouse Gas Emissions* shows the calculated reductions in GHG emissions through implementation of Mitigation Measure 4.7-1. As seen in Table 4.7-3, implementation of design features and SAP measures required by Mitigation Measure 4.7-1 would result in a decrease in GHG emissions of 29,566.80 $MTCO_2eq/yr$, which would equate to a 16.41 percent reduction from the "business as usual" condition. Therefore, buildout of the Project would not achieve the SJVAPCD's 29 percent GHG significance threshold. Thus, even with implementation of Mitigation Measure 4.7-1, GHG impacts would be *Significant.*

Table 4.7-3: Project Buildout Proposed Reduced Greenhouse Gas Emissions

1.5	Proposed Business As Usual GHG Emissions ($MTCO_2eq/yr$)[1]	Design Features Applied in CalEEMod	Proposed Reduced GHG Emissions ($MTCO_2eq/yr$)[1]
Mobile	115,468.73	Increase Diversity	101,015.27
		Improve Pedestrian Network (on-site)	
		Implement Trip Reduction Program (100 percent of employees eligible)	
		Provide Ride Sharing Program (100 percent of employees eligible)	
		Provide Traffic Calming Measures (at intersections and along roadways)	
Area	10,245.79	No Hearths	2,436.97
		Use Low VOC Architectural Coatings	
		Require Electric Lawnmowers	
Energy	44,020.73	Install Energy Efficient Appliances (clothes washers, dishwashers, fans, and refrigerators)	41,916.11
		Install High Efficiency Lighting	

Table 4.7-3: Project Buildout Proposed Reduced Greenhouse Gas Emissions

1.5	Proposed Business As Usual GHG Emissions ($MTCO_2eq/yr$)[1]	Design Features Applied in CalEEMod	Proposed Reduced GHG Emissions ($MTCO_2eq/yr$) [1]
Waste	5,808.41	Achieve the City's waste diversion goal of 75 percent.	1,452.10
Water	4,603.73	Install Low Flow Bathroom Faucets	3,744.68
		Install Low Flow Kitchen Faucets	
		Install Low Flow Toilets	
		Install Low Flow Showers	
		Use Water Efficient Irrigation Systems	
TOTAL	**180,147.39**	**N/A**	**150,580.59**
Percent Reduction from Business As Usual			**16.41**

Notes:
1 – Emissions calculated using the CalEEMod computer model.
Refer to Appendix B, *Air Quality/Greenhouse Gas Data*, for detailed model input/output data.

PHASE 1a

Project-Related Business as Usual Greenhouse Gas Emissions

According to the fifth bullet point of SJVAPCD's process for evaluating GHG significance (above), this analysis quantifies the Project's "business as usual" GHG emissions as well as the reduced GHG emissions. The "business as usual" GHG emissions that would occur as a result of implementation of the Phase 1a of the Project have been calculated. As previously stated, "business as usual" refers to emissions that would be expected to occur in the absence of GHG reduction measures. CalEEMod was used to calculate direct and indirect GHG emissions associated with the Project. Table 4.7-4, *Phase 1a Business As Usual Greenhouse Gas Emissions*, presents the estimated CO_2, N_2O, and CH_4 emissions.

Table 4.7-4: Phase 1a Business as Usual Greenhouse Gas Emissions

Source	CO_2	CH_4		N_2O		Total Metric Tons of CO_2eq[3]
	Metric Tons/yr[1]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	
Area Source	525.07	0.02	0.50	0.01	2.90	528.48
Energy	6,444.57	0.23	4.39	0.08	25.48	6,474.83
Mobile Source	25,888.80	0.86	18.13	0.00	0.00	25,906.93
Solid Waste	393.56	23.26	488.44	0.00	0.00	882.00
Water Demand	365.80	4.97	104.76	0.12	37.20	507.35
Total Business as Usual Emissions[3]	**34,299.59 $MTCO_2eq/yr$**					

Notes:
1. Emissions calculated using CalEEMod.
2. CO_2 Equivalent values calculated using the U.S. EPA Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed October 2014.
3. Totals may be slightly off due to rounding.
Refer to Appendix B, *Air Quality/Greenhouse Gas Data*, for detailed model input/output data.

Direct Phase 1a Sources of Greenhouse Gases

Area Source. Emissions from direct area sources would result in 528.48 $MTCO_2eq/yr$; refer to Table 4.7-4.

Mobile Source. CalEEMod relies upon trip data within the Traffic Impact Analysis and project-specific land use data to calculate mobile source emissions. The Project would directly result in 25,906.93 $MTCO_2eq/yr$ of mobile source-generated GHG emissions; refer to Table 4.7-4.

Indirect Phase 1a Sources of Greenhouse Gases

Energy Consumption. Energy Consumption emissions were calculated using CalEEMod and Project-specific land use data for the Project's Phase 1a. Electricity would be provided to Phase 1a via the Pacific Gas and Electric Company. Phase 1a would indirectly result in 6,474.83 $MTCO_2eq/yr$ due to energy consumption; refer to Table 4.7-4.

Solid Waste. Solid waste associated with operations of the Project would result in 882.00 $MTCO_2eq/yr$; refer to Table 4.7-4.

Water Demand. Emissions from indirect energy impacts due to water supply would result in 507.35 $MTCO_2eq/yr$; refer to Table 4.7-4.

Total Phase 1a Sources of Greenhouse Gases

As shown in Table 4.7-4, the total amount of "business as usual" GHG emissions from direct and indirect sources combined resulting from the Project would total 34,299.59 $MTCO_2eq/yr$.

SJVAPCD Best Performance Standards

Table 4.7-5, *Applicable Best Performance Standards* provides a list of the BPS and equivalent points that the Project would incorporate. As depicted in Table 4.7-5, incorporation of all applicable and feasible BPS would reduce the Phase 1a operational GHG emissions by approximately 7.0 percent.

Table 4.7-5: Applicable Best Performance Standards

Measure No.	Measure Name	Point Reduction[1]	Description
5	Pedestrian Network	1.0	The Project would internally link all uses and connect a pedestrian access to external streets and provide pedestrian facilities.
6	Pedestrian Barriers Minimized	1.0	Site design and building placement would minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation would not be included. Barriers to pedestrian access of neighboring facilities and sites would be minimized.
8	Bus Shelter for Planned Transit Service	0.25	The Project would provide transit stops with safe and convenient bicycle/pedestrian access, as well as essential transit stop improvements (i.e. shelters, route information, benches, and lighting) in anticipation of future transit service.
9a	Traffic Calming	0.25	The Project design includes connectivity and accommodations for bicycles and pedestrians to promote pedestrian and bicycle safety and usage. Project roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic-calming measures in order to facilitate use of these other transit modes.
23	Suburban Mixed-Use	3.0	The Project would have residential, commercial, retail, and open space uses within one-quarter of a mile of each other.
27	Energy Star Roof	0.5	The Project would use Energy Star–labeled roof materials that would reflect more of the sun's rays, decreasing the amount of heat transferred into a building. The latest California Building and Energy Efficiency Standards require light-colored "cool" roofs.
31	Non-Roof Surfaces	1.0	The Project would provide shade (within 5 years) and/or use light-colored/high-albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30 percent of the site's non-roof impervious surfaces, including parking lots, walkways, plazas, etc.; OR place a minimum of 50 percent of parking spaces underground or covered by structured parking; OR use an open-grid pavement system (less than 50 percent impervious) for a minimum of 50 percent of the parking lot area. Unshaded parking lot areas, driveways, fire lanes, and other paved areas have a minimum albedo of 0.3 or greater
	Total	**7.0**	

Note:
1. The BPS point system is roughly equivalent to the percent reduction

Source: San Joaquin Valley Air Pollution Control District, Guidance for Valley Land-Use Agencies in Addressing GHG Emissions for New Projects, December 17, 2009.

Reduced Greenhouse Gas Emissions

As shown in Table 4.7-4, the "business as usual" GHG emissions that would occur as a result of implementation of Phase 1a would be 34,299.59 $MTCO_2eq/yr$. The SJVAPCD requires projects to reduce their "business as usual" GHG emissions by 29 percent in order to result in less-than-significant project level and cumulative GHG impacts. Design features included in the Project (some of which are also identified as part of Mitigation Measure 4.7-1) would result in reduced GHG emissions. Design features identified in the Project that were accounted for in CalEEMod include the following:

- Water-efficient irrigation;
- High efficiency lighting;
- Energy efficient appliances (clothes washers, dishwashers, fan, and refrigerators);
- Increase land use diversity (i.e., three or more land uses within ¼ mile of each other);
- Improve pedestrian network; and
- Provide traffic calming measures at intersections and on roadways.

The City's SAP contains additional sustainability measures that would apply to the Project and further reduce GHG emissions. SAP measures which were accounted for in the CalEEMod model (required as part of Mitigation Measure 4.7-1) include the following:

- Measure E-1, Green Building Ordinance: Energy Star appliances, energy efficient lighting at or above Title 24 requirements;
- Measure E-4, Energy Efficient Products and Retrofits: Energy Star appliances, energy efficient lighting at or above Title 24 requirements, electric lawnmowers;
- Measure T-13, Reduce Commute Trips: Carpool and rideshare programs;
- Measure T-14, Parking Cash-Out Programs: Cash-out programs for employees (100 percent of employees eligible); and
- Measure SW-2, Increased Recycling and Waste Diversion: Increase recycling and waste diversion within the City; City's diversion goal is 75 percent.

Additional measures included in CalEEMod to further reduce GHG emissions (required as part of Mitigation Measure 4.7-1) include the following:

- Only natural gas hearths; and
- Install low-flow fixtures (kitchen faucets, bathroom faucets, showers, and toilets).

Table 4.7-6, *Phase 1a Proposed Reduced Greenhouse Gas Emissions* shows the calculated reductions in GHG emissions through implementation of Mitigation Measure 4.7-1. As shown in Table 4.7-6, implementation of design features and SAP measures required by Mitigation Measure 4.7-1 would result in a decrease in GHG emissions of 4,331.23 $MTCO_2eq/yr$, which would equate to a 12.62 percent reduction from the "business as usual" condition. Therefore, the Project would not achieve the SJVAPCD's 29 percent GHG significance threshold. Thus, even with implementation of Mitigation Measure 4.7-1, GHG impacts would be *Significant*.

Table 4.7-6: Phase 1a Proposed Reduced Greenhouse Gas Emissions

GHG Source	Proposed Business As Usual GHG Emissions ($MTCO_2eq/yr$)[1]	Design Features Applied in CalEEMod	Proposed Reduced GHG Emissions ($MTCO_2eq/yr$) [1]
Mobile	25,906.93	Increase Diversity	22,626.93
		Improve Pedestrian Network (on-site)	
		Implement Trip Reduction Program (100 percent of employees eligible)	
		Provide Ride Sharing Program (100 percent of employees eligible)	
		Provide Traffic Calming Measures (at intersections and along roadways)	
Area	528.48	No Hearths	529.04
		Use Low VOC Architectural Coatings	
		Require Electric Lawnmowers	
Energy	6,474.83	Install Energy Efficient Appliances (clothes washers, dishwashers, fans, and refrigerators)	6,175.16
		Install High Efficiency Lighting	
Waste	882.00	Achieve the City's waste diversion goal of 75 percent.	220.50
Water	507.35	Install Low Flow Bathroom Faucets	416.73
		Install Low Flow Kitchen Faucets	
		Install Low Flow Toilets	
		Install Low Flow Showers	
		Use Water Efficient Irrigation Systems	
TOTAL	***34,299.59***	***N/A***	***29,968.36***
Percent Reduction from Business As Usual			***12.62***

Notes:
1 – Emissions calculated using the CalEEMod computer model.
Refer to Appendix B, *Air Quality/Greenhouse Gas Data*, for detailed model input/output data.

Urban Heat Island Effect

The term "heat island" refers to urban air and surface temperatures that are higher than nearby rural areas. Heat islands form as cities replace natural land cover with pavement, buildings, and other infrastructure. These changes contribute to higher urban temperatures in a number of ways:

- Displacing trees and vegetation minimizes the natural cooling effects of shading and evaporation of water from soil and leaves (evapotranspiration).
- Waste heat from vehicles, factories, and air conditioners may add warmth to their surroundings, further exacerbating the heat island effect.

Summertime heat islands increase energy demand for air conditioning, raising power plant emissions of harmful pollutants. Additionally, the higher temperatures also accelerate the chemical reaction that produces ground-level ozone, or smog. This threatens public health, the environment, and for some communities may make it harder to meet federal air quality goals.

Heat island intensities depend on an area's weather and climate, proximity to water bodies, and topography. Urban-rural temperature differences are often largest during calm, clear evenings. The City of Tracy experiences fairly mild weather, with temperatures typically ranging from 56 degrees Fahrenheit (°F) in the winter to 93 °F in the summer. On average, the warmest month is July with a mean high temperature of approximately 93 °F. The coolest month is January with a mean high temperature of 56 °F. The City experiences the greatest amount of precipitation in the month of February.[12]

The extent to which urban areas can benefit from heat island reduction strategies depends on several factors. Some of these factors, like prevailing weather patterns, geography, and pollution transported from up-wind regions, are largely beyond the influence of local policy. However, factors such as land-use patterns, materials used in road and building construction, and the coverage of urban trees and vegetation can easily be implemented into local projects.[13] There are a number of steps that can reduce the impacts of heat islands. These "heat island reduction strategies" include:

- Installing cool or vegetated green roofs;
- Planting trees and vegetation; and
- Switching to cool paving materials.

Heat Island Mitigation with Roofs. On a hot, sunny, summer day, traditional roofing materials may reach summertime peak temperatures of up to 190°F (88°C). By comparison, cool roofs only reach peak temperatures of 120°F (49°C).[14] The term "cool roof" is used to describe roofing material that has high solar reflectance, or albedo. These materials reflect a large portion of the sun's energy. Cool roofs also may have a high thermal emittance, and thus release a large percentage of absorbed heat. This keeps the material cooler and helps to reduce the heat island effect.

Most cool roof applications have light surfaces to reflect solar radiation, reduce heat transfer to the interior, and reduce summertime air conditioning demand. Mitigation Measure 4.7-1 includes the installation of light colored "cool" roofs, cool pavements, and strategically placed trees to reduce the heat island effect.

Heat Island Mitigation with Trees and Vegetation. Increasing the cover of trees and vegetation in a city is a simple and effective way to reduce the urban heat island effect. Trees provide a wide range of other benefits, from increasing property value to reducing storm water runoff. Shade trees also can make homes and buildings significantly more energy efficient. Scientists estimate that strategically planting trees and vegetation reduces cooling energy consumption by up to 25 percent.[15] Mitigation Measure 4.7-1 requires strategically placed shade trees to increase energy efficiency and to reduce the heat island effect.

Various theories concerning the heat island effect abound, as the global temperature data is compiled and analyzed. Attempts to test the urban heat island theory by comparing temperature readings taken on calm nights with those taken on windy nights indicated that temperatures over land have risen as much on windy nights as on calm nights, indicating that the observed overall warming is not a consequence of urban

[12] The Weather Channel Average Weather for Tracy, California, http://www.weather.com/weather/wxclimatology/monthly/graph/USCA1155, accessed October 14, 2014.

[13] U.S. Environmental Protection Agency, *Urban Heat Island Mitigation*, August, 29, 2013. http://www.epa.gov/heatislands/mitigation/index.htm, accessed on December 2, 2014.

[14] U.S. Environmental Protection Agency, *Cooling Summertime Temperatures, Strategies to Reduce Urban Heat Islands*, September 2003.

[15] Ibid.

development.[16] As recommended in Mitigation Measures 4.7-1, the Project would be required to use "cool" roofs and strategically placed shade trees to increase energy efficiency and to reduce the heat island effect.

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

The City's SAP establishes a GHG emission reduction target that is based on SJVACPD threshold of a 29 percent reduction from "business as usual" emissions. The City's target was also developed following a review of sustainability targets set by other entities, such as the Attorney General's Office, and have been refined iteratively and concurrently with the sustainability measures.

- The Community Character Element policies encourage the development of urban green spaces, promote the incorporation of pedestrian and bicycle access into site design, and discourage new strip commercial development.
- The Economic Development Element includes policies encouraging green businesses, local procurement of green products, and employment opportunities that reduce the need for vehicle trips.
- The Circulation Element provides policies to encourage the use of non-motorized transportation, transit, and low-emission vehicles; avoid disrupting sensitive environmental resources during transportation projects; and use sustainable materials in road construction and repair projects.
- The Open Space and Conservation Element incorporates resource conservation through construction and development practices, expanding the urban forest, and using water efficient landscaping techniques.
- The Public Facilities Element includes policies that require standards to reduce water and wastewater treatment demand in new development and redevelopment.
- The Air Quality Element policies encourage green building standards for new development, encourage solar panels on new development, encourage use of light emitting diodes (LED) for outdoor lighting, and reduce GHG emissions from municipal operations and new development.

Consistent with the SAP, Mitigation Measure 4.7-1 would require the Project to increase transit usage and opportunities, improve pedestrian accessibility, provide mixed-use, improve destination accessibility, provide traffic calming measures, install high efficiency lighting, and install energy efficient appliances. Mitigation Measure 4.7-1 also requires the implementation of feasible SAP measures and other measures aimed at reducing GHG emissions. Table 4.7-7, *Project Consistency with the Tracy Sustainability Action Plan* provides a consistency analysis between applicable SAP measures and the Project. As depicted in Table 4.7-7, the Project would be consistent with the SAP and would not hinder its implementation or effectiveness. As the Project would be consistent with the City's SAP, impacts in this regard would be *Less-than-significant*.

Table 4.7-7: Project Consistency with the Tracy Sustainability Action Plan

Applicable Sustainability Action Plan Measures	Project Consistency
E-1: Green Building Ordinance. Develop an incentive-based Green Building Ordinance that promotes energy efficient design for new buildings.	**Consistent.** This measure is applicable to the City of Tracy. Individual components of this measure are compared to the Project, below.
E-1.b: Green Building Ordinance. Encourage energy efficiency measures for new warehouses and warehousing.	**Consistent.** Mitigation Measure 4.7-1 requires development within the Project to include high efficiency

[16] Parker, David E., *Climate: Large Scale Warming is Not Urban*, Nature, 432, 290, November 18, 2004.

Table 4.7-7: Project Consistency with the Tracy Sustainability Action Plan

Applicable Sustainability Action Plan Measures	Project Consistency
E-1.d: Green Building Ordinance. Encourage the use of energy-efficient appliances that meet Energy Star standards when higher than Title 24 and the use of energy efficient lighting technologies that meet or exceed Title 24 standards.	lighting, energy efficient appliances, water efficient irrigation, and low-flow fixtures. Buildings are also required to meet or exceed Title 24 standards.
E-1.e: Green Building Ordinance. Encourage all new buildings to be constructed to allow for the easy, cost-effective installation of future solar energy systems. "Solar ready" features should include proper solar orientation; clear access on the south sloped roof; electrical conduit installed for solar electric system wiring; plumbing installed for solar hot water system; and space provided for a solar hot water storage tank.	
E-1.f: Green Building Ordinance. Encourage any roof to have a Solar Reflectance Index (SRI) of at least 29.	**Consistent.** Light colored "cool" roofs would be required for all new buildings in accordance with California's Building and Energy Efficiency Standards and per Mitigation Measure 4.7-1.
E-1.i: Green Building Ordinance. Encourage that new or major rehabilitations of commercial, office, or industrial development greater than or equal to 25,000 square feet in size incorporate solar or other renewable energy generation to provide 15 percent or more of the project's energy needs.	**Consistent.** As part of the development review process, Project Applicants would be encouraged to incorporate solar or other renewable energy generation features, to the extent feasible. In addition, the Project would be required to comply with the 2013 Building and Energy Efficiency Standards (which became effective on January 1, 2014) as it relates to "solar readiness."
E-1.n: Green Building Ordinance. Encourage the use of locally-sourced, sustainable, salvaged and recycled-content materials and other materials that have low production energy costs for building materials, hard surfaces, and non-plant landscaping.	**Consistent.** Mitigation Measure 4.7-1 requires construction and demolition waste to be recycled, including soil, vegetation (green waste), concrete, lumber, metal, and cardboard, to the extent feasible.
E-2.a: Energy Efficiency in Site Planning and Design. Establish measures that reduce energy use through solar orientation by taking advantage of landscaping and sun screens.	**Consistent.** Compliance with this measure is required in Mitigation Measure 4.7-1.
E-2.d: Energy Efficiency in Site Planning and Design. Require all new development and major rehabilitation (i.e. additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) projects to incorporate any combination of the following strategies to reduce heat gain for 50 percent of the non-roof impervious site landscape, which includes sidewalks, courtyards, parking lots, and driveways: shaded within five years of occupancy; use of paving materials with a Solar Reflectance Index (SRI) of at least 29; open grid pavement system; or locating parking spaces under deck, under roof, or under a building.	**Consistent.** Mitigation Measure 4.7-1 requires the use of shade trees and sun screens to minimize heat gain. Furthermore, development would be required to comply with the California Green Building Standards Code (CALGreen), which requires energy efficiency be considered in site design. Architectural plans and site plans submitted to the City would be required to implement the mandatory measures of CALGreen.
E-2.e: Energy Efficiency in Site Planning and Design. Require outdoor lighting fixtures to be energy-efficient. Require parking lot light fixtures and light fixtures on buildings to be on full cut-off fixtures, except emergency exit or safety lighting, and all permanently installed exterior lighting shall be controlled by adjustable timers. Prohibit continuous all night outdoor lighting in sports stadiums,	**Consistent.** Per Mitigation Measure 4.7-1, energy efficient lighting and control systems would be utilized as part of lighting systems in buildings.

Table 4.7-7: Project Consistency with the Tracy Sustainability Action Plan

Applicable Sustainability Action Plan Measures	Project Consistency
construction sites, and rural areas unless they are required for security reasons.	
E-4.d Energy-Efficient Products and Retrofits. Encourage the installation of programmable thermostat timers.	**Consistent.** In accordance with Mitigation Measure 4.7-1 and California's Building and Energy Efficiency Standards, programmable thermostats would be required.
T-3: Support for Bicycling. Promote bicycle usage through the following: a. Continue to require bicycle parking for non-residential and multi-family uses. b. Amend the Zoning Ordinance to require shower facilities and dressing areas for significant new or redevelopment of non-residential uses. c. Create a bicycle-sharing program. d. Provide bicycle parking near transit.	**Consistent.** Amenities for non-motorized transportation are potential features in Mitigation Measure 4.7-1.
T-4: Support for Transit. Continue to implement the City's program to provide covered and partially enclosed shelters that are adequate to buffer wind and rain and with at least one bench at each existing public transit stop and to provide local public transit information in transit shelters.	**Consistent.** Per Mitigation Measure 4.7-1, the Project would include bus stop enclosures.
T-13.a: Reduce Commute Trips. Support San Joaquin Valley Unified Air Pollution Control District requirements that large employers establish employee trip reduction programs such as Rule 9410.	**Consistent.** The Project, at buildout, would provide employment opportunities for 7,820 people. By providing employment opportunities and residential uses, the Project would reduce commute trip lengths. Also, the Project would be required to comply with SJVAPCD Rule 9410, as applicable, to address employee trip reduction programs.
T-17.d: Increased Use of Low Carbon Fueled Vehicles. Encourage employers to create vanpool or shuttle programs for employees.	**Consistent.** Mitigation Measure 4.7-1 requires employers to provide a ride sharing program and implement a trip reduction program to minimize vehicle trips from commercial uses.
SW-2: Increased Recycling and Waste Diversion. Increase recycling and waste diversion in Tracy by expanding marketing efforts to increase participation by residents and businesses.	**Consistent.** Mitigation Measure 4.7-1 requires interior and exterior storage areas for recyclables and adequate recycling containers located in public areas
W-1.a: Potable Water Conservation through Development Standards. In compliance with SBX7-7, develop water use and efficiency standards in the City's Green Building Ordinance to reduce overall potable water consumption utilizing Method 1 established in the Department of Water Resources' (DWR) Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use for targets of 202 gallons per capita daily (gpcd) by 2015 and 180 gpcd by 2020. Include clear parameters for integrating water efficient infrastructure and technologies, including low-flush toilets, low-flush urinals and low-flow showerheads that are more stringent than the Energy Policy Act of 1992 fixture performance requirements.	**Consistent.** Per Mitigation Measure 4.7-1, buildings would be designed to be water-efficient and would include water-efficient fixtures and appliances.
W-1.a: Potable Water Conservation through Development Standards. Plan for recycled water infrastructure in the Infrastructure Master Plans.	**Consistent.** Mitigation Measure 4.7-1 requires the installation of recycled water infrastructure for the Project. Reclaimed water would be utilized for landscape irrigation of public and private landscaped areas, when available.

Table 4.7-7: Project Consistency with the Tracy Sustainability Action Plan

Applicable Sustainability Action Plan Measures	Project Consistency
W-1.e: Potable Water Conservation through Development Standards. Require through Ordinance or City standard that all new development and re-development install irrigation controllers in landscaping that shall be weather- or soil moisture-based controllers which automatically adjust irrigation in response to changes in plants' needs as weather conditions change in compliance with the City's water efficient landscape ordinance.	**Consistent.** The Project would be required to comply with then-current City standards relating to water conservation.
W-2: Water Efficient Landscape Ordinance. Develop a water efficient landscape ordinance to be at least as effective as the State Department of Water Re-sources' (DWR) Model Water Efficient Landscape Ordinance (MWELO), which requires a 12 percent reduction of outdoor potable water use through irrigation efficiency, plant species, recycled wastewater and captured rainwater; and consistent with SBX7-7, utilizing Method 1 targets.	**Consistent.** Landscaping would consist of native species that would be selected for water-efficient characteristics and would include drought tolerant planting materials common to the region. The Project landscape design would meet then-current applicable water efficiency landscaping standards and other requirements.
AG-6: Natural Landscape and Minimal Turf in City Parks. Amend the Parks Master Plan to minimize turf in City parks and use a natural park landscape whenever possible.	**Consistent.** Turf would be minimized and natural landscape would be used in the parks and open spaces whenever possible.

Source: Policies are from the City of Tracy Sustainability Action Plan, February 2011.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

As previously stated, despite the implementation of design features and mitigation measures, the Project would not meet the SJCAPCD reduction threshold for GHG emissions. Although the Project would be consistent with the City's SAP and would incorporate relevant measures within the SAP, such project-specific mitigation cannot be imposed upon cumulative projects. Additionally, the GHGs generated by the Project in combination with GHG emissions from other known and reasonably foreseeable projects would result in a much greater amount of GHG emissions.

On December 30, 2009, the Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by Office of Planning and Research, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010. The Natural Resources Agency originally proposed to add subdivision (f) to Section 15130 to clarify that Sections 21083 and 21083.05 of the Public Resources Code do not require a detailed analysis of GHG emissions solely due to the emissions of other projects (i.e., State CEQA Guidelines, § 15130(a)(1); *Santa Monica Chamber of Commerce v. City of Santa Monica* (2002) 101 Cal.App.4th 786, 799). Rather, the proposed subdivision (f) would have provided that a detailed analysis is required when evidence shows that the incremental contribution of the Project's GHG emissions is cumulatively considerable when added to other cumulative projects (i.e., *Communities for a Better Environment v. California Resources Agency* (2002), supra, 103 Cal.App.4th at 119-120).

In essence, the proposed addition would be a restatement of law as applied to GHG emissions. Analysis of GHG emissions as a cumulative impact is consistent with case law arising under the National Environmental

Policy Act (e.g., *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1215-1217 [9th Cir. 2008]). Other portions of the CEQA Guidelines Amendments address how lead agencies may determine whether a project's emissions are cumulatively considerable (e.g., Proposed Sections 1506(h)(3) and 15064.4). However, public comments noted that the new subdivision merely restated the law, and was capable of misinterpretation. The Natural Resources Agency, therefore, determined that because other provisions of the CEQA Guidelines Amendments address the analysis of GHG emissions as a cumulative impact, and because the reasoning of those is fully explained in the Initial Statement of Reasons, subdivision (f) should not be added to the CEQA Guidelines. The deletion was reflected in the revisions that were made available for further public review and comment on October 23, 2009, and was not adopted as part of the CEQA Guidelines Amendments that became effective on March 18, 2010.

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.[17] GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.[18] The additive effect of the Project's GHG emissions would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change because the Project would be consistent with the City's SAP and it would incorporate GHG reduction measures and design features. However, the Project would not meet SJVAPCD reduction requirements and impacts would be significant and unavoidable. As a result cumulative-related GHG emissions would also be considered *Significant and unavoidable*.

Impact 4.7-1 Implementation of the Project would generate potentially significant greenhouse gas emissions.

Mitigation Measures:

4.7-1 The Project shall include, but not be limited to, the following list of design features. These features shall be incorporated into the design of the Project to ensure consistency with adopted statewide plans and programs to the extent feasible. Project applicants shall demonstrate the incorporation of design features of the Project prior to the issuance of building or occupancy permits, as noted below.

Transportation

- Provide pedestrian connections to the off-site circulation network (building permit triggers).
- For commercial uses, implement a trip reduction program, for which all employees shall be eligible to participate (occupancy permit).
- Provide a ride sharing program, for which all employees shall be eligible to participate (occupancy permit).
- Provide amenities for non-motorized transportation (i.e., secure bicycle storage, changing rooms, and showers) (building permit).

[17] California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

[18] Ibid.

- Provide transit shelters for all transit stops within the Project (building permit triggers and coordination with TRACER.).
- Include traffic calming measures at Project intersections and on roadways where feasible (tentative map).
- Employers shall provide parking cash-out programs for employees (100 percent of employees eligible).

Energy Efficiency

- Design buildings to be energy efficient and meet or exceed Title 24 requirements (per Measure E-1 of the City's Sustainability Action Plan (building permit).
- Install "cool" roofs and cool pavements, and strategically placed trees as applicable.
- Install high efficiency lighting, and energy efficient heating and cooling systems (building permit).
- Install high energy efficient appliances (clothes washers, dishwashers, fan, and refrigerators) (occupancy permit).
- Install programmable thermostats (building permit).
- Design buildings to reduce energy use through solar orientation and take advantage of landscaping and sun screens (building permit).
- Reduce unnecessary outdoor lighting (building permit).

Water Conservation and Efficiency

- Install water-efficient irrigation systems (building permit).
- Landscaping shall consist of drought tolerant native species with water-efficient characteristics (building permit).
- Comply with Municipal Code Section 21.20.050, Efficient Landscape Standards (building permit).
- Install water-efficient fixtures (e.g., faucets, toilets, showers) (building permit).
- Install infrastructure for recycled water per the City's Infrastructure Master Plan ~~(building permits)~~.

Solid Waste

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard) (building permit).
- Provide interior and exterior storage areas for recyclables and adequate recycling containers located in public areas (occupancy permit).

Significance After Mitigation: *Significant and unavoidable.*

Impact 4.7-2 The Project would result in a potentially significant conflict with an applicable greenhouse gas reduction plan, policy, or regulation.

Mitigation Measures:

Refer to Mitigation Measure 4.7-1. No additional measures are required.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts to a *Less-than-significant* level.

Impact 4.7-3: Development facilitated by the Project and other related cumulative projects could have a cumulatively considerable and potentially significant contribution to greenhouse gas emissions.

Mitigation Measures:

Refer to Mitigation Measure 4.7-1. No additional measures are available.

Significance After Mitigation: *Significant and unavoidable.*

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4.8 HAZARDS AND HAZARDOUS MATERIALS

This section provides a discussion of existing conditions, potential impacts and mitigation measures to avoid or minimize the significance of such impacts related to hazards and hazardous materials as a result of the implementation of the Project. Information in this section is based primarily on the thirteen Phase I Environmental Site Assessments prepared by Haley & Aldrich, Inc. in October 2012; the City of Tracy General Plan; and the City of Tracy General Plan EIR (certified February 2011); and, available information regarding the Project site; and the nearby Lawrence Livermore National Laboratory's (LLNL) Site 300, a U.S Department of Energy National Nuclear Security Administration experimental test site.

Thirteen (13) Phase I Environmental Site Assessments (Phase I ESA)s were prepared by Haley & Aldrich, Inc. in October 2012 for the areas (referred to in the reports as sites A through M) within the Project Area at the request of Project Applicant for the purpose of environmental due diligence. The locations of Sites A through M are shown on Figure 4.8-1, *Phase I ESA Sites A through M Locations*. Refer to Appendix E-1 for copies of the 2012 Phase I ESAs. The objective of the 2012 Phase I ESAs are to identify recognized environmental conditions (REC)s associated with the Project.

The Phase I ESAs only covered areas that are owned by the Project Applicant. A regulatory database search of the Department of Toxic Substances Control (DTSC)'s Envirostor website (http://www.envirostor.dtsc.ca.gov/public/) and the State Water Resources Control Board's geotracker website (http://geotracker.waterboards.ca.gov/) were performed to identify hazardous material regulated facilities on or in the vicinity of the parcels within the THSP Project that are not covered by the 2012 Phase I ESAs. This section of the Draft EIR incorporates the information contained within the 2012 Phase I ESAs and the results of the regulatory database searches performed in April 2014.

In addition, there are two pipeline safety reports that were prepared for the Project. Wilson Geosciences, Inc. prepared *Liquid Petroleum Pipeline Risk and California Aqueduct Flood Risk for the Proposed Tracy Hills School Site, Jefferson School District, City of Tracy, San Joaquin County, California* (Pipeline and Aqueduct Safety Report for the School Site) to address pipeline and aqueduct safety issues with respect to the proposed school site located within Phase 1a of the Project Area.. The second pipeline safety report was prepared by PlaceWorks and titled *September 2014 Pipeline Safety Hazard Assessment for the Tracy Hills Specific Plan* (Pipeline Safety Hazard Assessment). The purpose of this second report was to identify potential hazards associated with two natural gas and three crude oil pipelines and evaluate the risks associated with the proposed development within the THSP in close proximity to the pipelines. Refer to Appendix E-2 for copies of the Pipeline and Aqueduct Safety Report (PASR) for the School Site and the Pipeline Safety Hazard Assessment (PSHA).

4.8.1 ENVIRONMENTAL SETTING

CURRENT USE OF PROPERTY/DESCRIPTION OF SITE IMPROVEMENTS

The THSP Project Area is represented by the following Assessor's Parcel Numbers (APN) and existing uses in Table 4.8-1, *Project APNs and Existing Uses.*

Table 4.8-1: Project APNs and Existing Uses

Site	APN	Existing Use
A	251-040-08	Livestock grazing
B	251-050-07	Livestock grazing
C	251-050-09	Livestock grazing
D	251-060-02	Livestock grazing
E	251-060-05	Livestock grazing
F	251-110-04	Livestock grazing
G	251-020-02	Livestock grazing
H	251-020-05	Livestock grazing
I	253-030-14	Livestock grazing
J	253-030-08	Livestock grazing
K	253-030-12	Livestock grazing
L	253-040-09	Livestock grazing
M	253-040-08	Livestock grazing

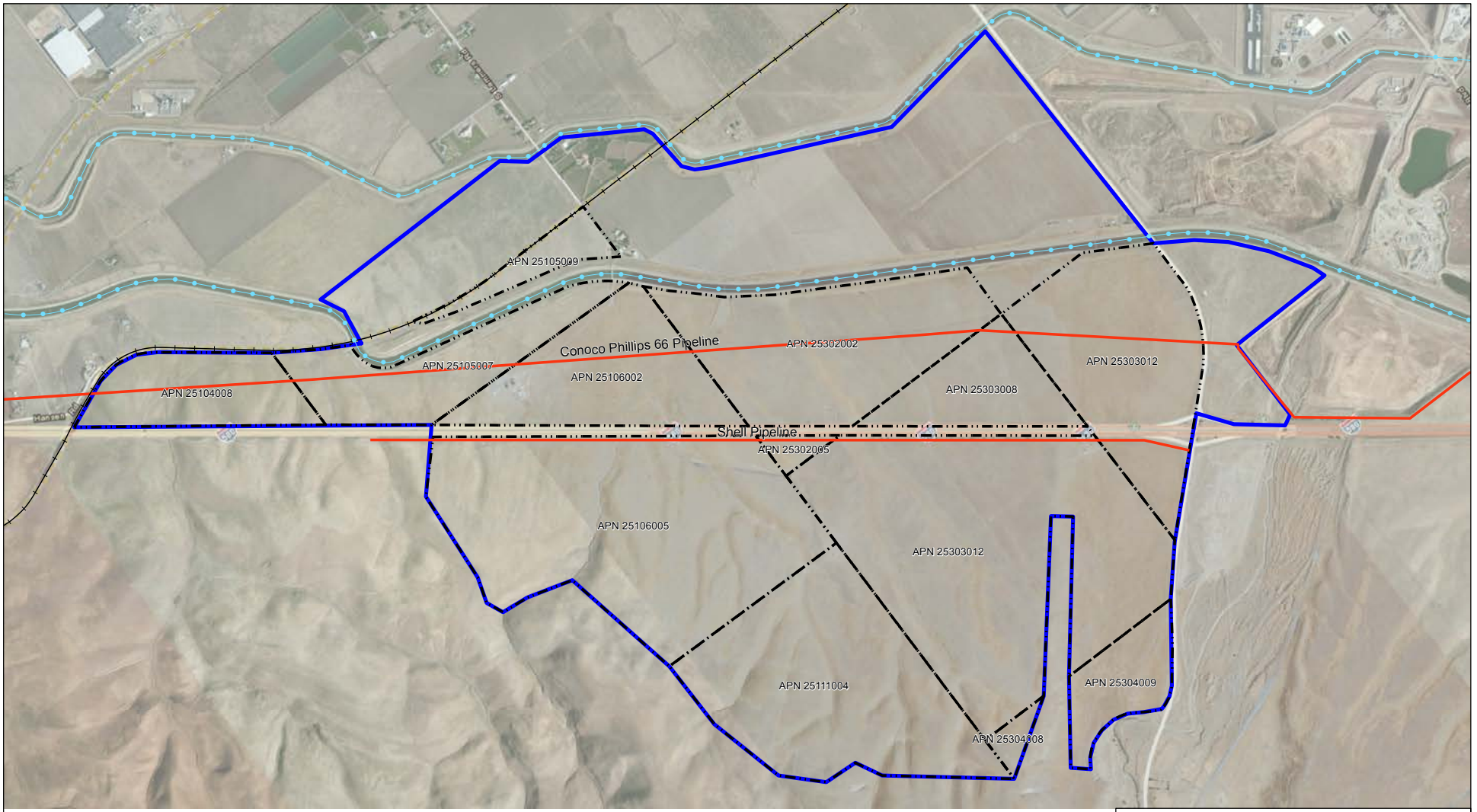

FIGURE 4.8-1

PHASE I ESA SITES A THROUGH M LOCATIONS

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RECORDS REVIEW

HISTORICAL RECORD SOURCES

The purpose of the historical record review is to develop a history of the previous uses or occupancies of the Project Area and surrounding area in order to identify those uses or occupancies that are likely to have led to recognized environmental conditions within the Project Area.

Past Usage of the Subject Site

Sites A, B, C, G, H, I and J

Historical USGS topographic maps dated 1916, 1922, 1947, 1954, 1968 and 1981 and aerial photographs dated 1949, 1957, 1968, 1974, 1982, 1993 and 1998 were reviewed to assess past usage of Sites A, B, C, G, H, I and J.

In the 1949 through 1998 aerial photographs, it appears that Sites A, B, C, G, H, I and J were vacant and undeveloped. Evidence of the installation of an underground petroleum pipeline is visible on the 1957 aerial photograph. This evidence appears as a linear area of disturbed soil along the current location of a petroleum pipeline that traverse Sites A, B, C, G, H, I and J in a southeast to northwest alignment. No structures or tanks were observed in the aerial photographs.

There appear to be no structures, tanks, or wells depicted on the reviewed 1916 through 1981 topographic maps. An unimproved access road and an intermittent stream are depicted on Sites A, B, C, G, H, I and J on the 1947 through 1981 topographic maps.

With the exception of the petroleum pipeline alignment first visible in the 1957 aerial photograph, there were no structures, tanks, areas of discoloration, or other features indicative of the use, storage, and/or disposal of hazardous materials observed on Sites A, B, C, G, H, I and J in the review of the available historical aerial photographs and topographic maps.

Site D

Historical USGS topographic maps dated 1916, 1922, 1947, 1954, 1968 and 1981 and aerial photographs dated 1949, 1957, 1968, 1974, 1982, 1993 and 1998 were reviewed to assess past usage of Site D.

In the reviewed 1949 through 1998 aerial photographs, it appears that Site D was developed with the present-day "Ranch House" structure/development and surrounding corrals as early as 1949.

Evidence of the installation of an underground petroleum pipeline is visible on the 1957 aerial photograph. This evidence appears as a linear area of disturbed soil along the current location of a petroleum pipeline that traverses the Project site in a southeast to northwest alignment. No additional structures or tanks were observed in the aerial photographs, outside of the "Ranch House" development.

There appears to be a single structure and an unimproved road depicted on the reviewed 1916 topographic map, in the area of the present-day "Ranch House". Several additional structures and unimproved roads are depicted in this area on the 1947 topographic map. On the 1968 and 1981 topographic maps, a single

unimproved road is depicted leading towards a single structure near the northwestern portion of Site D and another unimproved road is depicted on the eastern portion of Site D, heading south towards I-580.

With the exception of the petroleum pipeline alignment first visible in the 1957 aerial photograph and the ranch house development as early as 1916, there were no structures, tanks, areas of discoloration, or other features indicative of the use, storage, and/or disposal of hazardous materials observed on Site D in the review of the available historical aerial photographs and topographic maps.

Sites E, L and M

Historical USGS topographic maps dated 1916, 1922, 1947, 1954, 1968 and 1981 and aerial photographs dated 1949, 1957, 1968, 1974, 1982, 1993 and 1998 were reviewed to assess past usage of Sites E, L and M.

In the reviewed 1949 through 1998 aerial photographs, it appears that Sites E, L and M were vacant and undeveloped. No structures or tanks were observed in the aerial photographs.

There appear to be no structures, tanks, or wells depicted on the reviewed 1916 through 1981 topographic maps. An intermittent stream is depicted on Sites E, L and M on the 1922 through 1981 topographic maps. Two unimproved roads are depicted on Sites E, L and M on the 1947 through 1981 topographic maps.

There were no structures, tanks, areas of discoloration, or other features indicative of the use, storage, and/or disposal of hazardous materials observed on Sites E, L and M in the review of the available historical aerial photographs and topographic maps.

Site F

Historical USGS topographic maps dated 1916, 1922, 1947, 1954, 1968 and 1981 and aerial photographs dated 1949, 1957, 1968, 1974, 1982, 1993 and 1998 were reviewed to assess past usage of Site F.

In the reviewed 1949 through 1998 aerial photographs, it appears that Site F was vacant and undeveloped. No structures or tanks were observed in the aerial photographs.

There appear to be no structures, tanks, or wells depicted on the reviewed 1916 through 1981 topographic maps. Two intermittent streams are depicted on Site F on the 1922 through 1981 topographic maps. An unimproved road is depicted on Site F on the 1954 through 1981 topographic maps.

There were no structures, tanks, areas of discoloration, or other features indicative of the use, storage, and/or disposal of hazardous materials observed on Site F in the review of the available historical aerial photographs and topographic maps.

Site K

Historical USGS topographic maps dated 1916, 1922, 1947, 1954, 1968 and 1981 and aerial photographs dated 1949, 1957, 1968, 1974, 1982, 1993 and 1998 were reviewed to assess past usage of Site K.

In the reviewed 1949 through 1998 aerial photographs, it appears that Site K was vacant and undeveloped. On the 1993 aerial photograph, an area of disturbed soil and several unidentifiable objects are visible on the

northeastern corner of Site K. These objects are likely the present-day water tanks and groundwater well for grazing operations. No structures or tanks were observed in the aerial photographs.

There appear to be no structures, tanks, or wells depicted on the reviewed 1916 through 1981 topographic maps. An intermittent stream is depicted on Site K on the 1922 through 1981 topographic maps.

There were no structures, tanks, areas of discoloration, or other features indicative of the use, storage, and/or disposal of hazardous materials observed on Site K in the review of the available historical aerial photographs and topographic maps.

Past Usage of Adjoining Properties

Sites A, B, D, E, F, G, H, J, K, L and M

Historical USGS topographic maps dated 1916, 1922, 1947, 1954, 1968 and 1981 and aerial photographs dated 1949, 1957, 1968, 1974, 1982, 1993 and 1998 were reviewed to assess past usage of Sites A, B, D, E, F, G, H, J, K, L and M.

In the reviewed 1949 through 1998 aerial photographs, it appears that the adjoining properties were primarily undeveloped. The Western Pacific Railroad tracks, in the northern portion of the Project Area, were first observed in the 1949 aerial photograph; and I-580, bisecting the Project Area, was first observed in the 1968 aerial photograph. In addition, the California Aqueduct located in the northern portion of the Project Area was observed on the 1968 aerial photograph.

There appear to be no structures, tanks, or wells depicted on the adjoining properties in the reviewed 1916 through 1981 topographic maps. The Western Pacific Railroad and Corral Hollow Road were first depicted on the 1922 topographic map; I-580 and the California Aqueduct were first depicted on the 1968 topographic map.

Site C

The Historical USGS topographic maps and aerial photographs dated above were also reviewed for Site C.

In the reviewed 1949 through 1998 aerial photographs, it appears that the adjoining properties were primarily undeveloped. An area of unidentifiable development is visible on the adjoining property to the east (east of Lammers Road) on the 1982 aerial photograph. This area of development appears to resemble the present-day, residential ranch property on the 1993 aerial photograph.

Site I

The Historical USGS topographic maps and aerial photographs dated above were also reviewed for Site I. The features observed were the same as discussed above with the exception of evidence of possible mining and/or landfill activities was visible on the adjoining properties to the south and southeast on the 1949 through 1999 aerial photographs.

Landfill activities and possible gasoline fueling stations were visible on the adjoining properties to the south/southeast (1949-1999) and east (1968-1999), respectively. On the 1954 through 1981 topographic maps a "City Dump" is depicted northeast of the intersection of I-580 and Corral Hollow Road. A single structure is

also depicted at this location on the 1968 and 1981 topographic maps. A "Gravel Pit" and mine "Tailings" are depicted southeast of the intersection of I-580 and Corral Hollow Road.

Fire Insurance Maps

According to the 2012 Phase 1s, no Sanborn Fire insurance maps were available for the Project Area and surrounding properties.

Environmental Liens

According to EDR's Environmental LienSearch™ Reports (dated August 20, September 5 and September 6, 2012, there are no environmental liens or Activity Use Limitations (AUL)s for the Site with the exception of Sites H, L and M. An AUL for the Southern Preserve Easement Area 2 is included in the Grant Deed of Conservation Easement for Sites H, L and M. The AUL is in regards to Sites H, L and M being preserved partially or wholly in perpetuity for species covered by the SJMSCP.

Government Agencies

The following state and local agencies were contacted during the preparation of the Phase I ESAs pertaining to possible past development and/or activity in the Project Area.

- California State Fire Marshal's Office
- City of Tracy Development Services Department
- San Joaquin County Air Pollution Control District
- San Joaquin County Environmental Health Department
- San Joaquin County Tax Assessor's Office
- San Joaquin County Agricultural Commissioner
- Central Valley Regional Water Quality Control Board

California State Fire Marshal's Office

The California State Fire Marshal's Office (SFM) was contacted regarding underground pipelines on or in the immediate vicinity of the Project. The SFM indicated that Chevron/LA operated a pipeline (ID# 0499) transporting crude oil in the vicinity of the Project Area. According to Adam, a Utility Coordinator with Chevron Pipeline, this pipeline is not located within the boundaries of the Project and is not an environmental concern to the Project.

Two additional petroleum pipelines, not identified by SFM, were observed during the site reconnaissance. An underground ConocoPhillips 66 petroleum pipeline traverses the Project site in a southeast to northwest alignment, south of the California Aqueduct and north of I-580. An underground Shell petroleum pipeline traverses the Project site in a southeast to northwest alignment, parallel to I-580.

City of Tracy Building/Planning Department

The City of Tracy Planning Division was contacted to review existing building records on file for the Project. There are no building records on file for addresses associated with the Project site.

San Joaquin County Air Pollution Control District

The San Joaquin County Air Pollution Control District was contacted for information regarding permitted equipment, notices of violation (NOV), and notices to comply (NTC) files for the Project. According to the APCD, there are no records related to permits, NOV or NTC for the Project site.

San Joaquin County Environmental Health Department

The San Joaquin County Environmental Health Department (EHD) was contacted for information regarding UST cleanups, monitoring, and removal; other site cleanups, hazardous waste generators, tiered permitting, solid waste facilities, and wastewater treatment files for the Project. According to the EHD, there are no related records on file for the Project site.

San Joaquin County Tax Assessor's Office

The San Joaquin County Tax Assessor's Office was contacted for ownership information for the Project Area. In October 2012 (the time of Phase I ESA preparation), Sites A through M were owned by Angelo K. Tsakopoulos, in care of AKT Development.

San Joaquin County Agricultural Commissioner

The San Joaquin County Agricultural Commissioner was contacted for information regarding historical pesticide use reports for the Project site. According to the San Joaquin County Agricultural Commissioner, there are no use reports or permits on file for the Project site.

Central Valley Regional Water Quality Control Board

The Central Valley Regional Water Quality Control Board (CVRWQCB) was contacted to review available files for the Project site. According to the CVRWQCB, there are no records on file for addresses associated with the Project site.

Environmental Record Sources

Federal, State, and Local American Society for Testing and Materials Standard/Supplemental Sources

The Phase I ESAs included the electronic database service Environmental Data Resources, Inc. (EDR) to complete the environmental records review. Numerous regulatory databases were searched during the Phase I ESAs. Those databases required by the ASTM E 1527-05 Standard are identified below.

- NPL Sites: The National Priorities List (NPL) is a list of contaminated sites that are considered the highest priority for cleanup by the U.S. Environmental Protection Agency (EPA).
- Delisted NPL Sites: The Delisted NPL is a list of formal NPL sites formerly considered the highest priority for cleanup by the USEPA that met the criteria of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) for deletion from the NPL because no further response was appropriate.
- CERCLIS Sites: The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) list identifies sites which are suspected to have contamination and require additional investigation to assess whether they should be considered for inclusion on the NPL.
- CERCLIS-NFRAP Sites: CERCLIS-NFRAP status indicates that a site was once on the CERCLIS List but has No Further Response Actions Planned (NFRAP). Sites on the CERCLIS-NFRAP List were removed from the CERCLIS List in February 1995 because, after an initial investigation was

performed, no contamination was found, contamination was removed quickly, or the contamination was not significant enough to warrant NPL status.

- Federal ERNS: The Federal Emergency Response Notification System (ERNS) list tracks information on reported releases of oil and hazardous materials.
- FINDS: This Facility Registry System points to other sources such as permit compliance, emissions tracking, and enforcement docket cases which are listed for the site.
- HAZNET: This is a list of hazardous waste manifests kept by the California Environmental Protection Agency (Cal EPA).
- RCRA non-CORRACTS TSD facilities: The Resource Conservation and Recovery Act (RCRA) non-CORRACTS TSD Facilities List tracks facilities which treat, store, or dispose of hazardous waste and are not associated with corrective action activity.
- RCRA CORRACTS TSD facilities: The RCRA CORRACTS TSD Facilities list catalogues facilities that treat, store, or dispose of hazardous waste and have been associated with corrective action activity.
- RCRA Generators: The RCRA Generator list is maintained by the USEPA to track facilities that generate hazardous waste.
- Federal Institutional Controls/Engineering Controls: The Federal Institutional Control list and Engineering Control list are maintained by the USEPA. Some Institutional Control and Engineering Control information may not be made publicly available and therefore will not be included on this registry.
- State and Tribal Equivalent NPL/CERCLIS Sites: The ASTM E 1527-05 Standard requires searching "State and Tribal Equivalent CERCLIS Sites." In California, the equivalent CERCLIS is the Cal-Sites database, which is maintained by the Department of Toxic Substance Control (DTSC).
- State and Tribal Registered Storage Tanks: In California, local regulatory agencies (e.g., County health departments and fire departments) and the State Water Resources Control Board (SWRCB) maintain lists of aboveground and underground storage tanks registered with those agencies (e.g., County health departments). For tribal property, the USEPA Region 9 maintains a list of underground storage tanks on Indian land.
- State and Tribal Landfills and Solid Waste Disposal Sites: In California, the SWRCB in coordination with the Regional Water Quality Control Boards (RWQCBs) the Integrated Waste Management Board (IWMB) maintain lists of regulated waste disposal sites.
- State and Tribal Leaking Storage Tanks: In California, the SWRCB in coordination with the RWQCBs maintain lists of Leaking Storage Tanks (LUST/LAST). The LUST/LAST lists are a listing of release sites that have an underground or aboveground storage tank listed as the source. For tribal property, the USEPA Region 9 maintains a list of leaking USTs on Indian land.
- State and Tribal Institutional Controls/Engineering Controls: The USEPA maintains lists of sites with Institutional controls or Engineering controls in place. In addition, DTSC maintains a list of environmental deed restrictions.
- State and Tribal Voluntary Cleanup Sites: In California, the DTSC, RWQCBs, and local regulatory agencies (e.g., County health departments) maintain lists of Voluntary Cleanup sites.
- State and Tribal Brownfield Sites: In California, the DTSC maintains a list of Brownfield sites which includes any property where a redevelopment or re-use may be compromised by the presence or presumed presence of hazardous materials or petroleum.

- Other State Hazardous Waste Sites and Releases: In California, the Cal/EPA including DTSC, and the SWRCB including RWQCBs have created and/or maintain databases that identify hazardous waste sites and locations of hazardous substance releases/spills. These databases include:
  - SLIC – The Spills, Leaks, Investigation and Cleanup (SLIC) database maintained by the RWQCBs identifies sites that are being investigated and/or remediated for known releases other than those associated with leaking USTs.
  - AST – A list of registered aboveground storage tanks from the RWQCB.
  - AWP – The Annual Workplan Sites list, formerly the Bond Expenditure Plan (BEP) list, maintained by DTSC, identifies known hazardous substance sites targeted for cleanup.
  - CA FID UST – Facility Inventory database contains a historical listing of active and inactive underground storage tank locations from the State Water Resources Control Board. This has not been updated since 1998.
  - CORTESE – The CORTESE Hazardous Waste and Substances Sites list includes a list of public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known migration. The sites on this list were those included on the SWRCB Leaking Underground Storage Tank (LUST) list, the IWMB Solid Waste Information System (SWF/LF, also referred to as SWIS), and the DTSC Cal-Sites. The CORTESE listing is no longer updated.
  - ENVIROSTOR – The DTSC database identifies sites that have known contamination or for which there may be reason to investigate further. It consists of NPL, state response, voluntary cleanup and school sites.
  - HIST UST – Hazardous Substance Storage Container database is a historical listing of UST sites.
  - LUST – GeoTracker's Leaking Underground Fuel Tank Report. LUST records contain an inventory of reported leaking underground storage tank incidents. This list was last updated on 12/19/2011.
  - NOTIFY 65 - Notify 65 records contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk. The data comes from the SWRCB's Proposition 65 database.
  - CHMIRS - The California Hazardous Material Incident Report System (CHMIRS), maintained by the Cal/EPA Office of Emergency Services, contains information on reported hazardous material incidents (accidental releases or spills).
  - HIST CAL-SITES – Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. It has been replaced by ENVIROSTOR.
  - DRY CLEANERS – The source of this list is the DTSC.
  - NFA - No Further Action Determination (NFA) sites are properties for which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.
  - REF - Unconfirmed Properties Referred to Another Agency (REF) sites are properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

- SCH - School Property Evaluation Program (SCH) sites are proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the Cal-Sites category depending on the level of threat to public health and safety or the environment they pose.
- NFE - Properties Needing Further Evaluation (NFE) are properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the Preliminary Endangerment Assessment (PEA) process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA indicates properties where DTSC has determined a PEA is required, but it is not currently underway. SWEEPS UST – This underground storage tank listing was maintained only in the 1980s.
- UST – Active UST facilities list is gathered from local regulatory agencies. This list was last updated on 6/21/2012.

The Project area is not on the Federal, State, or local ASTM Standard or supplemental sources or databases. The Project site is not listed in any of the reported environmental databases. The database search identified a number of nearby facilities on the database within the ASTM Standard minimum search radii. However, it is Haley & Aldrich's opinion that based on the depth to groundwater, case status, distance and/or hydrogeologic gradient of some of the facilities relative to the Project site; that the listed facilities are not an environmental concern to the Project site. Those facilities that warranted further consideration include the following:

♦ Corral Hollow II Landfill/PWD Corral Hollow Landfill is located on Corral Hollow Road & I-580. This facility is located approximately 0.5 mile southeast of the Project site and is listed under the ENVIROSTOR and LUST databases. It is described as a closed sanitary landfill operating under the County of San Joaquin, who is completing quarterly groundwater and landfill gas monitoring at this facility. The LUST file is related to a release of diesel fuel that affected the soil only. The status is listed as 'Case Closed". Based on this information, these listings are not considered a REC of the Project site.

♦ City of Tracy Landfill is located at 31130 S. Corral Hollow Road, Tracy, CA. This facility is listed in the SWF/LF database and is located adjacent to the east of the Project site. This former landfill has the potential to produce methane gas, and/or other landfill gases, and is considered a REC to the Project site.

♦ Pacific Gas & Electric/Texaco Pipeline Leak is located at 31130 S. Corral Hollow Road, Tracy, CA. This incident is listed in the SLIC, CHMIRS, and HAZNET databases and is located adjacent to the east of the Project site. These listings are related to a release of light crude oil from a petroleum pipeline at this facility. The release was contained to the soil only and did not impact the Project site. These listings related to this particular incident are not a REC to the Project site.

♦ LLNL Site 300 located on Corral Hollow Road, Tracy, CA. This facility is listed in the WMUDS/SWAT databases. This facility has undergone significant investigation and characterization and is located over 1 mile to the west of the Project site. This facility is not considered a REC of the Project site. Refer to page 4.8-30 for details on LLNL Site 300.

- Physics International Company located at 1852 W. 11th Street, Tracy, CA. This facility is listed in multiple environmental databases and has been incorrectly identified by EDR as being located near Corral Hollow Road and I-580. This facility is not a REC to the Project site.

Federal and State Records Review for Parcels within the THSP Project Not Covered by the 2012 Phase I ESAs.

Kimley-Horn and Associates, Inc. reviewed information from Department of Toxic Substances Control (DTSC)'s Envirostor website (http://www.envirostor.dtsc.ca.gov/public/) and the State Water Resources Control Board's geotracker website (http://geotracker.waterboards.ca.gov/) to obtain an understanding of any releases of regulated substances or petroleum products that occurred on or near the Project site. The searches identified six records in close proximity to the Project[1]. The facilities documented in the database searches were the same facilities documented in the database search conducted for the 2012 Phase I ESAs with the exception of one facility. KHA reviewed the citations for the additional facility and determined that it did not warrant further investigation due to regulatory closure of the site.

SITE RECONNAISSANCE

Haley & Aldrich, Inc. conducted a reconnaissance of the Project Area on September 5, 2012. The area was viewed for hazardous materials storage, superficial staining or discoloration, debris, stressed vegetation, or other conditions that may be indicative of potential sources of soil or groundwater contamination. The Project site was also checked for evidence of fill/ventilation pipes, or other evidence of existing or preexisting underground storage tanks.

EXISTING USES

Sites A, G and J

Sites A, G and J is vacant and undeveloped with the exception of an underground ConocoPhillips 66 pipeline that can be identified by metal locating bollards placed along the alignment of the pipeline. These areas are also used for livestock grazing. The alignment of the pipeline is shown on Figure 4.8-2, *The Location Maps for the Proposed Tracy Hills School Site*.

Site B

Site B is vacant and undeveloped with the exception of the underground ConocoPhillips 66 pipeline that crosses the property. There is livestock fencing located on the eastern portion of Site B. Metal piping and a metal water basin, to provide drinking water to livestock were observed within the fenced enclosure.

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[1] -California, State of, State Water Resources Control Board. Available at: http://geotracker.waterboards.ca.gov/ Accessed: April 7, 2014.
-California, State of, Department of Toxic Substances Control, DTSC's Envirostor Tool. Available at: http://www.envirostor.dtsc.ca.gov/public/ Accessed: April 7, 2014.

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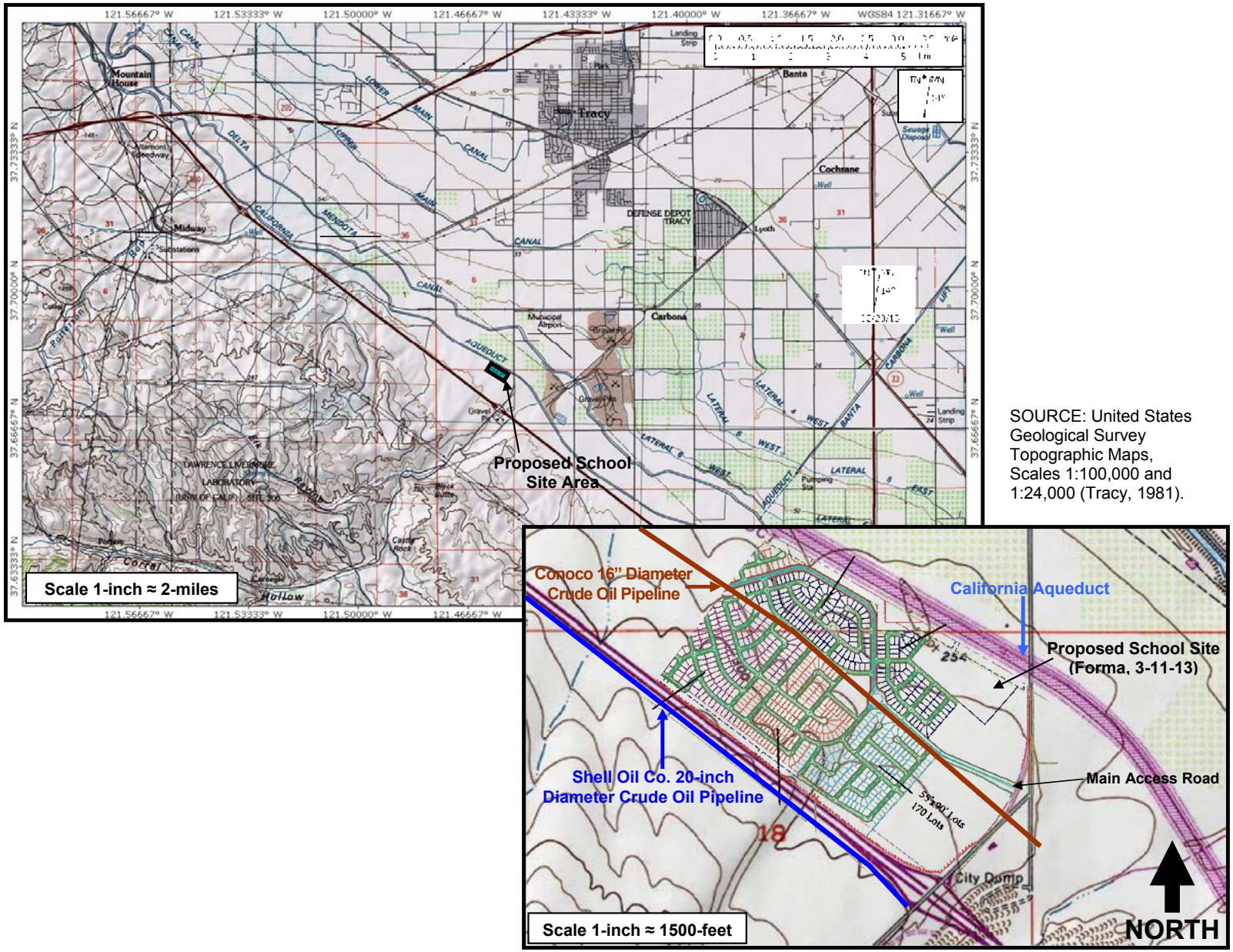

SOURCE: United States Geological Survey Topographic Maps, Scales 1:100,000 and 1:24,000 (Tracy, 1981).

FIGURE 4.8-2

THE LOCATION MAPS FOR THE PROPOSED TRACY HILLS SCHOOL SITE

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Site C

Site C is undeveloped and appeared to have been previously disked for weed control.

Site D

An old ranch is located near the northwestern portion of Site D. This area of development includes an old dilapidated structure/residence, several fenced corrals, an electric pump house, two onsite groundwater wells (one was open and appeared to be unused), several concrete water troughs, and an open concrete water basin approximately 6 feet deep and 20 feet in diameter. A pole-mounted transformer was observed in the ranch area. Additionally, the underground ConocoPhillips 66 pipeline crosses Site D.

Sites E and H

With the exception of an underground Shell pipeline that crosses the property, adjacent and parallel to I-580, the Sites E and H are currently vacant and undeveloped and are used for livestock grazing. The location of the pipeline can be identified by metal locating bollards placed along the alignment of the pipeline. The alignment of the pipeline is shown on Figure 4.8-2, *The Location Maps for the Proposed Tracy Hills School Site*.

Site F

Site F is currently vacant and undeveloped and is used for livestock grazing. Several livestock water basins were observed on the northeastern corner and central portions of Site F.

Site I

Site I is split into a northern and southern section by I-580. Site I is vacant and undeveloped with the exception of the underground ConocoPhillips 66 pipeline that crosses the property on the northern portion and an underground Shell pipeline that crosses the property on the southern portion of the Site I. Site I is also used for livestock grazing. Two tanks, previously used store water for the livestock, were observed on the northern portion of Site I.

Site K

With the exception of an underground Shell pipeline that crosses the property, adjacent and parallel to I-580, Site K is currently vacant and undeveloped and is used for livestock grazing. The location of the pipeline can be identified by metal locating bollards placed along the alignment of the pipeline.

There are two aboveground tanks and one water well located near the northeastern corner of Site K, adjacent to I-580. The tanks and water well are used for the grazing operations at Site K.

Sites L and M

Sites L and M are currently vacant and undeveloped and is used for livestock grazing.

OBSERVATIONS

Sites A, B, C, F, J, L and M

There were no structures observed on Sites A, B, C, F, J, L and M. During the site reconnaissance none of the following were observed:

- Potable water supply and/or septic system
- Disposal of petroleum products or hazardous materials;
- Storage tanks or drums;
- Odors indicative of hazardous materials or petroleum material impacts;
- Electrical or hydraulic equipment;
- Unidentified substance containers;
- Heating and cooling system;
- Floor drains or sumps;
- Dry wells;
- Pits, ponds, lagoons, and pools of potentially hazardous liquid;
- Stained Soil/Pavement;
- Stressed Vegetation;
- Solid Waste/Debris;
- Wastewater and stormwater discharge; and
- Monitoring, water supply or irrigation wells.

Site D

- The old ranch house located on Site D is approximately 25 feet by 20 feet and constructed entirely out of wood. A small electric pump house is located approximately 130 feet west of the ranch house. This structure houses an operating pump for an adjacent groundwater well. The well provides drinking water for livestock that graze on the Site D and adjoining properties. No hazardous materials or substances were observed in the ranch area.
- A newer-type of pole-mounted transformer was observed in the ranch area. The transformer appeared to provide power to a well pump house. No staining was observed on the transformer or on the ground surrounding the utility pole.

Site E

- An approximately 30 foot x 30 foot concrete-lined water basin and water trough were observed near the northwestern corner of Site E. Additional livestock water basins were observed on the central and southeastern corner of Site E.

Site G

- An approximately 150 foot by 100 foot earthen basin with a metal pipe leading into the basin from the northern wall is located near the southwestern portion of Site G, adjacent to I-580. The basin was dry at the time of the site reconnaissance and appeared to be used to contain storm water runoff.

Site H

- A possible dry well was located on along the southern property line. The possible well was observed as a hole in the ground within a small concrete foundation with an unknown piece of old equipment on the concrete foundation. The hole in the ground, beneath the piece of equipment, did not appear very deep and may have been partially filled in.

Site I

- A dilapidated wood and sheet metal shed was observed on the northern portion of Site I. The shed was located in a small depression and was surrounded by debris. Evidence of the use, storage and/or disposal of hazardous materials or waste was not observed. No staining was observed in the area.

- A landfill gas probe (monitoring well) was observed on the southern portion of Site I, approximately 20 feet west of Corral Hollow Road. The landfill gas probe is part of a monitoring program for the adjoining former Corral Hollow Landfill.

Site K

- One groundwater well was observed near the northeastern corner of Site K. The well provided water to an aboveground tank used to supply drinking water for the grazing operations.
- A landfill gas probe (monitoring well) was observed on the southern portion of Site K, approximately 20 feet west of Corral Hollow Road. The landfill gas probe is part of a monitoring program for the adjoining former Corral Hollow Landfill.

KNOWN OR SUSPECTED RECOGNIZED ENVIRONMENTAL CONDITIONS (REC)

The ASTM E 1527-05 Standard defines a REC 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, ground water, or surface water of the property." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

The Phase I ESAs have revealed evidence of RECs in connection with the Project Area.

SITES A, B, D, G AND J

- The underground ConocoPhillips 66 petroleum pipeline.

SITES E AND H

- The underground Shell petroleum pipeline.

SITE I

- The underground ConocoPhillips 66 petroleum pipeline.
- The underground Shell petroleum pipeline.
- Former sanitary landfills and possible gasoline service stations located east of the Project site.

SITE K

- The underground Shell petroleum pipeline.
- Former sanitary landfills on the adjoining properties to the east of the Project site.

PROPOSED ELEMENTARY SCHOOL LOCATION WITHIN THSP PHASE 1 IN RELATION TO TWO UNDERGROUND PIPELINES AND THE CALIFORNIA AQUEDUCT

The PASR analyzed (1) future liquid petroleum pipeline risk and (2) California Aqueduct flooding risk assessments for the proposed school site located within THSP Phase 1. The purpose of the report was to provide a professional opinion regarding the likelihood that failures of the Conoco Phillips 66 crude oil and the Shell crude oil pipelines, or the California Aqueduct create risks that would preclude construction of a school within the boundaries of the proposed school site.

The proposed school is located north of I-580, west of Corral Hollow Road and immediately south of the California Aqueduct within the THSP Phase I area. The Aqueduct lies 100 feet northeast of the proposed school location and the pipelines trend northwest to southeast and lie southwest of the proposed school site. The Conoco Phillips 66 pipeline (PPL) is located approximately 700 feet from the southern edge of the proposed school site. The Shell pipeline is located approximately 2,250 feet from the southern edge of the proposed school site.

THE 2007 CALIFORNIA DEPARTMENT OF EDUCATION PROTOCOL METHODOLOGIES

The 2007 California Department of Education (CDE) Protocol (Protocol) specifies methodologies to assess the risk to school sites posed by liquid petroleum and water pipelines/aqueducts. The analysis recognizes the elements of these methodologies and applies them generally to reach opinions regarding the potential for the site to be suitable for a school considering the presence of the liquid petroleum pipelines and California Aqueduct as described above. The following subsections summarize the basic elements of the Protocol analysis for liquid petroleum pipelines and water pipelines (includes aqueducts).

- Liquid Petroleum Pipelines – The Protocol analysis considers the impact on school occupants of heat and explosive over-pressure emanating from the location of a pipeline failure (considered to be a full pipeline rupture for purposes of this report) or from a location where the petroleum product would collect in a "pool" after flowing down slope from a more distant pipeline location. Heat and explosion impacts to school occupants decrease at increasing distance of the occupants (termed receptor location) from the location of a fire or explosion. Flash fire, pool fire, and vapor cloud explosion are the three liquid petroleum consequences analyzed for the Protocol. These consequences are discussed more fully below in Section 4.8.3.
- California Aqueduct – Flooding is the primary concern addressed in the Protocol for water pipelines and the aqueduct; erosion, flowing water, and subterranean saturation are also considered. For an aqueduct, breach size in the levee wall, water flow rate, and breach direction must be determined in order to approximate the flow direction and flooding pool size. The flood height and water velocity, though not specified, should also be considered. Flooding consequences are discussed more fully in Section 4.8.3.

GEOLOGY, SITE AREA TOPOGRAPHY, DRAINAGE AND WIND DIRECTION

In general, topography slopes downhill from I-580 on the southwest (approximate elevation 290-feet) toward the proposed school site (elevation 247-feet to 260-feet), the edge of the California Aqueduct (elevation 245-feet), and the adjacent portion of the Central Valley and the City of Tracy. This slope gradient is approximately one to two percent. The slope is not uniformly flat in that a subtle, similarly low gradient broad ridge-feature occupies the southeastern two-thirds of the THSP Phase I area. A secondary drainage borders the school site on the northwest. Natural topography is interrupted by the California Aqueduct that forms a barrier to flow

immediately north and west of the Project Area. Drainage across the THSP Phase I area is directed to two artificial drainage features (culverts) that cross the aqueduct above the water level existing at this time. To the east of the site and Corral Hollow Road, the topography slopes easterly toward the wide drainage feature emanating from the Corral Hollow canyon to the south; a large culvert beneath the aqueduct well east of Corral Hollow Road is shown on CDWR plans. Surface runoff is primarily by overland flow across the Project Area toward the aqueduct, and toward the secondary drainage (on the west) and Corral Hollow Road (on the east). Ground surfaces are not highly eroded or dissected due to current land uses, as well as to the presence of I-580 interrupting natural runoff from the west and channeling the runoff through culverts under I-580.

At the aqueduct within the THSP Phase I area this reduced drainage flow volume is accommodated by the two culverts mentioned above. It appears from Google Earth images and the field reconnaissance that sediment deposition is occurring at the westernmost drainage feature adjacent to the Aqueduct[2]. Wind can carry liquid petroleum vapors to ignition sources away from a release location or toward a school site. Daytime winds at the nearby airport generally blow northwest to southeast, southwest to northeast, and to a lesser degree at compass points in between, at 1.3 to 13 miles per hour (mph) and less commonly up to 25 mph.[3] The predominant daytime directions are sub-parallel to the pipeline orientations.

The Geology, Soils and Seismicity (Section 4.6), and Hydrology and Water Quality (Section 4.9) sections address the relevant issues for the Project as a whole. The *Geotechnical Exploration Report for Tracy Hills Phase 1 (July 2013)* indicated that geology and soil impacts could be mitigated for the Project, but did not address liquid petroleum pipeline hazards or aqueduct flooding specifically.

CRUDE OIL PIPELINE LOCATION, CHARACTERISTICS AND OPERATIONAL DATA

The pipeline characteristics for the PPL and Shell pipelines are presented in Table 4.8-2, *Conoco and Shell pipelines Characteristics near the Proposed Tracy Hills School Site*, and the pipeline locations are shown on Figures 4.8-2, *The Location Maps for the Proposed Tracy Hills School Site* and Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*. These characteristics provide information useful in determining the relative likelihood of a pipeline failure, the approximate amount of liquid product released, and the logistics involved for the operators to deal with a full pipeline rupture.

[2] Wilson Geosciences Inc., Liquid Petroleum Pipeline Risk and California Aqueduct Flood Risk for the Proposed Tracy Hills School Site, Jefferson School District, City of Tracy, San Joaquin County, California, May 2013.
[3]Western Regional Climate Center (WRCC), http;//www.wrcc.dri.edu/cgi-bin/wea_windrose.pl?caZTRA, 2013.

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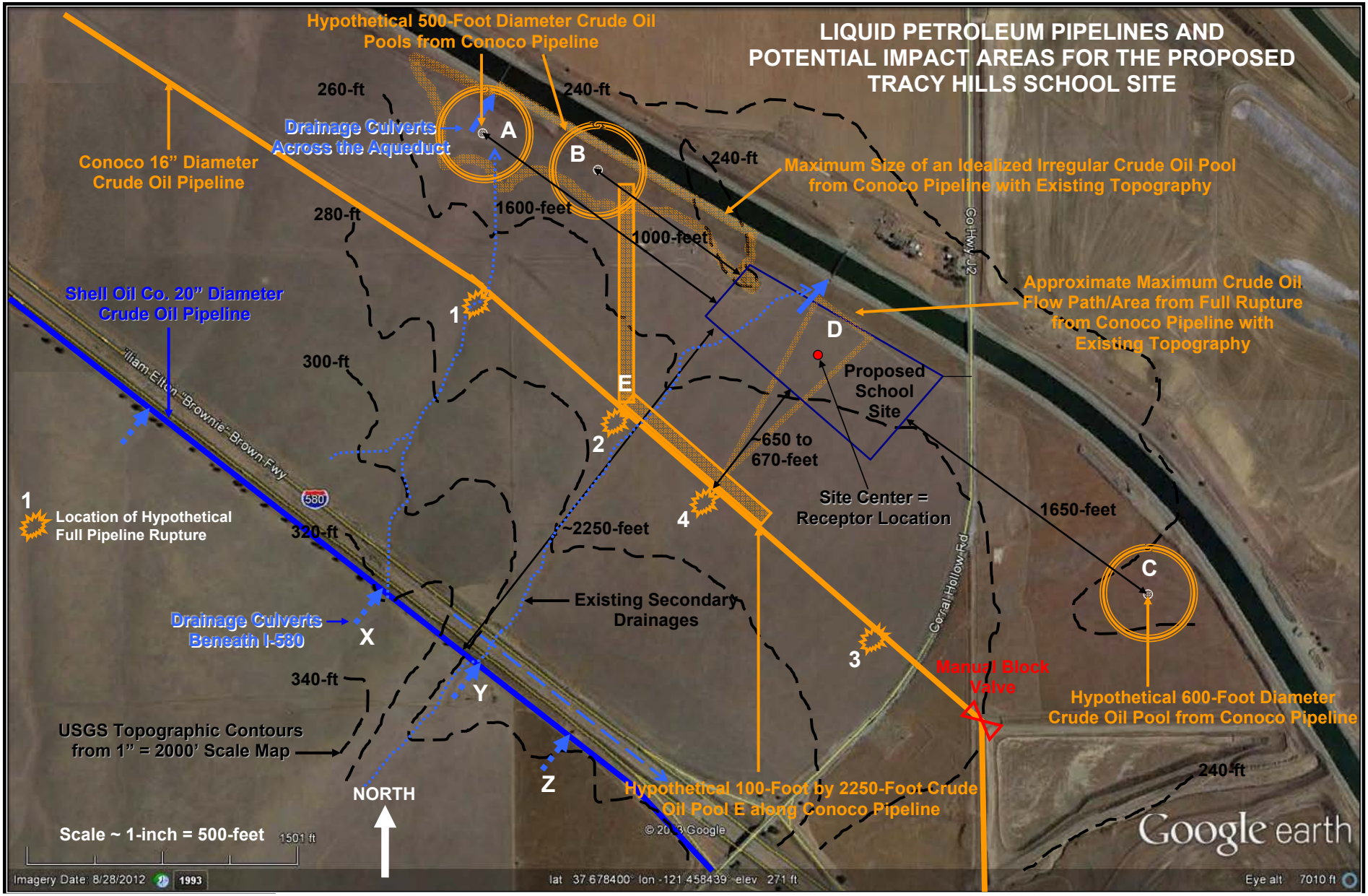

FIGURE 4.8-3

LIQUID PETROLEUM PIPELINES AND POTENTIAL IMPACT AREAS FOR THE PROPOSED TRACY HILLS SCHOOL SITE

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Table 4.8-2 Conoco and Shell pipelines Characteristics near the Proposed Tracy Hills School Site[1]

Pipeline Characteristics	Conoco (Phillips 66 Pipeline LLC (PPL)) (Oleum Line No. 200)	Shell (Shell Oil Company) (Coalinga-Avon Line)
Closest distance to the Site.	~700 feet (site plan and field observation)	~2,250 feet (site plan and field observation)
General characteristics	Typically 3.5 to 4.5 feet of cover	Typically 4 to 5 feet deep
Product transported	Elk Hills crude oil, gas oil, pressure distillate, and heavy distillate	Crude oil
Diameter	16 inches	20 inches
Operating pressure	1,130 psig	Proprietary (test pressure 1, 425)
Product flow rate	4,000 – 4,200 barrels per hour (bbl/hr) with flow to the northwest	Proprietary (assumed to be 6,000 bbl/hr) with flow to the northwest
Pipeline materials and date of construction	Carbon steel, wall thickness 0.25", grade API-5LX 52000, installed 1957	Carbon steel, wall thickness 0.25", grade X-52, installed 1967
Locations of, and distances to, shutoff valves, block valves, pump stations and manned operation facilities	To the north = ~12 miles 16" motor operated block valve C-22. To the south = ~640 feet 16" manual block valve C-21.	To the north = Patterson Pass Road (~5.25 miles). To the south = 4.38 miles south of Corral Hollow Road
Valve operation (e.g., manually or remotely operated)	A Pipeline Monitoring system constantly measures pipeline pressures and flow rates. Pumping pressure can be shut off immediately from the Bartlesville control center; response time to manually close the two valves can range from 30 minutes to 2 hours.	Not provided by Shell; however, the oil pipelines are continuously monitored by computers, which can detect high and low thresholds of leakages by a loss in pressure. If any decrease in pressure is detected, the system is automatically shut down (City of Tracy, 1997)
Operating history information (e.g., inspections, repair history, previous accidental releases) --- CONOCO (Phillips 66 Pipeline LLC (PPL))(Oleum Line No. 200) PPL indicates: • Historic pipeline releases – There are no known pipeline releases within the past 15 years. • Repair History - There are no known repairs on Line 200 within the proposed Tracy Hills development except for the	The California State Fire Marshal audits our pipeline records to confirm that PPL complies with the DOT standards. • PPL has an approved spill response plan that covers our emergency notifications and management of a pipeline release. PPL personnel are trained in the Incident Command Structure to team with local agencies to manage the response. PPL can mobilize and deploy an	The pipeline is designed, operated, maintained, and repaired in compliance with State and Federal Regulations. The pipeline is inspected annually using an internal inspection tool. There was a release at Bird Road (approximately ½-mile southeast of Corral Hollow Road) in 2007 due to unknown accelerated corrosion activity.

Table 4.8-2 Conoco and Shell pipelines Characteristics near the Proposed Tracy Hills School Site[1]

Pipeline Characteristics	Conoco (Phillips 66 Pipeline LLC (PPL)) (Oleum Line No. 200)	Shell (Shell Oil Company) (Coalinga-Avon Line)
installation of cathodic test leads and marker plates. • Other PPL activities to monitor, inspect, and maintain the safety and integrity of Line 200: • PPL has marked the route of Line 200 across the THSP Project development. • Air patrol flies the pipeline 200 route twice a week to monitor surface activity near Line 200. • PPL is a member of underground Service Alert (USA). PPL marks its pipelines prior to third-parties excavating near its facilities when it receives a USA notification. • PPL sends inspection tools through Line 200 every five years to detect anomalies in the pipeline wall and prepares a program to maintain the pipeline based on the report the tool generates. • A Pipeline Monitoring system constantly measures pipeline pressures and flow rates.	Incident Management Assist Team to aid in the response. • Property owners have been made aware of the presence of a pipeline on their property through our public awareness program. PPL reaches out to law enforcement agencies, fire departments, and other agencies that protect the public. • PPL reviews utility notices from private developers and public agencies to determine if proposed improvements will impact the operation and/or maintenance of	

Notes:
[1] Provided by Ruggeri~Jensen~Azar, March and April 2013 (as provided by Conoco and Shell).

AQUEDUCT LOCATION, CHARACTERISTICS AND OPERATIONAL DATA

The California Aqueduct is located approximately 100-feet north of the proposed school site (Figure 4.8-2, *The Location Maps for the Proposed Tracy Hills School Site*) and trends roughly parallel to the northern site boundary. Based on construction plans[4], the aqueduct is a symmetrical trapezoid shape approximately 100-feet across at the top, 60-feet across at the invert, and 38-feet deep. Two check structures are present along the aqueduct one northwest (Check 1) and one southeast (Check 2) of the proposed school site. Based on the 1997 THSP DEIR (page 4.7-7):

"According to the Department of Conservation, the California Aqueduct has an average freeboard of 8 to 11 feet. However, freeboard is reduced to three feet during the hottest days of the summer season, to minimize heat expansion of the canal's concrete panels. According to the Bureau of Reclamation, the Delta Mendota Canal maintains a freeboard of one to two feet during maximum flow. Water levels are, however, decreased during episodes of fish migration and at time of poor water quality. Both the California Aqueduct and the Delta Mendota Canal are equipped with check structures which monitor massive dewatering and automatically shut off flows."

Water flow in the aqueduct is approximately 10,300 cubic feet per second (cfs) in this location and the trapezoidal design carries water below adjacent site grades. This design is more secure than a levee type system, which stands above surrounding topography and, if a breach were to form, erosion and flooding would occur in adjacent areas. CDWR commented on the 1997 THSP DEIR[5] (January 26, 1996 comment) that while considering the below grade aqueduct design, due to significant earthquake shaking potential:

". . . we believe that in light of the above [earthquake] concerns that the ideal solution would be to designate the lands on both sides of the Aqueduct as open space/greenbelt. This would reduce the need to mitigate the above concerns and further protect the public who would live and work in this planned development."

As described above, topography slopes downhill from I-580 across the proposed school site toward the California Aqueduct at a gradient of approximately one to two percent[6].

PROPOSED DEVELOPMENT IN RELATION TO FIVE UNDERGROUND PIPELINES LOCATED WITHIN THE THSP PROJECT AREA

The PSHA Report evaluated the risks associated with the Project's development in close proximity to the two natural gas line and three crude oil pipelines; two of which are discussed above in relation to the proposed school site. The purpose of the report was to provide recommendations for development setbacks based on land uses planned along the pipeline alignments. The 2007 CDE Protocol (described above for the proposed school) was also used in the PSHA Report to evaluate safety hazards associated with natural gas and crude oil underground pipelines. The following analysis is summarized from this report. The report is included in its entirety in Appendix E-3.

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[4]California Department of Water Resources (CDWR), 1964, North San Joaquin Division, Canal – Sta. 174+50 to Sta. 1114+00, Corral Hollow Culvert & Canal Drain, Sheet Nos. 80, 81, and 82 (from J. Zellmer, Ruggeri~Jensen~Azar, March and April 2013.
[5]City of Tracy, *Tracy Hills Specific Plan Draft Environmental Impact Report,*1997.
[6]California Department of Water Resources (CDWR), 1964, North San Joaquin Division, Canal – Sta. 174+50 to Sta. 1114+00, Corral Hollow Culvert & Canal Drain, Sheet Nos. 80, 81, and 82 (from J. Zellmer, Ruggeri~Jensen~Azar, March and April 2013; and, USGS, 1979, Tracy 7.5-minute Quadrangle, scale 1:24,000, current as of 1981.

As shown in Figure 4.8-4 *Tracy Hills Site Location and Pipeline Map*, two Pacific Gas & Electric (PG&E) natural gas pipelines and a Chevron crude oil pipeline are located within a 50-foot easement that traverses the northeast corner of the THSP area in a northwest to southeast orientation. As described above, the PPL pipeline bisects the middle of the

THSP and is located within a 16.5 foot wide easement. The Shell crude oil pipeline is located along the west side of I-580 within a 20 foot easement.

The THSP proposes light industrial land uses adjacent to the PG&E easement. Mixed use business park, medium and high density housing and general highway commercial are proposed adjacent to the PPL easement. Land uses adjacent to the Shell easement include I-580, mixed use business park, and low and medium density housing.

NATURAL GAS PIPELINE LOCATION, CHARACTERISTICS AND OPERATIONAL DATA

Natural gas pipeline data were obtained from Pacific Gas & Electric Company (PG&E, 2014). There are two natural gas transmission pipelines (designated as Lines 002 and 401) that cut through the northeast corner of the THSP along a 1,950 foot long, 50-foot wide easement. The gas pipelines are separated from each other by 25 feet and the Chevron crude oil pipeline is located nine feet west of Line 002 and 6 feet from the edge of the easement.

The 26-inch natural gas transmission line (designated as Line 002) was installed in 1972 and runs 118 miles from a PG&E facility near the town of Brentwood, CA to a PG&E facility near Panoche, CA. An inspection of the pipeline was performed in 2001 within the Tracy area and indicated that the line has exhibited corrosion with a wall loss of up to 61%. The operating pressure of the pipeline was subsequently lowered and repairs were performed. A more recent inspection was conducted in 2006, including the segments which cross the THSP area. The results indicated that the pipeline was in overall sound condition. PG&E has not reported any leaks or failures on the segment of pipeline in the vicinity of the Project site.

The 36-inch natural gas transmission pipeline (designated as Line 401) located within the easement was installed in 1993. The pipelines are inspected and maintained in accordance with Federal regulations (49 CFR 192) and the California Public Utilities Commission's (CPUC's) General Order 112-E regulations. Regular patrols are performed along the pipelines to monitor conditions and control encroachment. Additionally, periodic leak detection surveys are conducted in accordance with Department of Transportation (DOT) regulations. The cathodic protection systems are also monitored on a regular basis to maintain required pipe-to-soil potential to minimize corrosion. In the event of loss of pressure, leak detection, or significant deviations from normal operating parameters, emergency procedures would be activated, including contact with local fire department and emergency personnel.

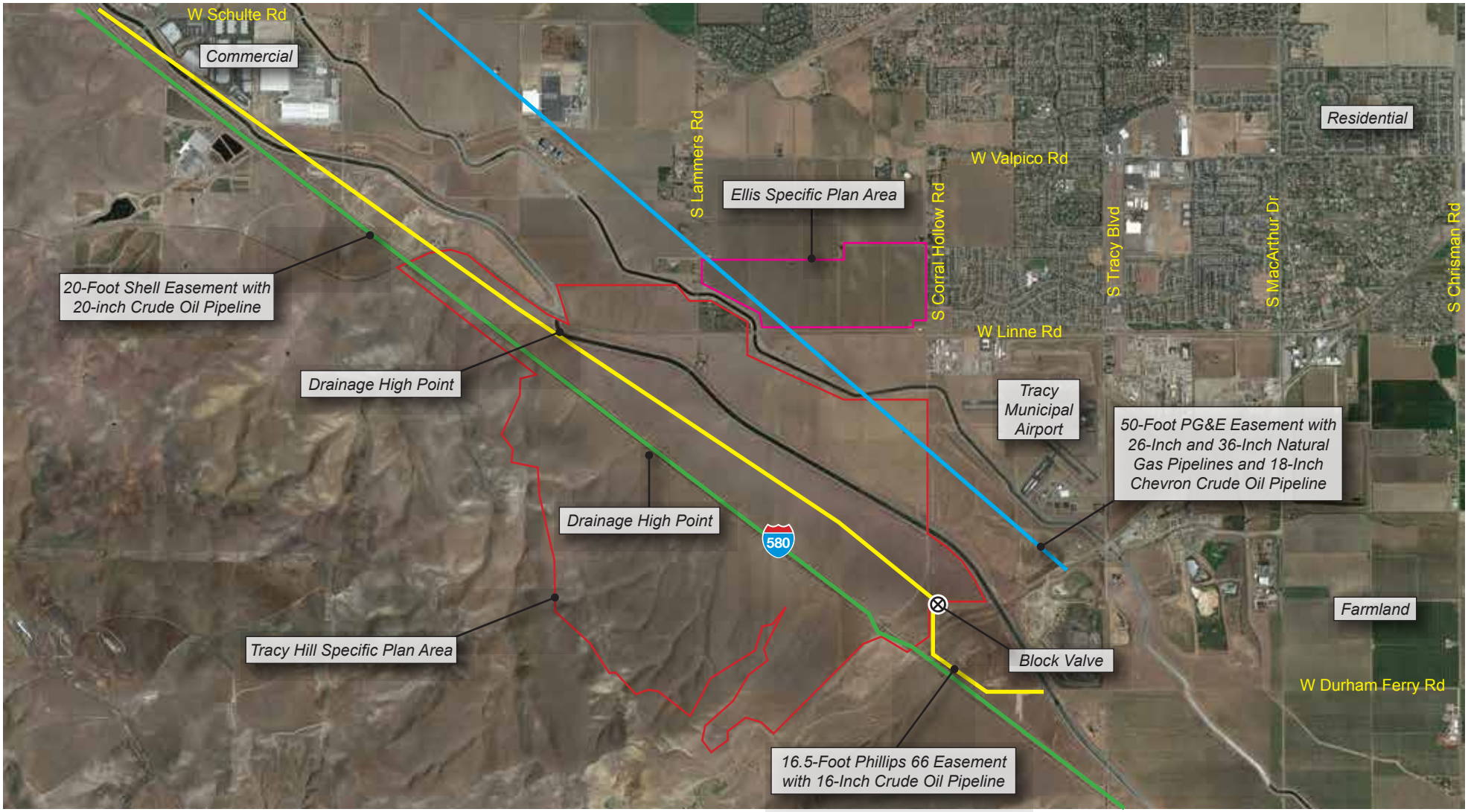

FIGURE 4.8-4
TRACY HILLS SITE LOCATION AND PIPELINE MAP

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No leaks, ruptures, or incidents have been reported by PG&E for the pipeline segments in the vicinity of the THSP area. An inspection was performed in 2005 on 110 miles of Line 401 and 26 miles of Line 002 that included the THSP area and several miles in either direction to the north and south. The results indicated that the pipelines were in overall sound condition. There were six follow-up investigative digs on Line 401 in July 2007 to investigate potential anomalies found during the inspection in 2005. No internal corrosion was found and the anomalies were determined to be a result of the fabrication process. No repairs were required. These digs were not conducted on the pipeline segments within the THSP area, because there were no indications of potential issues at this location.

In 2000, four pipeline inspections were performed on the segment of the pipeline north of the THSP area as part of an Underground Service Alert (USA) ticket (PG&E, 2005). At each of these locations, the pipeline was unearthed and directly examined. No corrosion or other damage was documented and the coating was found to be in good condition. A summary of the operating characteristics of the natural gas pipelines within the Plan area is summarized in Table 4.8-3, *Natural Gas Pipelines and Chevron Crude Oil Pipeline Operating Characteristics within the THSP*, and the pipeline locations are shown on Figure 4.8-4 *Tracy Hills Site Location and Pipeline Map*.

Table 4.8-3 Natural Gas Pipelines and Chevron Crude Oil Pipeline Operating Characteristics within the THSP [1]

Description	26-Inch Natural Gas Pipeline	36-Inch Natural Gas Pipeline	Chevron 18-Inch Crude Oil Pipeline
Pipeline Identification	Line 002	Line 401	KLM Line
Pipeline Operator	PG&E	PG&E	Chevron
Year of Installation	1972	1993	1945
Pipeline Diameter, inches	26	36	18
Wall Thickness, inches	0.322	0.372	0.250
Maximum Allowable Operating Pressure, psig	890	1,040	920
Easement Width, feet	50	50	50
Distance of Pipeline from Edge of Easement, feet	15	10	6

CRUDE OIL PIPELINE LOCATION, CHARACTERISTICS AND OPERATIONAL DATA

The pipeline characteristics for the PPL and Shell pipelines are presented in Table 4.8-2, *Conoco and Shell pipelines Characteristics near the Proposed Tracy Hills School Site* above. The third crude oil pipeline, an 18-inch Chevron pipeline is located within the 50-foot PG&E easement that is co-located with the natural gas pipelines (Chevron Pipeline Company, 2014). This pipeline is designated at the "KLM" line, which transports crude oil from Kettleman, CA to Los Medanos, CA. It was constructed in 1945 with a wall thickness of 0.25 inch and has a capacity to transport 85,000 barrels per day. The pipeline characteristics for the KLM pipeline are presented in Table 4.8-3, *Natural Gas Pipelines and Chevron Crude Oil Pipeline Operating Characteristics within the THSP* above. The pipeline is monitored 24/7 by a supervisory control and data acquisition (SCADA) system and is inspected and tested on a regular basis in accordance with the Federal pipeline regulations (49 CFR 195).

LAWRENCE LIVERMORE NATIONAL LABORATORY'S SITE 300

The Lawrence Livermore National Laboratory's (LLNL) Site 300 is a U.S Department of Energy National Nuclear Security Administration experimental test site operated by Lawrence Livermore National Security, LLC. Site 300 occupies 10.9 square miles and its boundary is over one mile west of the THSP Project Area, approximately 1.5 miles from the portion of the site proposed for development. LLNL conducts continuous environmental monitoring, including monitoring for soil and groundwater contamination.

LLNL SITE 300 HISTORY

LLNL Site 300 was established in 1955 as a non-nuclear explosives test facility to support Livermore Laboratory's national security mission. Currently, work at LLNL Site 300 supports the Laboratory's nuclear weapons program by assessing the operation of non-nuclear weapon components using hydrodynamic testing and advance diagnostics, such as high-speed optics and X-ray radiography. These efforts support the nation's Stockpile Stewardship Program (SSP), which is designed to ensure the safety, security and reliability of the U.S. nuclear weapons stockpile[7].

Site 300 became a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) site in 1990 when it was placed on the National Priorities List (NPL). Contaminants of concern at Site 300 include volatile organic compounds (VOCs) (primarily trichloroethylene (TCE)), high-explosive compounds, tritium, depleted uranium, silicone-based oils, nitrate, perchlorate, polychlorinated biphenyls, dioxins, furans, and metals[8]. Remedial activities on Site 300 are ongoing. The contaminants present in environmental media vary within the different environmental restoration operable units (OUs) at Site 300. Remedial activities are overseen by the EPA, the Central Valley Regional Water Quality Control Board (CVRWQCB), and DTSC, under the authority of a Federal Facility Agreement (FFA) for Site 300.

LLNL 2012 ENVIRONMENTAL REPORT[9]

LLNL prepares annual environmental reports to record LLNL's compliance with environmental standards and requirements, describe LLNL's environmental protection and remediation programs and present the results of environmental monitoring. The following is a summary of the operations and remediation results for Site 300 from the 2012 Environmental Report prepared for both the "Livermore Site" and Site 300. The "Livermore Site" is located in Livermore, California; and therefore not discussed in this EIR. The 2012 Environmental Report is the most recent, comprehensive and publicly available report provided to the City from LLNL.

Air Monitoring

LLNL operations involving radioactive materials had minimal impact on ambient air during 2012. Estimated nonradioactive emissions are small compared to local air district emission criteria. Releases of radioactivity to the environment from LLNL operations occur through stacks and from diffuse area sources. In 2012, radioactivity released to the atmosphere was monitored at one facility at Site 300. For the Contained Firing Facility at Site 300 a total of 1.6 10–6 GBq (4.3 10–8 Ci) of uranium-234, 1.3 10–7 GBq (3.6 10–9 Ci) of uranium-235, and 1.3 10–5 GBq (3.4 10–7 Ci) of uranium-238 was released in particulate form. The dose to the hypothetical, site-wide maximally exposed individual (SW-MEI) member at Site 300 are less than one

[7] Lawrence Livermore National Laboratory, Site 300. UCRL-BR-224872-REV-1.undated.
[8] Lawrence Livermore National Laboratory, Site 300. UCRL-BR-224872-REV-1. undated.
[9] Lawrence Livermore National Laboratory, Environmental Report 2012. UCRL-TR-50027-12. 2012.

percent of the annual National Emissions Standards for Hazardous Pollutants (NESHAPs), which is 100 Sv/y (10 mrem/y) total site effective dose equivalent. None of the other facilities at Site 300 monitored for gross alpha and gross beta radioactivity had emissions in 2012.

The magnitude of nonradiological releases (e.g., reactive organic gases/precursor organic compounds, nitrogen oxides, carbon monoxide, particulate matter, sulfur oxides) is estimated based on specifications of equipment and hours of operation. Estimated releases in 2012 for Site 300 were similar to 2011 levels with the exception of combustion pollutant emissions, such as NOx, CO, and SOx, which decreased in 2012 primarily from the lower usage of diesel-powered generators. Nonradiological releases from LLNL continue to be a very small fraction of releases from all sources in the Bay Area or San Joaquin County.

In addition to air effluent monitoring, LLNL samples ambient air for tritium, radioactive particles, and beryllium. Some samplers are situated specifically to monitor areas of known contamination; some monitor potential exposure to the public; and others, distant from the two LLNL sites, monitor the natural background. In 2012, ambient air monitoring data confirmed estimated releases from monitored stacks and was used to determine source terms for resuspended uranium-contaminated soil at Site 300.

Water Monitoring

Water monitoring is carried out to determine whether any radioactive or nonradioactive constituents released by LLNL might have a negative impact on public health and the environment. Data indicate LLNL has good control of its discharges to the sanitary sewer, and discharges to the surface water and groundwater do not have any apparent environmental impact. All discharges to the Site 300 sewage evaporation pond and percolation ponds were within permitted limits, and groundwater monitoring related to this area showed no measurable impacts. Storm water is sampled for constituents such as radioactivity, metals, oxygen, dioxins, polychlorinated biphenyls (PCBs), and nitrate both upstream and downstream from Site 300.

In the calendar year 2012, there were no storms at Site 300 that met the criteria for a qualifying event as defined in the General Industrial Storm Water Permit (97-03-DWQ). Consequently, no samples were collected or analytical data produced. In addition to the CERCLA-driven monitoring (i.e., for VOCs) conducted by LLNL's Environmental Restoration Department (ERD), extensive monitoring of groundwater occurs at and near Site 300. Monitored constituents in off-site groundwater include explosives residue, nitrate, perchlorate, metals, volatile and semivolatile organic compounds, tritium, uranium, and other (gross alpha and beta) radioactivity. With the exception of VOCs in wells monitored for CERCLA compliance, the constituents of all off-site samples collected at Site 300 were below allowable limits for drinking water.

Radiological Monitoring

Annual radiological doses at Site 300 in 2012 were found to be well below the applicable standards for radiation protection of the public. Dose calculated to the site-wide maximally exposed individual (SW-MEI) for 2012 was 1.3 10–5 Sv (1.3 10–6 mrem) for Site 300. This dose is well below the federal National Emissions Standards for Hazardous Air Pollutants of 100 Sv (10 mrem) and is significantly less than the doses from natural background radiation.

Groundwater Remediation

Groundwater at Site 300 is contaminated from historical operations; the contamination, for the most part, is confined to each site. Groundwater is undergoing cleanup under the CERCLA. Remediation activities removed contaminants from groundwater and soil vapor, and documentation and investigations continue to meet regulatory milestones.

VOCs are the main contaminant found at the nine Site 300 OUs. In addition, nitrate, perchlorate, tritium, high explosives, depleted uranium, organosilicate oil, polychlorinated biphenyls, and dioxins, furans, and metals have been identified for remediation at one or more of the OUs.

In 2012 at Site 300, perchlorate, nitrate, the high explosive RDX, and organosilicate oil were removed from groundwater in addition to about 20 kg of VOCs. Each Site 300 OU has a different profile of contaminants, but overall, groundwater and soil vapor extraction and natural attenuation continue to reduce the mass of contaminants in the subsurface. Cleanup remedies have been fully implemented and are operational at eight of the nine OUs at Site 300. The CERCLA pathway for the last OU, Building 812, was negotiated with the regulatory agencies in 2011. All regulatory milestones were met for this OU.

WILDLAND HAZARDS

The majority of the Project is zoned "Moderate" on the Draft Fire Hazard Severity Zones in Local Responsibility Area Map dated September 2007[10]. The area east of the California Aqueduct is mapped un-zoned. Moderate zones are

applied to the State Responsibility Area (SRA) with the lowest fire severity.[11] Un-zoned areas are within the Local Responsibility Area (LRA) and do not meet the criteria for "Very High" designation required under Government Code 51175-189."[12]

WILDLIFE HAZARDS

The Federal Aviation Administration (FAA) Advisory Circular (AC) No. 150/5200-33B regarding hazardous wildlife attractants on or near airports recommends that off-airport storm water management systems located within 5 statute miles between the edge of the airport's airport operations area (AOA) be designed and operated so as not to create above-ground standing water. More specifically, FAA AC No. 150/5200-33B Section 2-3 b. reads as follows:

[10] CAL FIRE, http://frap.fire.ca.gov/webdata/maps/san_joaquin/fhszl06_1_map.39.pdf, accessed on March 23, 2014.
[11] Sapsis, Dave, CAL FIRE. Email correspondence regarding definitions of fire severity zones (email). March 24, 2014.
[12] Sapsis, Dave, CAL FIRE. Email correspondence regarding definitions of fire severity zones (email). March 24, 2014.

Storm water detention ponds should be designed, engineered, constructed and maintained for a maximum 48-hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires, grids, pillows or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

As discussed in Section 4.9, *Hydrology/Water Quality*, the THSP Project proposed the use of terminal/retention ponds as the means of managing runoff from new development via storage and percolation. Therefore, these retention ponds would be subject to the requirements of FAA AC No. 150/5200-33B.

4.8.2 REGULATORY FRAMEWORK

The management of hazardous materials is regulated by various Federal, State, and local agencies. Federal and State agencies include the EPA, US Department of Transportation (DOT), California Environmental Protection Agency (Cal EPA), DTSC, California State Water Resources Control Board (SWRCB), RWQCB, and the California Highway Patrol. Local agencies include the City of Tracy Fire Department, which regulates hazardous materials use, storage, and disposal within the City.

At the Federal level, the EPA is the principal regulatory agency, while at the State level, DTSC is the primary agency governing the storage, transportation, and disposal of hazardous wastes. The CVRWQCB has jurisdiction over discharges into waters of the State. The Federal Occupational Safety and Health Administration (OSHA) and the State Cal-OSHA regulate many aspects of worker safety.

The San Joaquin County EHD was approved by the State as the State Certified Unified Program Agency (CUPA) for San Joaquin County in January 1997. The purpose of the Unified Program is to consolidate, coordinate, and make consistent the administrative requirements, permitting, inspection activities, enforcement activities, and fees for hazardous waste and hazardous materials programs in each jurisdiction. The EHD administers the Hazardous Waste Generator, Hazardous Waste On-site Treatment (Tiered Permitting), and UST programs.

The San Joaquin County Office of Emergency Services (SJCOES) is a Participating Agency administering the Hazardous Material Release Response Plan and Inventories and the Accidental Release Prevention programs. Under State law, the SJCOES requires businesses that store more than 55 gallons, 200 cubic feet, or 500 pounds of hazardous substances to file a Risk Management Plan (RMP) with the SJCOES. These plans are coordinated into a countywide planning and response plan.

San Joaquin County Public Works Department operates a collection point for Conditionally Exempt Small Quantity Generators (CESQG), which are businesses that generate less than 27 gallons of hazardous waste a month.

In the General Plan, policies addressing protection of Tracy's residents from exposure to harmful hazardous materials and waste are in the Safety Element. The General Plan includes policies requiring adequate separation of "sensitive uses" (e.g. schools, residences and public facilities) and areas where hazardous materials are present; appropriate levels of environmental investigation for any new development or redevelopment proposals; measures to regulate the use, storage, production, and safe transport of hazardous materials through Tracy; and recommendations to coordinate and cooperate with San Joaquin County to inventory businesses or facilities involved in the transportation, use, and storage of hazardous materials. The General Plan also includes actions to continue public education programs regarding the safe disposal of household hazardous waste and to encourage the reduction of solid and hazardous wastes generated within the City.

UNDERGROUND PIPELINES

Natural gas pipelines and hazardous liquid pipelines are regulated for safety by the US DOT, Pipeline and Hazardous Materials Safety Administration (PHMSA, formerly the Office of Pipeline Safety or OPS). Governing regulations for natural gas pipelines are found in 49 Code of Federal Regulations (CFR) 192 and for hazardous liquid pipelines in 49 CFR 195. In the state of California, natural gas pipelines are regulated by the California Public Utilities Commission (CPUC) and hazardous liquid pipelines are regulated by the California State Fire Marshal (CSFM). Regulations and standards concerning operation and maintenance of pipelines apply to all pipelines regardless of the year of installation.

CONVENTIONAL GAS PIPELINE RISK-INFORMED DESIGN BASIS

Natural gas pipelines incorporate a risk-informed design basis that ties the pipe wall thickness and operating stress level (as a percentage of the specified minimum yield strength) to the density of development adjacent to the pipeline. This approach is embodied in the Location Class, which was introduced by ASME B31.8 and adopted by Federal pipeline safety standards. From the General Provisions of Part 840 "Design, Installation, and Testing" of ASME B31.8:

> "*The most significant factor contributing to the failure of a gas pipeline is damage to the line caused by the activities of people along the route of the line. Damage will generally occur during construction of other facilities associated with providing the services associated with human dwellings and commercial or industrial enterprises. These services, such as water, gas and electrical supply, sewage systems, drainage lines and ditches, buried power and communication cables, streets and roads, etc., become more prevalent and extensive, and the possibility of damage to the pipeline becomes greater with larger concentrations of buildings intended for human occupancy. Determining the Location Class provides a method of assessing the degree of exposure of the line to damage.*
>
> *A pipeline designed, constructed, and operated in accordance with the requirements of Location Class 1 ... is basically safe for pressure containment in any location; however, additional measures are necessary to protect the integrity of the line in the presence of activities that might cause damage. One of the measures required by this Code is to lower the stress level in relation to increased public activity. This activity is quantified by determining Location Class and relating the design of the pipeline to the appropriate design factor.*"

The description and limitations associated with various Location Classes are listed in Table 4.8-4, *Location Class Description and Design Limits*. Location Classes are defined by the density of development adjacent to and near the pipeline. Pipeline segments adjacent to more densely developed areas are restricted to lower operating stresses due to internal pressure than segments of the same pipeline adjacent to less developed areas. For a continuous pipeline of a given diameter, the reduction in stress level corresponding to more densely developed locations is achieved by installing heavier wall (or higher strength) pipe.

Table 4.8-4 Location Class Description and Design Limits

Class	Description	Criterion[1]	Stress % of SMYS	Minimum Ratio, Test to Operating Pressure
1	Rural, unpopulated	< 11 buildings	72% max	1.10
2	Outskirts of populated area	11-45 buildings	60% max	1.25
3	Developed suburbs and commercial areas	46+ buildings	50% max	1.50
4	Urban, heavy traffic, tall buildings	buildings > 3 stories tall	40% max	1.50

Notes:
[1] Number of buildings intended for human occupancy (e.g. a dwelling or workplace) within a reference area quarter mile wide centered on the pipeline and one mile long.

When an area adjacent to an existing Class 1 or Class 2 pipeline becomes Class 3, the operating pressure of the pipe in the Class-change location must be revalidated for the new Class designation, typically by retesting the pipe to a higher margin above its operating stress or by replacing it with heavier-wall or stronger-grade pipe. Retesting or replacement involves shutting down the pipeline, and interrupting continuous service. Because of the need to plan such events, the regulations allow 18 months to fulfill these requirements. The pipe does not need to be retested or replaced if the pipe has been previously tested to a sufficiently high margin, and the change in Class is only one Class increment. Alternatively, the operator may apply to Pipeline and Hazardous Materials Safety Administration (PHMSA) for a waiver from the requirement to retest or replace pipe in accordance with an established protocol which has been implemented elsewhere in the US. Under this scenario, PHMSA may allow a line segment to operate more than "one Class out" contingent upon the pipe meeting certain criteria for overall quality of construction and condition of the pipe, and the operator implementing certain risk-based pipeline integrity management processes designed to assure that overall risk levels are no greater than meeting conventional requirements via pipe replacement.

NATURAL GAS PIPELINE INTEGRITY MANAGEMENT PLANS

Natural gas pipelines located in designated HCAs must be subjected to formal Integrity Management Plans (IMP) under Part 192, Subpart O (49 CFR 192). The IMP process involves the following key components:

- Identification of HCAs;
- Determination of the length of pipeline segments affecting HCAs;
- Consideration of all attributes of a pipeline with respect to listed integrity threats;
- Performing risk assessment to identify risk-driving factors, prioritize HCA pipeline segments for condition assessment, select condition assessment methods, and weigh mitigation strategies;
- Assess the condition of the HCA pipeline segment with respect to the identified integrity threats;
- Respond to conditions identified by the condition assessment within specified time limits;

- Develop long-term mitigations to lower risk associated with identified integrity threats;
- Repeat assessments for time-dependent integrity threats at specified intervals;
- Apply findings from assessments in HCA's to segments of pipeline beyond the HCA's; and,
- Develop plans for management of change, measurement of program effectiveness, continuous improvement, and communication.

The integrity threats are identified with respect to 21 failure root causes cataloged by pipeline incident reports made to the DOT. The threats are categorized as time-dependent if they can worsen over time, time-stable if they do not worsen, or time-independent if they occur randomly. The categorization establishes the strategy employed to assess the condition of the pipeline in terms of whether the assessment must be repeated periodically at some interval, is required onetime only, or should be primarily prevention-based, respectively. The above rules apply to any pipeline segment adjacent to or which could affect an HCA. Nationwide, 20,109 miles, amounting to 6.7% of natural gas transmission pipelines, could affect HCAs and are therefore subject to formal IMP requirements. PG&E operates 1,031 miles amounting to 18 percent of its natural gas transmission pipeline system that are subject to IMP requirements.

Two methods to identify HCA pipeline segments are defined in Federal pipeline safety regulations. Method 1 includes all Class 3 and Class 4 areas, as well as identified indoor or outdoor sites located within a Potential Impact Radius (PIR) in Class 1 or Class 2 areas that result in concentrations of people on a regular basis, or where it would be difficult to evacuate people owing to the nature of the property use (e.g., a hospital). Method 2 includes anywhere that 20 or more buildings intended for human occupancy or identified sites occur within the PIR. Where the PIR exceeds 660 feet, the number of buildings is prorated to the area of a circle defined by the PIR. The pipeline operator may elect to apply either method; PG&E applies Method 2. The purpose of the PIR is specifically to define the length of the pipeline segment that could affect an adjacent identified site in the unlikely event that a pipeline rupture was to occur, based on the line's proximity to it.

In addition to defining the pipeline segment warranting a higher standard of care in managing the integrity of a pipeline throughout its life cycle (via IMP), the PIR may be useful toward those same goals when contemplating land uses adjacent to the pipeline. Recommendations for reducing risk through appropriate consideration of land uses adjacent to pipelines have been developed by Pipelines and Informed Planning Alliance (PIPA), an organization sponsored by PHMSA for representing the spectrum of stakeholder interests in pipelines and community planning. PIPA recommends defining a "consultation zone" surrounding existing pipelines as a mechanism for communication and sharing of critical information between land developers and pipeline operators. PIPA also recommends defining a "planning area" for implementing additional measures in the activities of both the pipeline operator and the land developer to lower risk. The PIR is suggested for defining the width of each of these regions.

The PIR is not intended to define minimum setback distances inside of which development should be prohibited. In the words of the Transportation Research Board, using the PIR as a setback criterion only "considers the consequences of an event without accounting for its probability ... and does not attempt to weigh the risk-reduction benefits of such a measure against the considerable cost that such a provision would entail."

LIQUID TRANSPORTATION PIPELINES

Liquid transportation pipelines are required to implement prescriptive integrity management plans for segments that could affect HCAs, in accordance with 49 CFR 195.452. Nationwide, there are 77,865 miles of liquid transmission pipelines designated as HCA segments.

LIQUID TRANSPORTATION PIPELINES INTEGRITY MANAGEMENT

The IMP process for liquid pipelines is conceptually similar to that for natural gas pipelines, with some differences due to the nature of the transported product and its effects in the event of a release.
HCAs for liquid pipelines are defined based on whether a spill could cause pollution of water sources or environmentally sensitive areas, as well as the proximity to populated areas. Most of the pipeline integrity threats operative for natural gas pipelines are present with liquids pipelines, but the concept of "stable defects" used with natural gas pipelines is not applicable to liquid pipelines due to their operational characteristics.

Federal regulations under Part 195 require liquid pipelines to be cathodically protected and the line's integrity must be assessed every seven years in HCAs in accordance with IMP requirements in Part 195 (49 CFR 195). Federal regulations specifically require that integrity threats, be addressed in the integrity assessment process of the IMP.

NO MINIMUM SETBACK REQUIREMENTS

Federal pipeline safety regulations, including the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, and industry codes and standards establish no minimum setback requirements from natural gas or hazardous liquid underground pipelines.

AB 1511 - REAL PROPERTY: DISCLOSURES: TRANSMISSION PIPELINES

Existing law requires certain natural hazard disclosures to be made upon the transfer of residential real property, as specified, and prescribes the manner and the form of the disclosures. Assembly Bill 1511 requires all contracts for the sale of residential real property entered into on or after July 1, 2013, to contain a specified notice pertaining to gas and hazardous liquid transmission pipelines. The bill provides that nothing in the notice requirement would alter any existing duty under any other statute or decisional law imposed upon the seller or broker of the residential real property, as specified. The following text describes the requirements of the bill:

SECTION 1. Section 2079.10.5 is added to the Civil Code, to read:

2079.10.5. (a) Every contract for the sale of residential real property entered into on or after July 1, 2013, shall contain, in not less than 8-point type, a notice as specified below:

> *NOTICE REGARDING GAS AND HAZARDOUS LIQUID TRANSMISSION PIPELINES*
> *This notice is being provided simply to inform you that information about the general location of gas and hazardous liquid transmission pipelines is available to the public via the National Pipeline Mapping System (NPMS) Internet Web site maintained by the United States Department of Transportation at http://www.npms.phmsa.dot.gov/. To seek further information about possible transmission pipelines near the property, you may contact your local gas utility or other pipeline operators in the area. Contact information for pipeline operators is searchable by ZIP Code and county on the NPMS Internet Web site.*

(b) Upon delivery of the notice to the transferee of the real property, the seller or broker is not required to provide information in addition to that contained in the notice regarding gas and hazardous liquid transmission pipelines in subdivision (a). The information in the notice shall be deemed to be adequate to inform the transferee about the existence of a statewide database of the locations of gas and hazardous liquid transmission pipelines and information from the database regarding those locations.

(c) Nothing in this section shall alter any existing duty under any other statute or decisional law imposed upon the seller or broker, including, but not limited to, the duties of a seller or broker under this article, or the duties of a seller or broker under Article 1.5 (commencing with Section 1102) of Chapter 2 of Title 4 of Part 4 of Division 2.

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION (CAL FIRE)

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California[13]. CAL FIRE ranks fire threats based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threats.

CALIFORNIA FIRE CODE

California Code of Regulations, Title 24, also known as the California Building Standards Code, contains the California Fire Code (CFC), included as Title 24, Part 9. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution.

SOUTH COUNTY FIRE AUTHORITY

The South County Fire Authority (SCFA) is tasked with responding to both emergency and non-emergency hazardous materials incidents[14]. As part of this role, the SCFA employs a Hazardous Materials First Responders team specifically trained in reducing impacts associated with hazardous materials incidents. The First Responders team consists of four Hazardous Materials Technicians/Specialists per shift (12 total); two of those four on-duty personnel and the Haz-Mat equipment are based at SCFA Station 96, located at Grant Line Road and Parker Avenue in Tracy. Hazardous Materials Technicians/Specialists that can participate as first responders are also available at other stations, including at SCFA Station 94/ the California Department of Forestry and Fire Protection Station 26 on Old Schulte road adjacent to the THSP Project Area, depending on personnel assignments.

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[13] CAL FIRE, http;//www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_development.php, accessed on March 23, 2014.
[14] Tracy Fire Department, http://www.ci.tracy.ca.us/index.cfm?navId=846, accessed on March 23, 2014.

CITY OF TRACY

TRACY MUNICIPAL CODE

The City of Tracy's Municipal Code addresses a variety of hazards and related topics, including hazardous materials and waste and airport safety. The California Fire Code is adopted as Chapter 9.06 of the Municipal Code. Section 5.24.130 of the Municipal Code requires notification of the City, EPA Regional Waste Management Division Director, and "state hazardous waste authorities" (i.e., DTSC) of all hazardous waste discharges to the sewer. Section 5.24.260 of the Municipal Code requires that waste not permitted to be discharged into the community sewer must be transported to a State-approved disposal site, and the required "Waste Haulers Report" must be completed and a copy kept at the facility and the waste hauling manifest must be made available upon demand by the City, and retained for a minimum of three years. Article 27 of the Municipal Code establishes an Airport Overlay zone intended to regulate land uses adjacent to the Tracy Municipal Airport by limiting activities and construction in aircraft approach areas within the City limits. Chapter 3.24 of the Municipal Code provides for the preparation and carrying out of plans for the protection of persons and property within the City in the event of an emergency, including from fire or pollution. All officers and employees of this City, together with volunteer and other forces enrolled to aid them during an emergency, shall constitute the Emergency Organization of the City. This section provides for the direction of the Emergency Organization, and coordination of the emergency functions of the City and all other public agencies, corporations, organizations, and affected private persons.

Tracy General Plan

The Tracy General Plan includes several policies that are relevant to hazards and hazardous materials for the Project. Key policies from the General Plan are listed in Table 4.8-3, *General Plan Policies Relevant to Hazards and Hazardous Materials.*

Table 4.8-5 General Plan Policies Relevant to Hazards and Hazardous Materials

Public Facilities Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-1	**Minimal loss of life and property from fires, medical emergencies and other types of emergencies.**
Objective PF-1.1	*Strive to continuously improve the performance and efficiency of fire protection services.*
Policy P1	The City shall provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the City.
Objective PF-1.2	Promote coordination between land use planning and fire protection.
Policy P1	Fire hazards shall be identified and mitigated during the project review and approval process.
Policy P6	The City shall use physical site planning as an effective means of preventing wildland fires by requiring the following: • Drought-resistant native plants incorporated into public works projects. • More than one ingress/egress road to any neighborhood in areas subject to wildland fires. • Roadways with grades that accommodate emergency vehicles. • Structures that are constructed of fire-resistant materials.

Table 4.8-5 General Plan Policies Relevant to Hazards and Hazardous Materials

Safety Element	
Goal/Policy No.	Goal/Policy Content
Goal SA-3	**Protection of lives and property from wildland fire hazards.**
Objective SA-3.1	*Evaluate the potential for wildland fire hazards when considering new development.*
Policy P1	All development in areas of potential wildland fire hazards shall include the following: • Clearance around structures. • Fire-resistant ground cover. • Fire-resistant roofing materials.
Policy P2	Development in areas with steep terrain shall be restricted as necessary in order to ensure fire safety.
Policy P3	New developments shall satisfy fire flow and hydrant requirements, street widths and design requirements as established by the City.
Policy P4	The City shall incorporate drought-resistant and fire resistant plants in public works projects in areas subject to wildland fires.
Policy P5	The City of Tracy Fire Department shall train regularly for urban and wildland firefighting conditions.
Goal SA-4	**Protection from the harmful effects of hazardous materials and waste.**
Objective SA-4.1	*Minimize exposure to harmful hazardous materials and waste by Tracy residents.*
Policy P1	Adequate separation shall be provided between areas where hazardous materials are present and sensitive uses such as schools, residences, and public facilities.
Policy P2	When reviewing applications for new development and redevelopment in areas historically used for commercial or industrial uses, developers shall conduct the necessary levels of environmental investigation to ensure that soils, groundwater and buildings affected by hazardous material releases from prior land uses and lead or asbestos potentially present in building materials, will not have a negative impact on the natural environment or health and safety of future property owners or users.
Policy P3	The safe transport of hazardous materials through Tracy shall be promoted by implemented the following measures: • Maintain formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas. • Prohibit the parking of vehicles transporting hazardous materials on City streets. • Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the extent possible.
Policy P4	Emergency response plans shall be submitted as part of use applications for all large generators of hazardous waste.
Policy P5	The City shall continue to encourage the reduction of solid and hazardous waste generated within the City, in accordance with countywide plans.
Policy P6	The City shall partner with San Joaquin County to implement the Hazardous Materials Area Plan.
Goal SA-5	**Protection from the risks associated with aircraft operations at the Tracy Municipal Airport.**
Objective SA-5.1	*Ensure that land uses within the vicinity of the Tracy Municipal Airport are compatible with airport restrictions and operations.*
Policy P1	Ensure the new development shall be consistent with setbacks, height and land use restrictions as determined by the Federal Aviation Administration and the San Joaquin County Airport Land Use Commission, as well as the policies of the City's Airport Master Plan.

Source: City of Tracy General Plan, 2011.

4.8.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. The Project would have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or,
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; or,
- 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; or,
- 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; or,
- 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; or,
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or,
- 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 IMPACTS AND ANALYSIS

SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE AND DISPOSAL OF HAZARDOUS MATERIALS

The types of uses and facilities allowed in the Project Area may generate, store, use, distribute or dispose of hazardous materials such as industrial waste, oils, solvents, paints, diesel fuel, hydraulic fluid and corrosives. Table 4.8-6, *Hazardous Material Usage Within the Project Area*, summarizes typical hazardous material types by Project Land Use category. The Project would not create a significant impact through the transport, use or disposal of hazardous materials since all uses and facilities are required to comply with all applicable federal, state and regional regulations which are intended to avoid impacts to the public or environment. If during the individual development review process, the City of Tracy determines that a prospective user may generate inordinate quantities or unusual hazardous waste material, the proposed development may be subject to further review prior to approval.

Table 4.8-6 Hazardous Material Usage Within the Project Area

Land Use Designation	Operations/Activities	Hazardous Materials
Residential (including Elementary School)	One family and multiple-family dwellings	Heavy metals, household chemicals, paints, pesticides, petroleum, oil, lubricants, thinners, fertilizers and solvents.
Business Park	Including administrative, financial and commercial services.	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, paints, pesticides, petroleum, oil, lubricants, thinners and solvents.
Industrial	Including manufacturing, warehousing and associated uses.	Aerosols, catalyst, corrosives, fuels, heavy metals, heating oils, ammonia, ignitable, pesticides, petroleum, oil, lubricants, reactives and solvents.
Office and Medical	Commercial office building accommodating professional and/or administrative services.	Heavy metals, household chemicals, pesticides, pharmaceuticals and radiological sources.
Commercial	Retail and service oriented land uses.	Aerosols, cleaners, corrosives, fuels, heating oils, household chemicals, ignitable, paints, pesticides, petroleum, oil, lubricants, thinners and solvents.
Park/Open Space	Passive walkways and picnic areas.	Aerosols, cleaners, fuels, heating oils, household chemicals, paints, pesticides, petroleum, oil, lubricants, thinners and solvents.

As part of the THSP Project, Mitigation Measure 4.8-1 referenced below would need to be implemented to require facilities that exceed the threshold specified by Health & Safety Code Section 25532(l) to prepare and implement an RMP. With implementation of the RMP requirement and compliance with all applicable federal, state and regional regulations, potential impacts would be reduced to *less-than-significant*.

SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLE FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT

2012 Phase I ESA Findings

The 2012 Phase I ESA investigations included a review of local, State, and Federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources, a reconnaissance of the Project Area to review use and current conditions and to check for the storage, use, production or disposal of hazardous or potentially hazardous materials and interviews with persons and agencies knowledgeable about current and past site use.

The reconnaissance and records research did not find documentation or physical evidence of soil or groundwater impairments associated with the use of the Project Area.

A review of regulatory databases maintained by County, State, and Federal agencies found no documentation of hazardous materials violations or discharge on the Project Area. A review of regulatory agency records and available databases did not identify any documented soil or groundwater contamination associated with abutting properties that would be expected to impact the Project Area. However, review of historical records and the site reconnaissance identified two underground crude oil pipelines (both located within the Project Area) and adjacent former sanitary landfills and former gasoline service stations that may have the potential to impact the Project Area. These pipelines and former facilities represent RECs for the Project.

According to the Phase I ESAs, a Phase II ESA is recommended to assess the potential of a release from the pipelines. Mitigation Measure 4.8-2 requires a qualified Site Characterization specialist to conduct a site characterization at the Project regarding the active pipelines prior to issuance of building permits, in consultation with Conoco Phillips, Shell and EHD. Upon completion of site characterization activities, remedial activities, if necessary, would be recommended and implemented in consultation with EHD. With implementation of Mitigation Measure 4.8-2, potential impacts associated with accidental leakage from the active pipelines would be reduced to *less-than-significant* levels.

LLNL 2012 Environmental Report Findings

According to the LLNL 2012 Environmental Report, the combination of surveillance and effluent monitoring, source characterization, and dose assessment showed that the radiological dose to the hypothetical, maximally-exposed individual member of the public caused by LLNL operations in 2012 was substantially less than the dose from natural background. LLNL demonstrated good compliance with permit conditions for releases to air and to water. Analytical results and evaluations of air and various waters potentially impacted by LLNL operations showed minimal contributions from LLNL operations. Remediation efforts at Site 300 further reduced concentrations of contaminants of concern in groundwater and soil vapor. Given this facility has undergone significant investigation and characterization and is located over 1.5 mile to the west of the Project Area, impacts from this facility to the Project site are *less-than-significant*.

Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within One-Quarter Mile of an Existing or Proposed School

Active Pipelines

As described above, three active crude oil pipelines and two natural gas pipelines traverse the Project site. The Conoco Phillips 66 pipeline runs in a southeast to northwest alignment north of I-580 within the THSP Phase 1 area. The Shell pipeline runs parallel to I-580 just south of interstate through the Project. The two PG&E natural gas pipelines and the Chevron KLM pipeline bisect the northeast corner of the Project. According to the Phase I ESAs, there is a potential for releases from the crude oil pipelines and potential for environmental impacts from the former landfills and gasoline service stations to impact the Project Area. Mitigation Measure 4.8-2 requires a qualified Phase II/Site Characterization specialist to conduct soil sampling near the location of the active pipelines regarding the potential for past releases to impact the Project Area prior to issuance of building permits, in consultation with Conoco Phillips, Shell, Chevron and EHD. Upon completion of site characterization activities, remedial activities, if necessary, would be recommended and implemented in consultation with EHD. With implementation of Mitigation Measure 4.8-2, potential impacts associated with accidental leakage from the active pipelines would be reduced to *less-than-significant* levels.

Pipeline Safety

As described in the Environmental Setting Section, there are a variety of risk factors pertaining to the natural gas and hazardous liquid underground pipelines present within the Project, which are elaborated on below. The information below is based on the PASR [15] and the PSHA[16]

It should be noted that based on recent case law, this analysis regarding pipeline and aqueduct safety is not required by CEQA, insofar as CEQA is intended to require analysis of a project's impact on the environment, but not the impact of the existing environment on the Project. Nonetheless, this EIR provides this analysis for informational purposes.

Potential Consequences of Liquid Petroleum Pipeline Failures for the Proposed Elementary School in THSP Phase 1

For liquid petroleum/hydrocarbon releases, the 2007 Protocol requires the evaluation of three potential scenarios, flash fire, liquid pool fire, and vapor cloud explosion. The dispersion and flammability properties used in these analyses in accordance with the Protocol manual are based on those of hexane, which is used as a surrogate for gasoline. Hexane is considered a worst-case scenario at the proposed school site because gasoline is more volatile and flammable than crude oil, which is the product transported in the Conoco and Shell pipelines. Therefore, the impacts of a gasoline release could result in greater impact distances and consequences than the release of crude oil. The Protocol assumes a default time of 15 minutes to shut-off of a pipeline after a failure. For liquid pipelines, there must be consideration that the hazard source may be located away from pipeline right-of-way because the liquid petroleum product can flow down slopes or along roadways. Therefore, the ignition that could lead to a flash fire, a pool fire, or a vapor cloud explosion may be at some distance from the release point at the pipeline. For relatively flat terrain, the Protocol analysis assumes that a circular pool will form at the pipeline point of release. In sloping terrain, including drainage channels or roadways, a Stage 3 analysis may be required at the discretion of the CDE.

The following is an estimate of likely impacts at the proposed school site due to a full pipeline break along the Conoco and Shell pipelines at locations immediately upstream of (and the closest point to) the proposed school site. Estimates are based on the pipeline characteristics shown in Table 4.8-2, *Conoco and Shell pipelines Characteristics near the Proposed Tracy Hills School Site,* and the Protocol analysis process, although the full Protocol analysis was not performed. As mentioned above, flash fire, liquid pool fire, and unconfined vapor cloud explosion are the liquid petroleum hazards evaluated by the Protocol methodology. The risk discussions for the two pipelines presented below do not include unconfined vapor cloud explosion because it has such a remote chance of occurrence and confined conditions are unlikely considering the site, pipeline distances, and typical wind conditions.

It is possible that cases may exist where there could be partial confinement from groupings of off-site residential buildings near the school. However, due to the relatively low volatility of crude oil compared to gasoline and the prevalence of daytime winds blowing generally parallel to the pipelines, the likelihood of a vapor cloud explosion is remote. However, a semi-confined underground vapor cloud explosion in future storm drain structures is discussed below.

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[15] Wilson Geosciences, Inc.. Liquid Petroleum Pipeline Risk and California Aqueduct Flood Risk for the Proposed Tracy Hills School Site, Jefferson School District, City of Tracy, San Joaquin County, California. May 2013

[16] PlaceWorks. Pipeline Safety Hazard Assessment, Tracy Hills Specific Plan. September 2014

Conoco Pipeline

The Conoco pipeline is located approximately 680- to 700-feet southwest of the proposed school site boundary (Figures 4.8-2, *The Location Maps for the Proposed Tracy Hills School Site* and 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*.). For purposes of this discussion, it is assumed that a full pipeline rupture would occur adjacent to the residential development area. In order to illustrate several possible resulting "pools" of crude oil, a hypothetical flow paths across existing topography was considered. It is important to recognize that the hypothetical flow paths shown on Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site* and pool locations do not consider future grading and development.

Three 500-feet diameter circles (A, B, and C) and an isosceles triangle (D) are shown on Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*. Only Pool E does not represent an existing condition, but rather a worst-case crude oil pool configuration along the planned main roadway extending to Corral Hollow Road on the east and the aqueduct on the north.

Currently, based on the pipeline location crossing natural topography, these flow paths are considered reasonable forming a fan-shape down gradient (north) toward the Site (Pool D), and circular pools west toward the natural drainages (Pools A and B), and east toward Corral Hollow Road (Pool C); as mentioned, Pool E is not an existing condition. When reaching the south edge of the aqueduct, some liquid product could flow into drainage structures across the aqueduct (shown by the blue solid arrow symbols on Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*), but most would collect in the low area south of the aqueduct and west of the proposed school site.

The irregular-shaped area bounded by the thick gold line (Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*) is the hypothetical area that could be filled (requiring an extremely unlikely 8 hours of drainage from the pipeline north of the proposed school site) before the liquid petroleum pool surface reached elevation where it could flow into the aqueduct limiting the pool size within the Project Area. This is shown only for reference since it is such an extreme and unreasonable condition, particularly considering the planned development grading. None of the hypothetical 500-feet diameter circular pools should produce an impact at the proposed school site from flash fire.

With regard to triangle D, the crude oil would make its way across the Project as the current topography exists (no mitigation considered) and there would be an impact with the existing condition for flash fire and liquid pool fire. With current conditions, the proposed school site could be impacted by flash fire only from the Pool D scenario prior to grading. The Pools A and B distances to the west edge of the proposed school site as shown on Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site* are 1000-feet and 1600- feet, respectively.

The PASR concluded that a full breach of the Conoco pipeline up slope from the proposed school site, or the drainages leading to Pools A, B and C, should produce *no impact* at the proposed school site from liquid pool fire. The proposed school site would be less vulnerable to a crude oil impact given the use of gasoline used in this analysis is more volatile and flammable than crude oil.

Shell 20-inch Pipeline

The Shell pipeline is located approximately 2,250-feet southwest of the proposed school site (Figures 4.8-2, *The Location Maps for the Proposed Tracy Hills School Site* and 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for*

the Proposed Tracy Hills School Site). Based on the location of the Shell pipeline along the southwest edge of the I-580 and the intervening man-made and natural topography, the PASR concluded that it is very unlikely that liquid petroleum product flowing from a full pipeline break could reach a point within 1500-feet of the proposed school site.

Only two possible flow path scenarios are considered reasonable based on the conditions shown on Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*. First, if by some means the liquid flowed onto the I-580 and crossed the southbound lanes it would remain within the median and flow to the southeast in a direction and to a location that would present no concern to the proposed school site. In this scenario, an approximately 80-feet wide "rectangular pool" would be formed in the center median area approximately 2,150-feet from the proposed school site. It may be possible that some liquid could enter inlets to the Caltrans drains beneath the freeway (discussed below). This should produce *no impact* from flash fire, liquid pool fire, or vapor cloud explosion at the proposed school site.

Second, the flow could pass through any of the three culverts (shown by the blue dotted arrow symbols) that pass beneath the I-580 just upslope from the proposed school site. Two culverts (marked X and Y on Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*) pass beneath I-580 and into the relatively narrow secondary drainages that drain to the north to the California Aqueduct to Pools A and B previously discussed. Under existing conditions with the shallow ground slope and soils present along the flow path, it is unlikely that 50 percent of the liquid could reach these pool locations; most would be remain within the narrow drainages (see Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*).

Potential impacts would therefore be less than those described for the Conoco Phillips pipeline. If the liquid petroleum passed through culvert Z and under I-580, it would exit onto a broad ridge upslope from the proposed school site and likely form a fan-shaped "pool" as described for triangular Pool D except much broader. Because of the relatively low gradient (gentle slope), it is unlikely that the crude oil would make its way across the area upslope from the proposed school site as the current topography exists and the pool would form adjacent to the I-580 more than 1500 feet away, yielding *no impact* to the proposed school site area for flash fire, liquid pool fire, or vapor cloud explosion.

Conclusions Regarding Pipeline Safety for the Proposed Elementary School in THSP Phase 1

The PASR concluded that together, the pipeline characteristics (location, age, pressure, product type, diameter, and flow rate), the site topography, and the Protocol methodology suggest if the site area were left in an undeveloped state there may be some flash fire and pool fire heat risk within the future school site from Pool D due to a full rupture of the Conoco Phillips 16-inch diameter crude oil pipeline. The PASR also concluded, even without a full Stage 2 or 3 analysis that the risk at Pools A, B, and C should be below any significance threshold of concern in the 2007 Protocol. Additionally unconfined vapor cloud explosion (UVCE) is considered a rare event by the Protocol, especially for crude oil[17], therefore is not considered a credible risk at the proposed school site.

[17] California Department of Education (CDE). Guidance Protocol for School Site Pipeline Risk Analysis, updated 2009 (including Potential Areas of Attention-Mitigation/Management Measures, 2012). http://www.cde.ca.gov/ls/fa/sf/protocol07.asp.

Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site* shows Pool E that would form along the future planned main access road parallel to the southern school boundary and extend into the development along the road to the north toward the aqueduct. That pool would be approximately 2250 feet long and is assumed to be a maximum of 80 feet wide (assumed as approximately the road width). For this analysis it is assumed that the full pipeline rupture would occur at location 4 (Figure 4.8-3, *Liquid Petroleum Pipelines and Potential Impact Areas for the Proposed Tracy Hills School Site*) and flow would be to the east and north along the access road. As indicated above, even though the Shell pipeline is at a significant distance from the Site (2250-feet), the main risk issue is the surface flow of crude oil could enter existing drainage culverts. It is understood that in the future condition these drainage culverts would be connected to the development surface drainage (streets) or underground drainage (sub-drains). Flow of liquid product under I-580 onto surface streets is unlikely, but could result in product flow north to the main access road where it could conceivably form Pool E (future condition) with the results described above. If the liquid product were to flow into the underground subdrain system (confined spaces), an explosion event would be possible. Impacts from such a confined explosion should be relatively small at the ground surface and therefore, no significant impact would occur at the proposed school site.

There are grading and drainage mitigations recommended in the PASR that would minimize the potential for a full pipeline rupture of either the Conoco Phillips or the Shell pipelines to impact the proposed school site. With implementation of Mitigation Measure 4.8-3, potential impacts associated with flash fire and pool fire heat risk to the proposed school would be reduced to *less-than-significant* levels.

Release and Consequence Scenarios Associated with Pipelines and Proposed Development

Topography does not affect releases from natural gas pipelines, because released methane is buoyant and would disperse into the air. However, topography is important for crude oil pipelines in determining the direction and location of released crude oil. The general topographic gradient of the THSP is from southwest to northeast. The detailed configuration of the Project has not yet been determined, except for Phase 1. If releases were to occur given current conditions from either the Chevron or Shell crude oil pipelines, the flow would be to the northeast. The flow from the Chevron pipeline would be toward the northeast corner of the THSP.

Two accident scenarios were evaluated for each pipeline: 1) a rupture or large volume release equal to the pipeline's diameter, and 2) a leak or small volume release from a 1-inch diameter hole. Three potential consequences were evaluated for each accident scenario: 1) jet flame for natural gas or pool fire for crude oil, 2) flash fire from a flammable vapor cloud, and 3) explosion. According to the PSHA, for all of the pipelines, both natural gas and crude oil, the model runs indicated that an explosion would not occur under current and proposed conditions.

The USEPA approved computer model ALOHA (Areal Locations of Hazardous Atmospheres) was used to determine the hazards from each accident scenario as per the CDE protocol (USEPA, 2006). The approach for the analysis consists of the following steps:

- Determine the event tree for pipeline failure
- Determine the probability of immediate ignition or delayed ignition for the various release scenarios (i.e., jet fires, vapor clouds, and explosions)
- Apply conditional probabilities of fatality given exposure for each type of consequence
- Add the likelihood of all probabilities of fatalities for all release scenarios

- Determine the individual risk to occupants of the proposed development
- Calculate the heat flux on the nearest building to determine the potential for a structure fire at the setback distance of 18 feet.

An acceptable level of individual risk for hazards associated with underground pipelines has not been established by the State of California or the Federal government for new development projects. Standards that have been proposed by various governmental agencies and the standard used by the CDE in evaluating new schools in close proximity to pipelines is a risk level below 1 x 10-6 (one in a million) probability of fatality as being acceptable.

The three pipelines within the PG&E easement were evaluated together, because they are in a common corridor. The analysis evaluated the potential risk to a worker in the light industrial area of the proposed development standing outside at the edge of the PG&E easement. This was calculated to be a distance of 10 feet from the 36-inch natural gas pipeline, 15 feet from the 26-inch natural gas pipeline, and 6 feet from the centerline of the 12-inch natural gas pipeline. The results are summarized herein:

- 26-Inch Natural Gas Transmission Pipeline – 1.3 x 10-7
- 36-Inch Natural Gas Transmission Pipeline – 1.9 x 10-7
- 18-Inch Chevron Crude Oil Pipeline – 1.7 x 10-7

The calculated risk for each pipeline is less than the significance threshold of 1.0 x 10-6 (one in a million) probability of fatality and the total cumulative risk for all pipelines within the corridor is also less than the significance threshold. Therefore, the 50-foot easement for the PG&E and Chevron pipeline is within the normally acceptable range of individual risk for workers at the adjacent development within the THSP.

For the PPL pipeline located in a 16.5-foot wide easement that bisects the THSP area, the calculated individual risk of fatality for a resident standing at the edge of the easement for 6 hours/day and 365 days/year (i.e., approximately 8 feet from the pipeline) was determined to be less than the significance threshold of 1.0 x 10-6. Additional setbacks ranging from 12 to 27 feet from the edge of the easement are also planned for proposed residential parcels adjacent to the PPL pipeline easement. Additionally, the pipeline would be located in a dedicated easement. Along the west side of Spine Road in the southern portion of the development, any released crude oil would drain toward the street. In addition, crude oil released in the area adjacent to detention basin would drain into this basin. Drainage for the proposed development would be designed so that stormwater drainage from open space along the easement would not enter the residential yards or properties. Therefore, in the unlikely event of a release from the crude oil pipeline, released liquid would also drain in a manner that should not impact adjacent residences.

For the Shell crude oil pipeline located in a 20-foot wide easement along I-580, the calculated individual risk of fatality for a resident standing at the edge of the easement for 6 hours/day and 365 days/year (i.e., approximately 10 feet from the pipeline) was determined to be less than the significance threshold of 1.0 x 10-6 (one in a million). The pipeline is also located within a 100-foot wide conservation easement and the actual distance between the centerline of the pipeline and the nearest structure/development would be more than 50 feet. Therefore, the risk to residents would be further diminished. Also, based on the current and probable future topography of the site, a break in this pipeline would drain toward I-580 and away from the proposed residences. Mixed use is also planned along this easement and would result in a lower calculated risk, due to

being exposed less than a resident in this same area. Furthermore, it is unlikely that residents would spend 6 hours/day outside of their homes; research shows that California residents typically spend no more than 1.2 hours/day outdoors (CARB, 1991).

The results of the risk analyses for all five pipelines are well below the significance threshold of one in a million (1.0 x 10-6); therefore, no significant impact would occur to the development within the THSP.

An additional calculation was conducted to determine the risk associated with buildings located at setback distances of 18 feet and 13 feet from the centerline of the pipeline, or 10 feet or 5 feet from the edge of the easement, as per the negotiations between Tracy Hills Project Owner, LLC and Phillips 66 Pipeline Company. In some cases, the distance between habitable structures and the centerline of the pipeline in Phase I would be greater. In the event that crude oil from the pipeline ignited, the 4 to 6 parcels that would be 13 feet from the centerline of the pipeline would be exposed to a heat flux value much less than the 10,000 BTU/hr-ft2 that would be required to ignite a building. Therefore, siting buildings within 5 to 10 feet of the PPL pipeline would not pose a fire risk in the unlikely event that the pipeline ruptured and subsequently ignited.

There are setback mitigations recommended in the PSHA Report that would minimize pipeline risk to proposed development within the THSP. With implementation of Mitigation Measure 4.8-4, potential impacts associated with pipeline releases to the proposed development would be reduced to *less-than-significant* levels.

Aqueduct Safety

Potential Consequences of Aqueduct Full Breach/Rupture for the Proposed Elementary School in THSP Phase 1

Flooding, rapid water flow and erosion concerns are not believed to be potential risks at locations adjacent to and higher in elevation than the aqueduct. Adjacent to the proposed school site the aqueduct trapezoidal design carries water below adjacent grades as opposed to a levee type system, which stands above surrounding topography. Because the aqueduct water level is roughly elevation 241- to 242-feet adjacent to the proposed school site and the school site pad elevation would likely be approximately elevation 265-feet, there is no reasonable scenario where a breach in the aqueduct can raise flood waters to the future pad level. Any erosion would be at lower elevations (less than 242-feet), therefore would not impact the proposed school site. In addition, the PASR concluded that there is no reasonable pathway in the 100-foot wide aqueduct easement area by which water from an aqueduct breach to the northwest or southeast away from the proposed school site could flow along the south edge of the aqueduct and reach the proposed school site. This is due to the generally similar or lower elevations of these areas and to the similar below grade construction. The PASR concluded that there is no reasonable scenario where flooding, water flow, or erosion poses a direct risk to the proposed school site.

The PASR also concluded that the separation of the proposed school site boundary of 100 feet from the aqueduct easement and approximately 5 to 10-feet in elevation compared to the top edge of the trapezoidal channel, appears consistent with the CDWR recommendation for an open space/greenbelt along the aqueduct. The PASR states that this area would be capable of moving excessive flow (to be determined by the necessary project-specific hydrology study) eastward to the natural drainage area east of Corral Hollow Road. This would provide sufficient extra protection should any upstream water flow be determined to possibly move toward the proposed school site along the south edge of the aqueduct. The Project includes an approximately 41-acre

corridor along the Aqueduct, which provides the recommended separation distance between the aqueduct and the proposed school site. However, as discussed above, the CDE is responsible for assessing the risk to school sites posed by liquid petroleum and water pipelines/aqueducts. Therefore, Mitigation Measure 4.8-5 referenced below would be required to determine that the proposed school site in THSP Phase 1 is in compliance with all siting requirements due to the nearby aqueduct. With implementation of this requirement, potential impacts would be reduced to *less-than-significant*.

LOCATED ON A SITE WHICH IS INCLUDED ON A LIST OF HAZARDOUS MATERIALS SITES INCLUDED ON GOVERNMENT CODE SECTION 65962.5

The THSP Project is not included on a hazardous sites list compiled pursuant to California Government Code Section 65962.5.[18] No significant adverse impacts relative to hazardous materials sites would result with project implementation.

A PROJECT LOCATED WITHIN AN AIRPORT LAND USE PLAN OR, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT RESULTING IN A SAFETY HAZARD FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA

A portion of the Project Area is located within the Tracy Municipal Airport, Traffic Pattern Zone 7 in the 2009 San Joaquin Airport Land Use Compatibility Plan (ALUCP). With the exception of wildlife hazards, hazard impacts associated with the Tracy Municipal Airport are discussed in Section 4.10, *Land Use*.

In regards to the proposed terminal retention ponds described in Section 4.9, *Hydrology/Water Quality*, these basins are subject to the recommendations of FAA AC No. 150/5200-33B to control wildlife hazards. The retention basins should be designed, engineered, constructed and maintained for a maximum 48-hour detention period after the design storm and remain completely dry between storms.[19] In the event that the basins cannot be designed to meet these standards, the FAA recommends that physical barriers be used to minimize the use of these basins by wildlife.

The terminal retention basins have been designed to have 4:1 side slopes, 12-foot access roads within a 20-foot wide setback area around each basin and access to the basin bottom.[20] The City Design Standards require that a retention basin shall be designed to empty 100 percent of the volume within 10 calendar days. The proposed retention basins have been designed in accordance with the City Standards and FAA AC No. 150/5200-33B. The basins are designed within the parameters of the FAA standard; however, in the event that retention time is increased and falls out of compliance with the requirements of FAA AC No. 150/5200-33B, Mitigation Measure 4.8-6 referenced below would be required so that the retention basins use physical barriers to minimize aircraft and wildlife interactions. With implementation of this requirement, potential impacts would be reduced to *less-than-significant*.

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18 California, State of, Department of Toxic Substances Control, DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List). Available at: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm. Accessed: March 23, 2014.

19 FAA, 2007, AC 150/5200-33B Subject: Hazardous Wildlife Attractants on or Near Airports.

20 Ruggeri-Jensen-Azar, City of Tracy, Tracy Hills Storm Drainage Master Plan, November 2013.

A PROJECT LOCATED WITHIN THE VICINITY OF A PRIVATE AIRSTRIP RESULTING IN A SAFETY HAZARD FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA

The Project Area is not located in the vicinity of a private airstrip. Therefore, *no impact* would occur as a result of the Project.

INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN

The Project would not impair or physically interfere with an adopted emergency response or evacuation plan. According to the General Plan Public Facilities Element, Objective PF-1.1 and related Policy P1 directs the City to provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the City. The Citywide Public Safety Master Plan (CPSMP) was prepared by the City to guide with the planning and implementation of public safety facilities needed to serve the existing and future public safety needs in the City.

Mitigation Measures 4.12-1, 4.12-2a and 4.12-2b in the Public Services Section require that future Project Applicants within the Project pay the applicable impact fees, which ensure payment of a proportionate share toward the planned facilities. By complying with the General Plan and providing adequate emergency planned facilities within and near the Project Area, implementation of the Project would result in a *less-than-significant* impact with respect to interference with an adopted emergency response plan or emergency evacuation plan.

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

The southern portion of the Project would be particularly susceptible to a grass or range land fire due to its proximity to the Diablo Range and would form the edge of the urban/wildland interface. However the Project is zoned "Moderate" in the LRA and "Un-zoned" in the SRA. Both zones represent the lowest fire severity on their respective maps.[21] The zones are assigned based on fuels, terrain, fire weather, and other relevant factors and evaluated against a set of standardized criteria for the entire State.[22] Given that the Project has only a limited fire threat, the Project would not increase the risk of wildland fires.

In addition, the City requires brush management of any land that is covered with flammable material such as grass, brush, or forest covered land and adjacent to structures. Development within the THSP is proposed adjacent to conservation easements, which are covered primarily with grass and brush. Mitigation Measures 4.8-8a, 4.8-8b and 4.8-8c referenced below would need to be implemented to require that grasses and brush within 100 feet of structures be mowed to a height of no more than 4 inches or disced in order to minimize the amount of fuel to sustain or allow the spread of fire. With implementation of these requirements, potential impacts would be reduced to *less-than-significant*.

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21 Sapsis, Dave, CAL FIRE. Email correspondence regarding definitions of fire severity zones (email). March 24, 2014.
22 Sapsis, Dave, CAL FIRE. Email correspondence regarding definitions of fire severity zones (email). March 24, 2014.

CUMULATIVE IMPACT ANALYSIS

The cumulative impacts analysis for hazards and hazardous materials relied upon the projections of the General Plan and General Plan EIR. Cumulative impacts relative to hazards and hazardous materials would be impacts that result from incremental impacts relative to hazardous and hazardous materials that, cumulatively, would result in significant impacts.

The General Plan EIR analyzed the long-term development of the City of Tracy and found that no significant impacts relative to hazards and hazardous materials would occur with implementation of the General Plan as General Plan policies and existing programs would prevent the occurrence of significant impacts.

The incremental effects of the Project related to hazards and hazardous materials, if any, are anticipated to be minimal, and any effects would be site-specific. Therefore, the Project would not result in incremental effects to hazards or hazardous materials that could be compounded or increased when considered together with similar effects from other past, present, and reasonably foreseeable probable future projects. The Project would not result in cumulatively considerable impacts to or from hazards or hazardous materials.

IMPACTS AND MITIGATION MEASURES

Impact 4.8-1: Implementation of the Project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Mitigation Measure:

4.8-1 Facilities that store, handle or use regulated substances as defined in the California Health and Safety Code 25532 (g) in excess of threshold quantities shall prepare and implement, as necessary, risk management plans (RMP) for determination of risks to the community. The RMP will be reviewed and approved by the San Joaquin County Environmental Health Department (EHD) through the Certified Unified Program Agencies (CUPA) process.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts from the transport, use and disposal of hazardous materials to a *Less-than-significant* level.

Impact 4.8-2: Implementation of the Project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment.

Mitigation Measures:

4.8-2a Prior to issuance of grading permits, a Phase II ESA focused on soil sampling shall be conducted near the location of the underground crude oil pipelines, as determined by a qualified Phase II/Site Characterization specialist. The sampling shall be conducted in consultation with Conoco Phillips, Shell and the San Joaquin (EHD), with regard to potential contaminated soils from pipeline leaks. Upon completion of site characterization activities, the Site Characterization specialist shall recommend remedial activities, if necessary, in consultation with EHD. This recommendation from the Phase II ESA shall be implemented to the satisfaction of EHD.

4.8-2b Prior to issuance of grading permits, the Project Applicant shall work with Conoco Phillips and Shell to implement and observe a site damage-prevention plan to the satisfaction of the City of Tracy Engineering Division. This may potentially include the following:

- Designing a site development plan incorporating permanent land use over the pipeline right-of-way that minimizes the potential for damage to the lines (as discussed above, this is already an integrated plan design feature, but is listed here because it is an important component of a damage prevention plan);
- Prominently marking the line locations prior to site development, maintaining markings throughout the development process, and final marking after work is complete;
- Communicate plans for significant excavation or land contouring work;
- Identify changes in land contour that could significantly reduce the soil cover over the pipelines;
- Evaluate the effects of heavy construction vehicles crossing the lines, designate areas for heavy construction vehicles to cross the lines, and provide temporary fill or other temporary protection over the lines where necessary;
- Minimize installations of new buried utilities and services across the existing pipelines;
- Evaluate whether the existing lines should be lowered to increase vertical separation between the pipelines and new surface features; and
- Develop other damage-prevention measures as may be necessary.

In addition to the damage prevention measures listed above, the Project Applicant and the pipeline operators should consider other measures for reducing risk suggested in the Pipelines and Informed Planning Alliance (PIPA) recommended practices on informed land use. PIPA recommended practices are not "mandated", but they are best management practices intended to reduce risk and enhance pipeline safety.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts from the accidental release of hazardous materials into the environmental to a *Less-than-significant* level.

Impact 4.8-3: Implementation of the proposed school may be subject to a release from the nearby petroleum pipelines.

Mitigation Measure:

4.8-3 The proposed underground storm drain system, roadways, graded slopes, and final surface topography shall be designed and constructed in accordance with the recommendations outlined in the *Liquid Petroleum Pipeline Risk and California Aqueduct Flood Risk for the Proposed Tracy Hills School Site, Jefferson School District, City of Tracy, San Joaquin County, California* prepared by Wilson Geosciences, Inc. dated May 2013 and to the satisfaction of the City of Tracy Engineering Division.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts to the proposed school site from flash fire, liquid pool fire, or vapor cloud explosion to a *Less-than-significant* level.

Impact 4.8-4: Implementation of the proposed development within the Project may be subject to a release from the nearby natural gas and crude oil pipelines.

Mitigation Measure:

4.8-4 In accordance with the *Pipeline Safety Hazard Assessment, Tracy Hills Specific Plan* prepared by PlaceWorks dated September 2014, proposed development adjacent to the natural gas and/or crude oil pipelines shall implement the following measures:

1. Incorporate a minimum 13-foot setback distance from the centerline of the Phillips 66 pipeline to the nearest buildings/structures in the proposed development.
2. Incorporate a minimum setback distance of 25 feet from the centerline of any pipeline within the two natural gas pipelines and the Chevron crude oil pipeline. This would result in an additional 15 feet on the northeast side of the PG&E easement and an additional 20 feet on the southwest side of the easement to be dedicated as open space or public space or used for landscaping.
3. Incorporate designated land uses over the pipeline easements, such as public space, open space, or green space, to minimize the potential for third party damage.
4. Mark the pipeline locations prior to THSP development, maintaining the markings throughout the development process, and installing final markings after the work is complete.
5. Coordinate with the pipeline operators when development calls for excavation or utility trenching near the pipelines.
6. All contractors must initially pothole or hand dig to the proposed depth of the utility trench or excavation if working within 25 feet of the pipeline easements.
7. Consult with the pipeline operators on whether heavy construction vehicles with axle loads greater than 15,000 pounds would create stress on the pipelines at their current burial depths when crossing the lines and/or easements. Establish temporary fill or other protective measures as needed and establish permanent crossing areas for vehicles in excess of 15,000 pounds.
8. Avoid placing new utilities and services within the pipeline easements and minimize utility crossings over the pipeline easements to the extent feasible.
9. Select landscaping vegetation with shallow root structures within the setback zone to avoid root structures that damage pipeline coatings.
10. Avoid planting trees that prevent direct observation of the pipelines by aerial patrol.
11. Use non-flammable fencing along the pipeline easement.
12. Manage storm water runoff to prevent erosion of the pipeline bedding.
13. Maintain access to the pipelines by pipeline personnel and first responders in the event of an emergency.
14. Project Applicants or sales representatives shall disclose to potential occupants regarding the proximity of the natural gas and crude oil pipelines, as required in accordance with Assembly Bill 1511 – Real Property: Disclosures: Transmission Pipeline.
15. Home Owners Associations (HOA) shall maintain an emergency contact list with phone numbers of the local police, fire department, and pipeline operators (PG&E, Chevron, Phillips 66, and Shell).
16. Coordinate with the pipeline companies so that the property occupants are notified if excavation or maintenance activities for the pipelines are planned along the pipeline easements.

17. Report any roadwork or underground utility work that involves digging in or near the pipelines to the pipeline companies.
18. Report immediately any odors or leakage from the pipelines to the pipeline operator and local emergency response personnel (i.e., the Tracy Fire Department).
19. HOAs shall maintain at an appropriate on-site location an emergency response plan that outlines emergency procedures to be followed in the event of a pipeline release.

For additional detail refer to the September 2014 *Pipeline Safety Hazard Assessment, Tracy Hills Specific Plan.*

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts to the proposed school site from flash fire, liquid pool fire, or vapor cloud explosion to a *Less-than-significant* level.

Impact 4.8-5: Implementation of the proposed school may be subject to a breach or rupture of the California Aqueduct

Mitigation Measure:

4.8-5 The Project Applicant shall secure all necessary approvals through the California Department of Education and Department of Toxic Substances Control for the proposed school site in THSP Phase 1.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts to the proposed school site from hazards associated with its proximity to the active pipelines and Aqueduct to a *Less-than-significant* level.

Impact 4.8-6: The proposed retention basins could attract wildlife that is hazardous to aircraft associated with the nearby Tracy Municipal Airport.

Mitigation Measure:

4.8-6 The proposed retention basins have been designed and constructed in accordance with the recommendations outlined in the Federal Aviation Administration Advisory Circular No. 150/5200-33B to control hazardous wildlife. In the event that the basins do not have a drawdown time of 48 hours following a storm event, the Project Applicant shall fund and the City shall use physical barriers, such as bird balls, wires, grids, pillows or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions which shall be approved and inspected by the City. In addition, all vegetation in or around the basins that provide food or cover for hazardous wildlife should be eliminated.

Significance After Mitigation: Implementation of the Mitigation Measures 4.8-6 would reduce potential impacts from hazardous wildlife on aircraft associated with the nearby airport to a *Less-than-significant* level.

Impact 4.8-7: Implementation of the Project may conflict with the adopted emergency response plan and emergency evacuation plan.

Mitigation Measures:

Refer to Mitigation Measures 4.12-1, 4.12-2a and 4.12-2b

Significance After Mitigation: Implementation of the Mitigation Measures 4.12-1, 4.12-2a and 4.12-2b would reduce potential impacts with respect to interference with an adopted emergency response plan or emergency evacuation plan to a *Less-than-significant* level.

Impact 4.8-8: Implementation of the Project may expose structures adjacent to undeveloped areas to a risk of wildland fires.

Mitigation Measures:

To mitigate the fire protection hazards associated with wildland fires, the Applicant shall:

4.8-8a Provide a 100-foot firebreak between developed areas and any land that is covered with flammable material such as grass, brush, or forest covered land, including ~~conservation easement corridors and~~ conservation easements (including but not limited to ~~Southern Preserve Easement Area~~ CE 1, ~~Southern Preserve Easement Area~~ CE 2, and ~~Tracy 580 Business Park Easement~~ CE 3), but excluding conservation corridors. Grasses or weeds including the conservation corridor, that can be expected to burn shall be cattle grazed, disked or mowed to a height of no more than 4 inches ~~or disced~~ pursuant to the terms of the ~~recorded~~ ~~conservation easement~~ adopted Preserve Management Plan (dated October 2011), and in accordance with City of Tracy Municipal Code in order to minimize the amount of fuel to sustain or allow the spread of fire.

4.8-8b Provide fire department access to all easement corridors and conservation easements (including but not limited ~~to Southern Preserve Easement Area~~ CE 1, ~~Southern Preserve Easement Area~~ CE 2, and ~~Tracy 580 Business Park Easement~~ CE 3) for the purpose of suppressing wildland fires outside of firebreaks.

4.8-8c All new buildings that are located on the south side of I-580 and immediately adjacent to conservation easements (including but not limited to portions of ~~Southern Preserve Easement Area~~ CE 1, Southern ~~Preserve Easement Area~~ CE 2, and CE 3) shall include measures that increase the likelihood that a structure would withstand intrusion by fire. This shall be accomplished by constructing those buildings on the edge of development to the standards of the California Building Code, Chapter 7A, *Building and Construction Methods for Exterior Wildfire Exposure*.

Significance After Mitigation: Implementation of Mitigation Measures 4.8-8a, 4.8-8b and 4.8-8c would reduce the impact of wildlands on adjacent development to a *Less-than-significant* level.

4.9 HYDROLOGY/WATER QUALITY

The purpose of this section is to describe the hydrology, drainage and water quality setting of the Project site, identify potential impacts associated with the Project, and recommend mitigation measures to avoid or minimize the significance of such impacts. Information in this section is based on the Tracy Hills Storm Drainage Master Plan (SDMP) dated September 2014, the City of Tracy General Plan EIR (February 2011), and Water Supply Assessment for Tracy Hills Specific Plan Final Draft Report dated September 2014 (WSA).

4.9.1 ENVIRONMENTAL SETTING

SITE CONDITIONS

CLIMATE

The THSP Project Area is typical to that of San Joaquin County and the broader Central Valley, with two distinct weather seasons; wet and cool winters along with dry and hot summers. Average high temperatures in the winter are in the 50s, and summer high temperatures average in the low 90s.

PRECIPITATION

Precipitation records obtained from various rain gages monitored by the California Department of Water Resources in the Tracy area at elevations ranging from 61 feet to 625 feet indicate that the amount of normal annual rainfall in the Tracy area averages about 12 inches per year. Approximately 95 percent of this rainfall typically occurs from early fall through mid-spring (generally October through May), although infrequent summer showers do occur. Storm events during the rainy season consist of either individual storms or clusters of storms. Major storms of greater magnitude and duration generally occur during the rainy season; however, high intensity thunderstorms (though relatively infrequent) can occur in any season.

TOPOGRAPHY

The THSP Project Area slopes from south to north. The highest elevations along the south edge of the proposed development are approximately 600 feet and the lowest elevation at the north edge is approximately 200 feet. Offsite watersheds extending upstream of the proposed development area have headwater elevations as high as about 1400 feet. The existing topography is shown on Figure 4.9-1, *Tracy Hills Existing Drainage Map*. The hillsides that are proposed to be developed slope north and northeast toward the valley floor and include Interstate 580, the California Aqueduct, the Union Pacific Railroad tracks and the Delta-Mendota Canal. The steepest part of the Project is between the southerly ridge and Interstate 580. The northwestern portion of the Project drains north away from proposed development areas.

MAJOR DRAINAGE FEATURES

There are a number of major drainage features within the THSP Project Area or that have an impact on the THSP Project Area. The California Aqueduct, the Delta Mendota Canal, the Union Pacific Railroad, and Interstate 580 are significant drainage features impacting the Project and are described below. These major drainage features and drainage structure crossings or inlets associated with these features are depicted on Figure 4.9-2, *Tracy Hills Major Drainage Features Map*.

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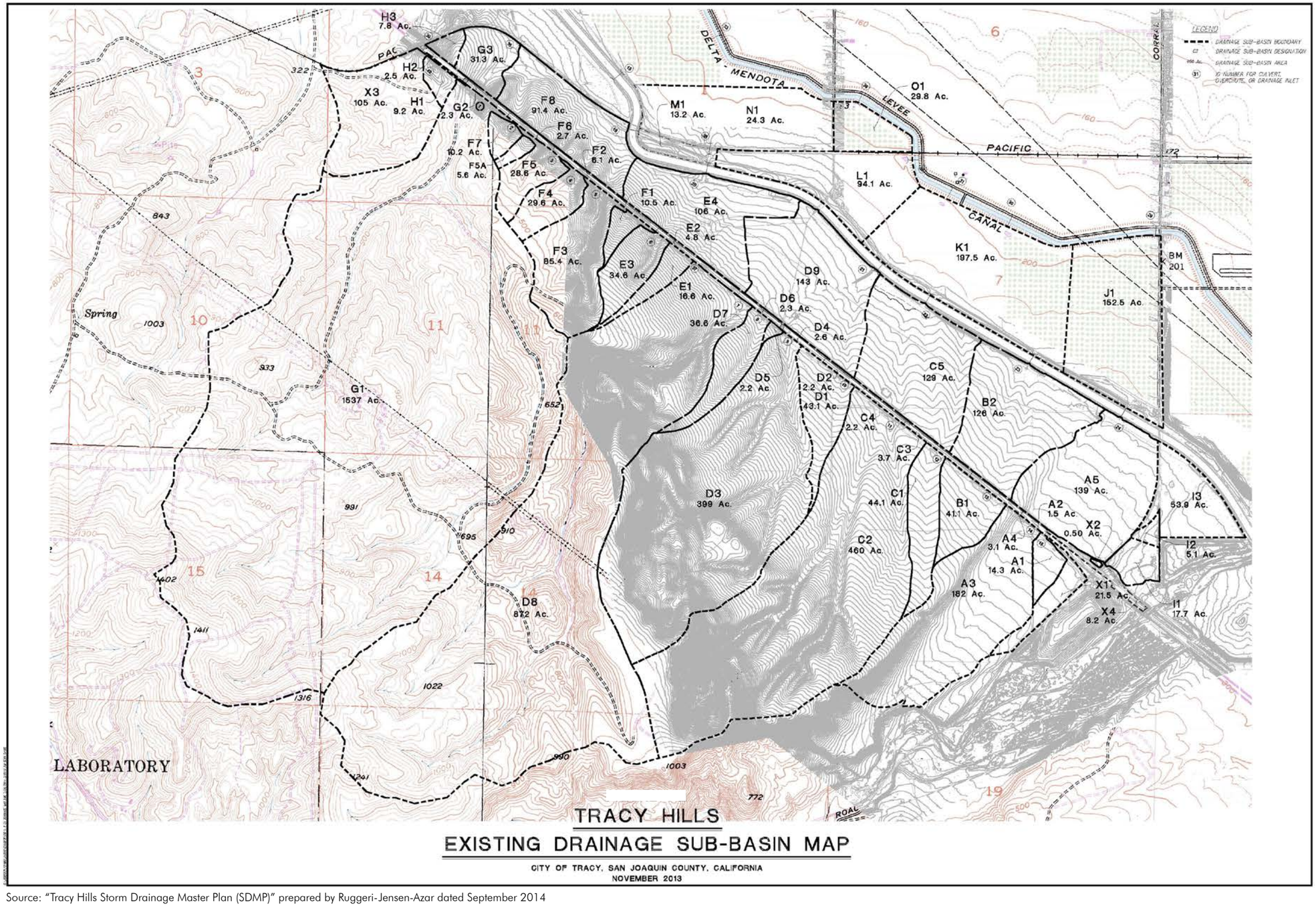

Source: "Tracy Hills Storm Drainage Master Plan (SDMP)" prepared by Ruggeri-Jensen-Azar dated September 2014

FIGURE 4.9-1
TRACY HILLS EXISTING DRAINAGE MAP

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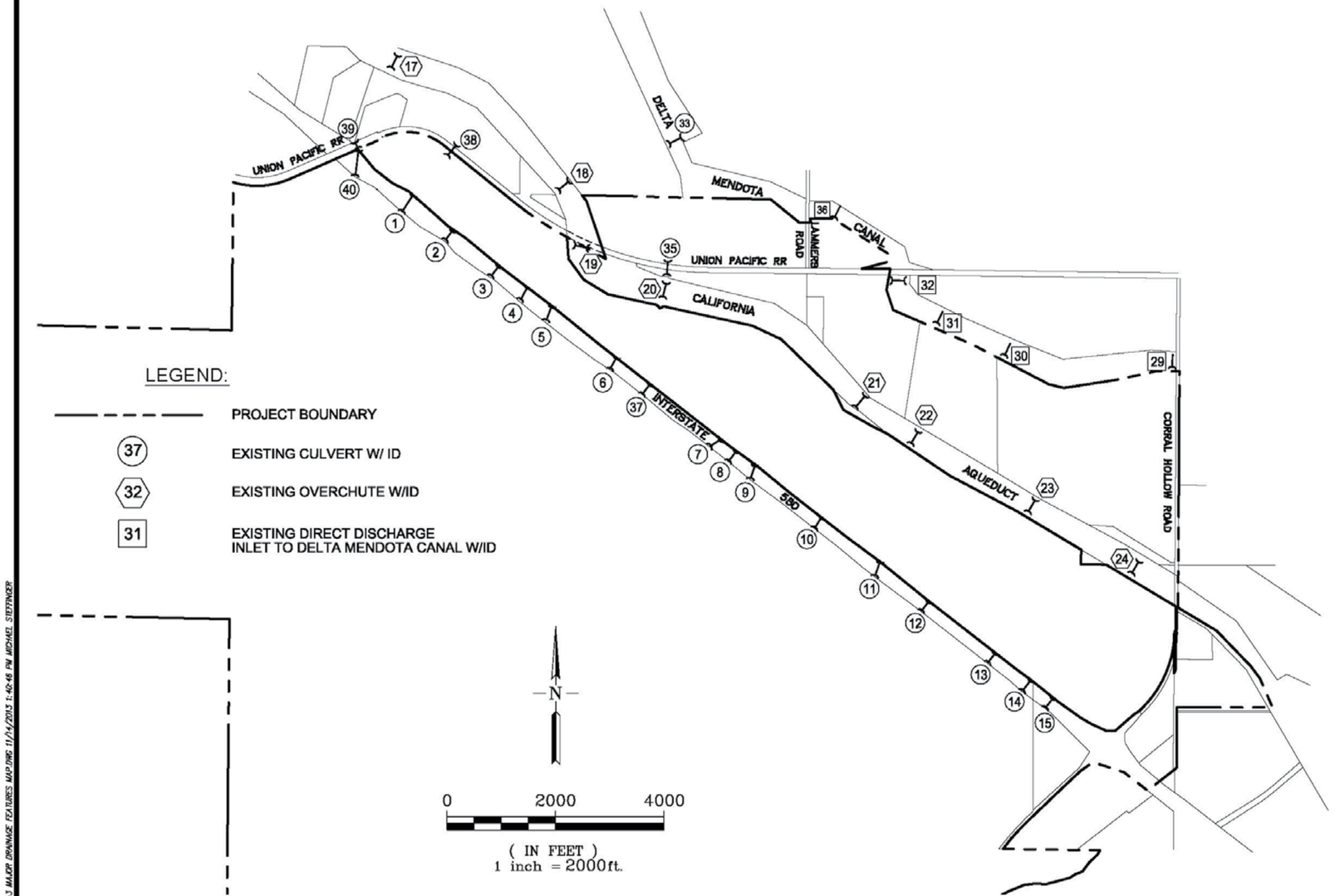

STRUCTURE TABLE	
CULVERT ID	DESCRIPTION
1	2–6 X 5 FT BOX
2	1–24 INCH CIRCULAR
3	1–30 INCH CIRCULAR
4	1–24 INCH CIRCULAR
5	1–42 INCH CIRCULAR
6	1–30 INCH CIRCULAR
7	3–48 INCH CIRCULAR
8	1–30 INCH CIRCULAR
9	1–54 INCH CIRCULAR
10	1–30 INCH CIRCULAR
11	2–48 INCH CIRCULAR
12	1–24 INCH CIRCULAR
13	1–30 INCH CIRCULAR
14	1–36 INCH CIRCULAR
15	1–24 INCH CIRCULAR
17	1–36 INCH CIRCULAR
18	1–36 INCH CIRCULAR
19	2–8 X 6 FT BOX
20	1–36 INCH CIRCULAR
21	1–10 X 4 FT BOX
22	1–36 INCH CIRCULAR
23	1–36 INCH CIRCULAR
24	1–8 X 4 FT BOX
29	1–3 X 2 FT BOX
30	1–3 X 2 FT BOX
31	1–12 INCH CIRCULAR
32	1–4 X 3 FT BOX
33	1–3.5 X 3.5 FT BOX
35	1–14 X 9 FT BOX
36	1–3 X 2 FT BOX
37	1–18 INCH CIRCULAR
38	1–24 INCH CIRCULAR
39	1–24 INCH CIRCULAR
40	1–30 INCH CIRCULAR

G:\06-2012\121063\HYDRO\EXHIBITS\FIG 1-3 MAJOR DRAINAGE FEATURES MAP.DWG 11/14/2013 1:42:48 PM MICHAEL STEFFINGER

Source: "Tracy Hills Storm Drainage Master Plan (SDMP)" prepared by Ruggeri-Jensen-Azar dated September 2014

FIGURE 4.9-2
TRACY HILLS MAJOR DRAINAGE FEATURES MAP

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California Aqueduct

The California Aqueduct traverses across the northern portion of the Project and perpendicular to the direction of drainage flow dictated by topography. Storm runoff is collected on the upstream side of the Aqueduct and is delivered to overchutes that cross over the Aqueduct and culverts that pass underneath the Aqueduct. The California Aqueduct tends to consolidate runoff to fewer locations and often limits the flow rates discharged to lands below the Aqueduct.

Delta Mendota Canal

The Delta Mendota Canal runs generally parallel to and just downslope from the California Aqueduct and forms the north boundary of the Project. It further reduces the number of locations where storm runoff is concentrated. Storm runoff passes over or under the canal via overchutes and culverts and further limits the rates discharged to lands below the canal. The Delta Mendota Canal also contains a significant number of locations where local drainage flow that is collected on the upstream side of the canal simply enters the canal directly via drain inlets and is not released to downstream lands.

Union Pacific Railroad

A Union Pacific Railroad line traverses along the north boundary of portions of the Project. The railroad bed is generally elevated and runoff is collected on the upstream side of railroad bed and is delivered to a limited number of bridge and culvert crossings along the railroad track.

Interstate 580

Interstate 580 generally runs parallel and upslope of the California Aqueduct. The south edge of the Interstate is in both fill and cut. In the areas of fill there are culverts that carry runoff from the south side of the Interstate to the north side. The north side of the Interstate is generally in fill and the runoff from the Interstate drains to the north by pipe or slope down drains off the Interstate.

Offsite Watersheds

Portions of the hills to the southwest of the THSP Project Area drain into the Project, and runoff generated by these offsite watersheds has been accounted for in the master planning of proposed storm drainage facilities in the SDMP.

Downstream Storm Drainage Facilities

There are numerous storm drainage facilities and features downstream of the Project. However, the Project is proposed to be self-contained with respect to storm runoff generated by new development through the incorporation of terminal retention basins and would not impact downstream storm drainage facilities.

FLOODPLAIN AREAS

There is a regulatory (100-year) floodplain area associated with Corral Hollow Creek that extends along the eastern boundary of the THSP Project Area. The 100-year and 500-year floodplains for Corral Hollow Creek have been mapped per FEMA Flood Insurance Rate Map (FIRM) Panel No. 06077C0740F for San Joaquin County, California and Incorporated Areas dated October 16, 2009. These floodplains are depicted on Figures 4.9-3A, *FEMA Floodplain Mapping* and 4.9-3B, *FEMA Floodplain Mapping*. New development areas within the Project would predominantly reside in areas that are significantly higher in elevation than Corral Hollow Creek, and these floodplains would not impact said development. The easternmost edge of the THSP Project Area where General Highway Commercial Land uses are proposed encroach into approximately 2.2 acres of the 500-year flood elevation and 0.1 acres of the 100-year flood elevation.

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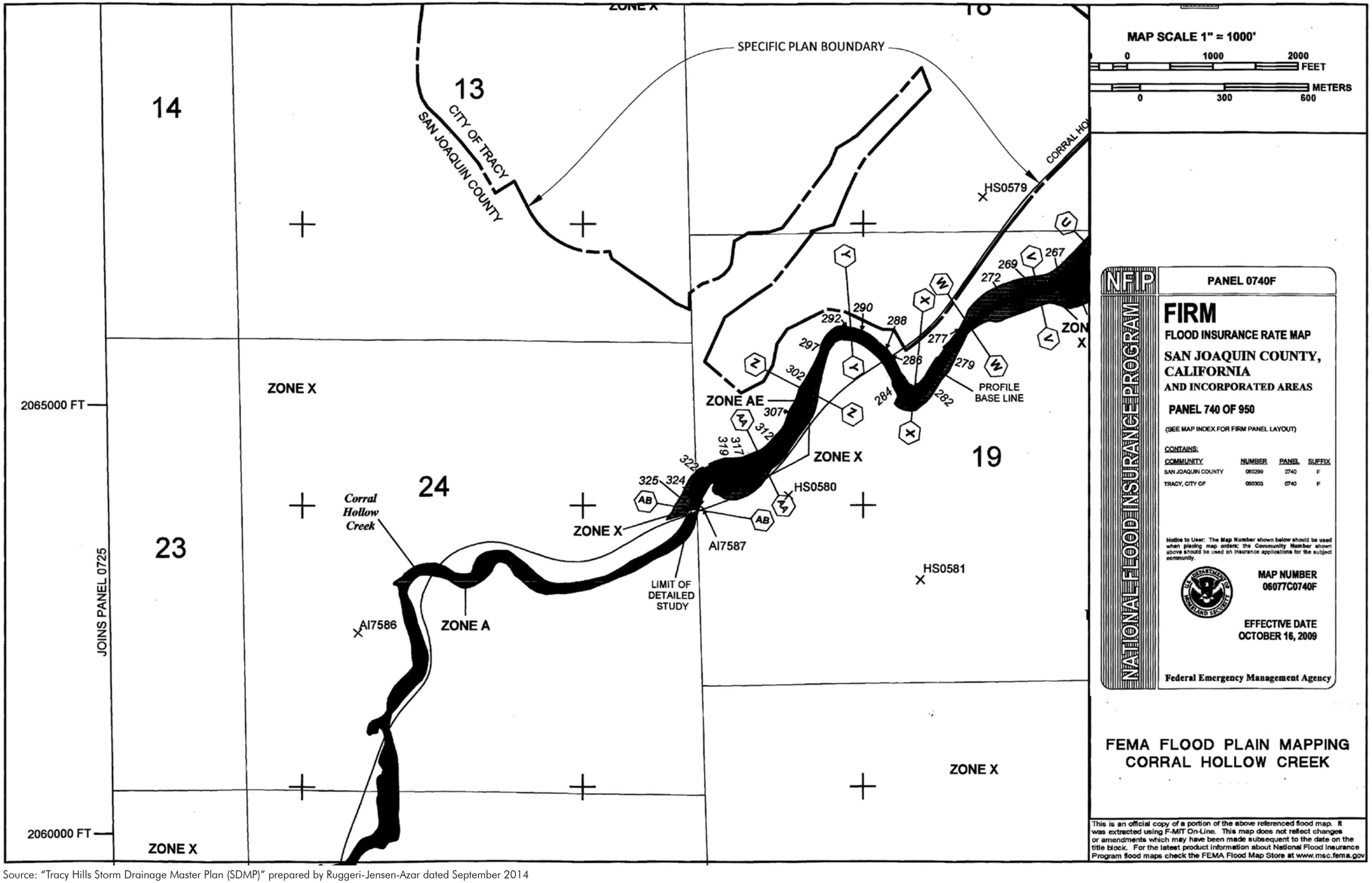

Source: "Tracy Hills Storm Drainage Master Plan (SDMP)" prepared by Ruggeri-Jensen-Azar dated September 2014

FIGURE 4.9-3A
FEMA FLOODPLAIN MAPPING

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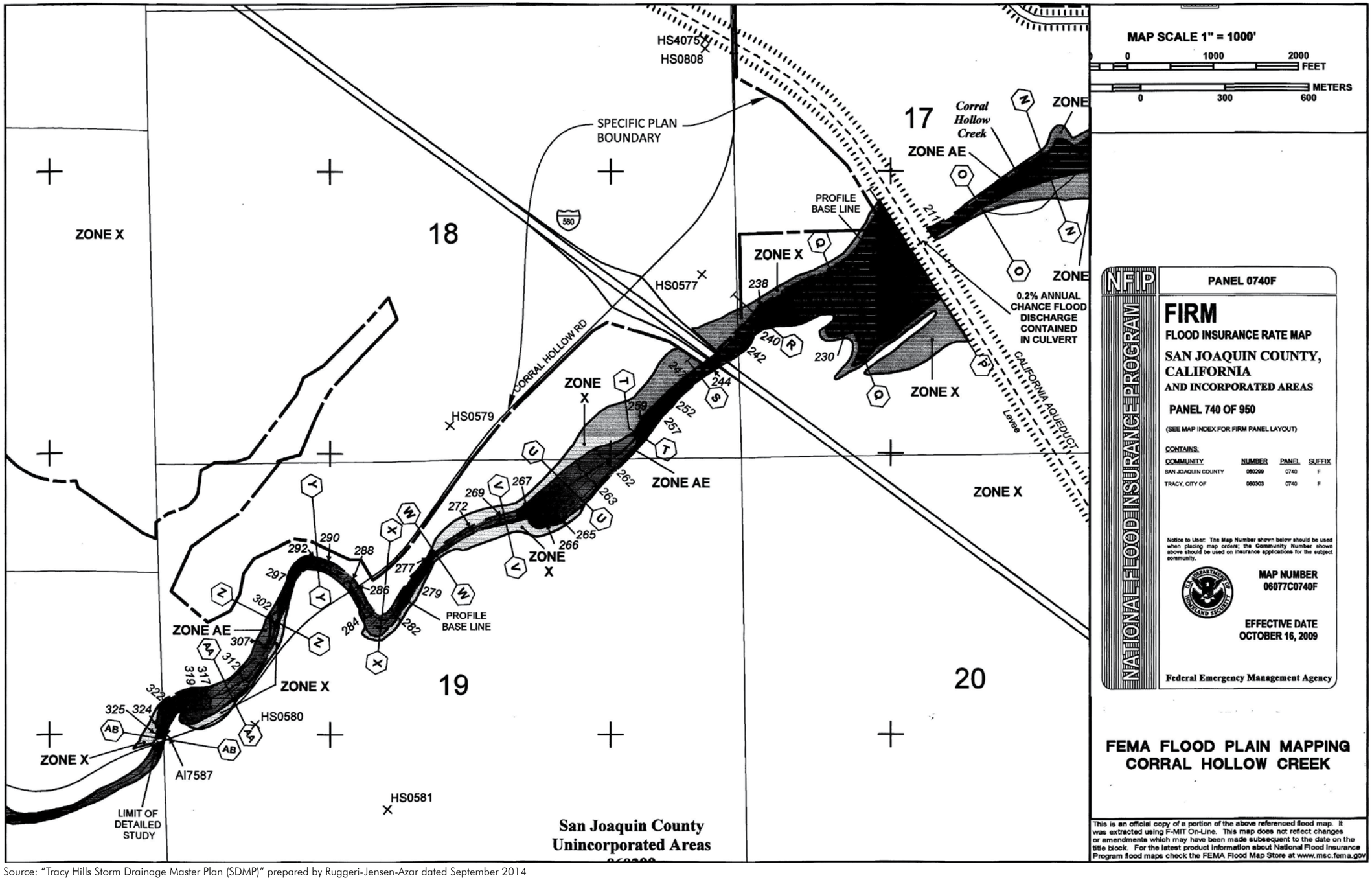

Source: "Tracy Hills Storm Drainage Master Plan (SDMP)" prepared by Ruggeri-Jensen-Azar dated September 2014

FIGURE 4.9-3B
FEMA FLOODPLAIN MAPPING

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per the FEMA maps. If determined to be applicable based on ground elevations at proposed building locations, building finished floors in the impacted areas would need to be elevated a minimum of 1 foot above the 100-year flood elevation for Corral Hollow Creek, and possibly, meet the requirements to withstand a 200-year flood per the Urban Level of Flood Protection (ULOP) Criteria described below.

SOILS AND PERMEABILITY

Soils information for the Project is discussed in Section 4.6 Geology, Soils and Seismicity. The permeability of the soils and potential percolation rates of those soils was estimated in the SDMP. In general, the soils in the Project have a high permeability. Additionally, percolation testing was completed in proposed terminal retention basins locations. The results showed high permeability and very high percolation rates. [1]

GROUNDWATER

Existing groundwater information for the Project is discussed in Section 4.12 Public Services and Utilities. The City receives water from the Delta Mendota Canal (Central Valley Project), the Stanislaus River via the South County Water Supply Project and groundwater. In general, groundwater aquifers within the San Joaquin Valley Groundwater Basin-Tracy Sub-basin (Tracy Sub-basin) contain elevated concentrations of chloride, nitrate, sulfate, and boron. Elevated chloride occurs in several areas near Tracy and along the San Joaquin River. Areas of elevated nitrate occur in the northwestern part of the Tracy Sub-basin and in the vicinity of Tracy. Elevated boron occurs over a large portion of the sub-basin from south of Tracy extending to the northwest side of the Tracy sub-basin. Sulfate concentrations of up to 500 mg/L have also been detected in Tracy Sub-basin groundwater. The groundwater near Tracy is considered to be very hard.

EXISTING DRAINAGE CONDITIONS

A separate Storm Drainage Master Plan was prepared as part of the 1998 approvals for the Tracy Hills Specific Plan by Nolte Associates, Inc. and was entitled Tracy Hills Storm Drainage Master Plan, Volumes 1 – 3, December 2000. As such, the Citywide Storm Drainage Master Plan does not include the Project and defers to the Tracy Hills SDMP.

The 1998 Tracy Hills SDMP recommended that existing watersheds and new development areas within Tracy Hills drain to an existing offsite sand and gravel extraction pit as a point of terminal drainage. Proposed land uses and storm drainage facility approaches have changed since the 1998 Tracy Hills SDMP was prepared. As a result, the SDMP has been comprehensively updated and is included as part of this Specific Plan application. It is intended that this updated document would supersede the 1998 Tracy Hills SDMP.

The existing drainage conditions within the Project include natural drainage channels, Interstate highway culverts, railroad culverts, and canal culverts, drain inlets and overchutes. The drainage areas are separated into three regions:

1) Hillside south of Interstate 580
2) Interstate 580 and downslope to California Aqueduct
3) Area between the California Aqueduct & the Delta-Mendota Canal

[1]Ruggeri-Jensen-Azar, City of Tracy Tracy Hills Storm Drainage Master Plan, September 2014.

South of Interstate 580, the terrain is steep with 2:1 and 3:1 maximum slopes. This area has many natural drainage channels and depressions that cross the Interstate in existing culverts. Along Interstate 580, there are three major culverts (culvert ID's 1, 7 and 11) and multiple smaller pipe crossings. The drainage features within the Interstate include inlets along the roadway edge, inlets in the median and slope down drains. The runoff from the Interstate combines with the runoff from the south side of the Interstate, discharging along the north edge of the Interstate and drains towards the California Aqueduct. The slope between Interstate 580 and the California Aqueduct is approximately 3%.

Along the California Aqueduct, there are multiple overchutes that convey runoff across the Aqueduct. The three aforementioned major water courses from south of the Interstate continue across the California Aqueduct at culvert ID's 19, 21 and 22). A portion of the flow discharged under the Interstate at culvert ID 1 is discharged under the Union Pacific Railroad tracks in an existing 24" culvert and out of the THSP Project Area (culvert ID 38). This existing 24" culvert has limited capacity, is substantially filled with sediment, and the backwater causes the substantial majority of the runoff to flow east along the railroad tracks to the large overchute at the California Aqueduct at culvert ID 19. See Figure 4.9-1, *Tracy Hills Existing Drainage Map* and Figure 4.9-2, *Tracy Hills Major Drainage Features Map* for these locations.

Runoff that is conveyed across the California Aqueduct drains towards the Delta-Mendota Canal. The slope in this area is flatter (approximately 2%) with less defined drainages. Any runoff reaching the Delta-Mendota Canal, drains directly into the canal or crosses the canal and is discharged out of the THSP Project Area.

The aforementioned existing culverts, drain inlets and overchutes have historically provided adequate capacity for conveying runoff from the existing watersheds. With the development of the Project, the watersheds contributing to most of these facilities would be substantially reduced or eliminated due to runoff being directed to the proposed terminal retention basins. Only two crossings of the California Aqueduct (culvert ID's 19 and 21), one crossing of the Union Pacific Railroad tracks (culvert ID 35), and one crossing of the Delta Mendota Canal (culvert ID 33) would continue to convey significant flows as all or portions of their upstream offsite watersheds would be allowed to "pass through" the proposed development areas. The runoff conveyed through culvert ID 21 at the California Aqueduct would discharge into a storm drain system and eventually be stored in Retention Basin G. The other crossings of the California Aqueduct and drain inlets to the Delta Mendota Canal would continue to convey or accept stormwater runoff from the Open Space along the south side of these canals. These Open Space areas would remain undeveloped and would continue to drain in a manner consistent with the existing condition.

WATER QUALITY

The Project is located within the Carbona Watershed.[2] Clean Water Act Section 303(d) List of Water Quality Segments list one water body in the Carbona watershed, Mountain House Creek (from Altamont Pass to Old River, Alameda and San Joaquin Counties; partly in Delta Waterways, southern portion), as impaired. Mountain House Creek is impaired by chloride and salinity and the proposed TMDL completion year is 2021.

[2]California Department of Transportation's Water Planning Tool, http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx, accessed on March 26, 2014..

DAM INUNDATION

There are fourteen major dams within San Joaquin County that could cause serious flooding should they incur a partial or complete failure. [3] However, the Project is located upland from the areas that would be inundated by flooding caused by these upstream dam failures. The Project is not within the dam inundation risk areas of New Melones, San Luis, Lake McClure, Pine Flat, Camanche, Camanche South Dikes, Camanche North Dikes Pardee, Jackson Creek Spillway, Jackson Creek, Folsom, New Hogan, Farmington, Tulloch, or Salt Springs. [4]

SEICHE, TSUNAMI, OR MUDFLOW

A seiche is a wave generated in a bay or lake, which can be compared to the back-and-forth sloshing of water in a bath tub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, or landslides into the water. A tsunami is a large sea wave generated by earthquakes. These waves travel across the ocean at hundreds of miles an hour and are capable of causing waves cresting tens of feet high. The Project is not located adjacent to a large body of water, so seiches and tsunamis are not likely to occur. Mudflows are caused by loose earth and water on steep slopes. According to the City's General Plan EIR, the hillsides in the southwest portion of the Tracy Planning Area, outside of the THSP Project Area could be at risk for mudflows.[5]

4.9.2 REGULATORY FRAMEWORK

FEDERAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

The City of Tracy is a participant in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. FEMA establishes the 100-year flood event as the minimum level of flood protection for new development. Flood hazards are mapped on Flood Insurance Rate Maps (FIRMs). The most recent flood data for San Joaquin County is included on maps updated in 2009. The City of Tracy has adopted a flood-plain management ordinance as a part of its Municipal Code that exceeds the minimum requirements established by FEMA.

CLEAN WATER ACT (CWA)

The objective of the federal CWA is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants into waters of the U.S.; these laws include setting water quality standards for contaminants in surface waters, establishing wastewater and effluent discharge limits from various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the CWA is administered by EPA. At the state and regional levels, the act is administered and enforced by the State Water Resources Control Board (SWRCB) and the RWQCBs.

[3] San Joaquin County Office of Emergency Services, Dam Failure Plan December 2003, http://www.sjgov.org/Oes/getplan/Dam_Emergency_PLAN.pdf .
[4] San Joaquin County Office of Emergency Services, Dam Failure Plan December 2003, http://www.sjgov.org/Oes/getplan/Dam_Emergency_PLAN.pdf .
[5] City of Tracy, Draft General Plan EIR, 2005

Section 404

The purpose of Section 404 of the CWA is to maintain the integrity of U.S. waters through the control of discharge of fill material. Section 404 states that no dredge or fill material may be discharged into aquatic ecosystems unless no adverse effects would result, and that there should be no discharge of dredge or fill material into wetlands if an alternative exists that would have fewer environmental impacts. Adverse effects include those that would jeopardize endangered or threatened species or critical habitat under the ESA of 1973. Section 404 guidelines also recognize that the loss of wetlands is the most significant environmental impact, and that the loss is irreversible.

Section 303(d)

Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of water bodies that do not meet established water quality standards, even after the minimum required levels of pollution control technology have been installed at point sources. The law requires that these jurisdictions establish priority rankings for water bodies on the lists and develop action plans for allowable discharge into the watershed, called total maximum daily loads (TMDL), to improve water quality.

STATE OF CALIFORNIA

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act is the primary statute covering the quality of waters in California. The act sets out specific water quality provisions and discharge requirements regulating the discharge of waste within any region that could affect the quality of state waters. Under the act, the SWRCB has ultimate authority over state water rights and water quality policy. The nine RWQCBs are responsible for the oversight of water quality on a day-to-day basis at the local/regional level, including the preparation and periodic updating of Basin Plans that identify existing and potential beneficial uses for specific water bodies. Under this act, it gives the State the authority to issue 401 water quality certifications for projects that discharge dredged or fill material into waters of the U.S. The Project is under the jurisdiction of the Central Valley RWQCB (Region 5).

MUNICIPAL SEPARATE STORM SEWER SYSTEM REGULATIONS

The Clean Water Act (CWA) was amended in 1972 to prohibit the discharge of pollutants to Waters of the United States from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Section 402(p) was added to the CWA in 1987 to establish the framework for regulating municipal and industrial stormwater discharges under the NPDES program through a two-phase implementation plan. Phase I regulations were promulgated in 1990 and require large and medium size municipalities (population over 100,000) to comply with the NPDES municipal program. Phase II regulations were promulgated in 1999 and require small municipalities to obtain coverage under the NPDES municipal program. The City of Tracy is subject to the Phase II municipal program and has prepared a Storm Water Management Program (SWMP) to comply with the regulations (General Permit Number CAS000004, Water Quality Order No. 2003-0005-DWQ).

The intent of the SWMP is to implement Best Management Practices to reduce the discharge of pollutants from the City to the Maximum Extent Practicable (MEP). The City's current SWMP dated September 2003 includes the following six program categories:

1) Public Education and Outreach
2) Public Involvement and Participation
3) Illicit Discharge Detection and Elimination
4) Construction Site Storm Water Runoff Control
5) Post-Construction Storm Water Management in New Development and Redevelopment
6) Pollution Prevention and Good Housekeeping for Municipal Operations

On February 5, 2013, the State Water Resources Control Board (SWRCB) adopted a new Water Quality Order that replaces Water Quality Order No. 2003-0005-DWQ. The new Water Quality Order, 2013-0001-DWQ, became effective on July 1, 2013 and is entitled "Revised National Pollutant Discharge Elimination System Permit for the Discharge of Storm Water from Phase II Small Municipal Separate Storm Sewer Systems" and includes the following additional requirements:

1) Specific BMP and Management Measure Requirements
2) Elimination of submission of a SWMP for review and approval by the Regional Water Quality Control Boards (RWQCBs)
3) Electronic filing of Notices of Intent (NOIs) and Annual Reports
4) New program management requirements
5) Total Maximum Daily Limit (TMDL) implementation requirements
6) Water quality monitoring and BMP assessment
7) Program effectiveness assessment

WATER QUALITY ORDERS (SWRCB)

The SWRCB has adopted an NPDES General Permit for construction activities, known as the Construction General Permit (CGP). The current CGP (Order No. 2009-0009-DWQ) became effective on July 1, 2010. The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) in conjunction with construction activities. The SWPPP must contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) that the discharger would use to protect storm water runoff and the placement of said BMPs. Additionally, the SWPPP must contain a Construction Site Monitoring Program (CSMP) to demonstrate that the site is in compliance with the CGP. Depending on the construction site risk level, the CSMP includes varying levels of visual monitoring and water quality sampling and analysis.

The CGP also includes the following requirements and evaluation criteria:

- Rainfall Erosivity Waiver: This option allows a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their site's given location and time frame compute to be less than or equal to 5.
- Technology-Based Numeric Action Levels: The CGP includes NALs [numeric action levels] for pH and turbidity.
- Risk-Based Permitting Approach: The CGP establishes three levels of risk possible for a construction site. Risk is calculated in two parts: (1) Project Sediment Risk, and (2) Receiving Water Risk.
- Effluent Monitoring and Reporting: The CGP requires effluent monitoring and reporting for pH and turbidity in storm water discharges. The purpose of this monitoring is to determine whether NALs and effluent limits for active treatment systems are exceeded.
- Receiving Water Monitoring and Reporting: The CGP requires some Risk Level 3 dischargers with direct discharges to surface waters to conduct receiving water monitoring whenever their effluent exceeds specified receiving water monitoring triggers.
- Rain Event Action Plan: The CGP requires certain sites to develop and implement a Rain Event Action Plan (REAP) that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event.
- Annual Reporting: The CGP requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and pubic information.
- Certification/Training Requirements for Key Project Personnel: The CGP requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications in compliance with CGP requirements.

A statewide General Permit (Water Quality Order No. 97-03-DWQ) for regulating storm water discharges associated with industrial activities was adopted in April 2014 and replaced the General Permit for industrial activities. The Permit requires development of an Operational SWPPP, a monitoring plan, and the filing of an annual report for industrial facilities that meet the criteria under the Permit. This Permit also requires that a performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) be implemented. The new Permit also includes additional requirements such as additional certification, sampling, and inspection requirements.

STATE SENATE BILL NO. 5 (SB 5)

Senate Bill No. 5 (SB 5) became law in the State of California in October of 2007 and contains new regulations pertaining to floodplain management for portions of the State that drain to the Sacramento-San Joaquin Valley, including the City of Tracy and San Joaquin County. It required that the State develop and adopt a Central Valley Flood Protection Plan. The State prepared the Central Valley Flood Protection Plan and adopted said plan on June 29, 2012. Much of the emphasis of the Central Valley Flood Protection Plan was placed on areas protected by levees and subject to potentially disastrous flooding if there is a levee failure.

In addition, SB 5 establishes a requirement that "urban areas" and "urbanizing areas" begin applying a 200-year return period storm level of flood protection standard (Urban Level of Flood Protection, or ULOP) to new

development in locations meeting certain criteria no later than 36 months after the Central Valley Flood Protection Plan is adopted by the State. "Urban area" is defined as a developed area in which there are 10,000 residents or more, and hence, the City would currently be classified as an "urban area". The California Department of Water Resources (DWR) has indicated that the 200-year standard would only be required to be applied to floodplain areas (flooding sources) mapped by the Federal Emergency Management Agency (FEMA). Local drainage and areas of shallow flooding are also excluded from the jurisdictional requirements of SB 5 based on more recently enacted provisions of SB 1278. More specific Definitions of local drainage and shallow flooding have been developed by DWR. DWR recently released their Urban Level of Flood Protection Criteria document (dated November 2013) to assist communities in interpreting and satisfying the requirements for meeting the ULOP.

CITY OF TRACY

Manual of Stormwater Quality Control Standards for New Development and Redevelopment

The City adopted a Manual of Stormwater Quality Control Standards for New Development and Redevelopment (SWQC Manual) in August 2008. The SWQC Manual has the following goals:

- Assist new development in reducing urban runoff pollution to prevent or minimize water quality impacts.
- Provide standards for developers, design engineers, agency engineers, and planners to use in the selection, design, and implementation of General Site Design Control Measures for Low Impact Design (LID) and appropriate site-specific source and treatment control measures.
- Provide maintenance procedures to ensure that the selected control measures would be maintained to provide effective, long-term pollution control.

LID is an approach to managing stormwater runoff that mimics the natural pre-development hydrology of a development site by using design techniques that infiltrate, filter, store, treat, evaporate, and detain stormwater runoff close to the source. Almost all areas of site design can incorporate LID measures, including residential landscaping, open space, streetscapes, parking lots, sidewalks, and medians. LID can be used in combination with traditional storm drain systems to infiltrate the smaller, more frequent storms, while allowing the larger storms to flow to pipes and basins for flood control (possibly with lower off-site costs than traditional non-LID systems). LID techniques offer great benefits to stormwater quality, especially for the smaller return interval storm events. LID would help reduce the amount of runoff entering the City's system and would aid in recharging ground water. The storm drainage infrastructure identified in the SDMP incorporates retention basins as the means of satisfying the requirements of the City's SWQC Manual. Individual development projects in the THSP would not be required to use onsite LID facilities as the water quality and recharge benefits would be provided via the proposed terminal retention basins.

Citywide Storm Drainage Master Plan

The Citywide Storm Drainage Master Plan (Citywide SDMP) prepared for the City by Stantec Consulting Services Inc. (Stantec) was completed in November 2012 and subsequently adopted by the Tracy City Council in April 2013 (Resolution 2013-056). The Citywide SDMP contains similar information as discussed in the SDMP, but also includes information relating to existing storm drainage infrastructure serving existing development areas in the City's Sphere of Influence and a delineation of existing and new impact fee program areas. In the Citywide SDMP, the THSP Project Area was assumed to be self-contained with respect to storm drainage concerns and was not included in the Study Area for the Citywide SDMP.

Tracy Hills Storm Drainage Master Plan

The SDMP is to be utilized as a guidance document for the identification of the primary framework of storm drainage facilities needed to serve future land development under the buildout condition for the THSP Project Area. In general, individual development projects within the THSP would be required to provide site-specific or project-specific storm drainage solutions that are consistent with the overall infrastructure approach within the SDMP. Appendix F-1 includes a copy of the SDMP for the Project.

The storm drainage infrastructure within the Project would incorporate terminal retention basins as the means of managing runoff from new development via storage and percolation. These terminal retention basins are depicted on Figure 4.9-4, *Proposed Storm Drain Infrastructure Plan.* Storm runoff generated by new development in the Project would be self-contained and would not utilize any existing downstream City storm drainage facilities. The use of terminal retention basins also satisfies the requirements of the City's SWQC Manual. Individual development projects in the Project would not be utilizing onsite LID facilities as the water quality and recharge goals and benefits set forth in the SWQC Manual would be provided via the proposed terminal retention basins.

Municipal Code[6]

Chapter 9.52 of the City's Municipal Code addresses floodplain regulations and requirements for new development and construction within Special Flood Hazard Areas delineated on Flood Insurance Rate Maps published by the Federal Emergency Management Agency. Chapter 11.34 of the City's Municipal Code addresses City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

[6] City of Tracy, 2013, Municipal Code Section 9.52.010 et. seq.

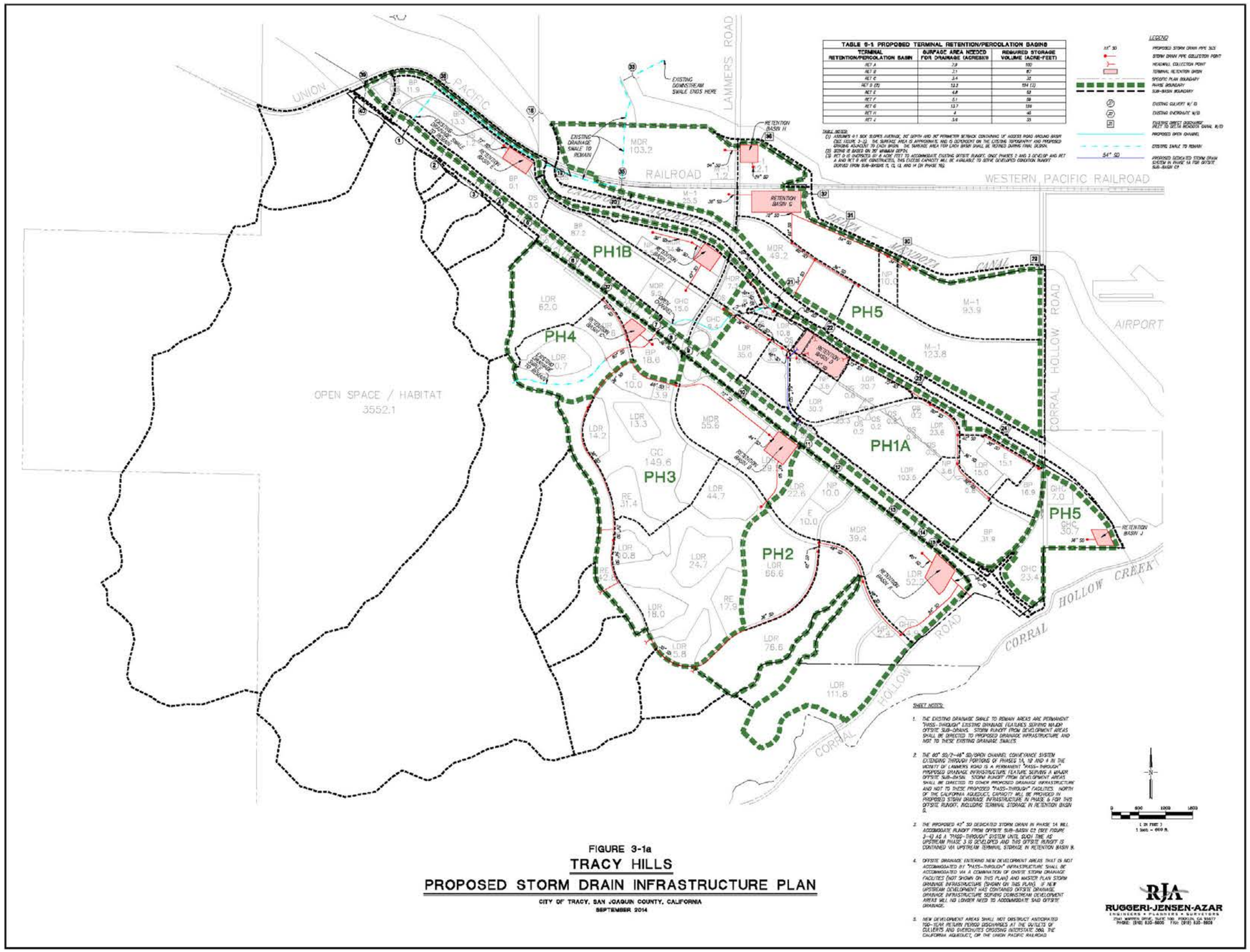

FIGURE 3-1a
TRACY HILLS
PROPOSED STORM DRAIN INFRASTRUCTURE PLAN
CITY OF TRACY, SAN JOAQUIN COUNTY, CALIFORNIA
SEPTEMBER 2014

FIGURE 4.9-4
PROPOSED STORM DRAIN INFRASTRUCTURE PLAN

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City of Tracy General Plan

The Public Facilities Element of the General Plan contains relevant goals, objectives, and policies. Key policies from the General Plan are listed in Table 4.9-1, *General Plan Policies Relevant to Hydrology and Water Quality*.

Table 4.9-1 General Plan Policies Relevant to Hydrology and Water Quality

Public Facilities Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-6	**Adequate supplies of water for all types of users.**
Objective PF-6.1	*Ensure that reliable water supply can be provided within the City's service area, even during drought conditions, while protecting the natural environment.*
Policy P3	To the extent feasible, the City shall use surface water supplies to meet daily water needs and reduce reliance on groundwater supplies.
Goal PF-8	**Protect property from flooding**
Objective PF-8.1	*Collect, convey, store and dispose of stormwater in ways that provide an appropriate level of protection against flooding, account for future development and address applicable environmental concerns.*
Policy P1	Stormwater infrastructure shall be maintained in good condition.
Policy P2	Stormwater infrastructure shall minimize local flooding by attaining capacity that conforms to the Storm Drainage Master Plan and City Design Standards.
Policy P3	New permanent stormwater infrastructure shall be designed to serve dual purposes to the extent possible. This includes the following: • Drainage facilities integrated into recreation corridors with bike paths, sidewalks, and landscaping. • Drainage channels integrated with transportation and environmental corridors. • Stormwater detention basins shall incorporate active and passive recreation areas where feasible. These areas shall not count towards park dedication requirements.
Policy P6	Design of storm drainage facilities shall be consistent with State and Federal requirements, including NPDES requirements.
Objective PF-8.2	*Provide effective storm drainage facilities for development projects.*
Policy P1	To the extent feasible, new development projects shall incorporate methods of reducing storm runoff within the project to reduce the requirements for downstream storm drainage infrastructure and improve stormwater quality.
Policy P2	New storm drainage facilities shall meet adopted City standards, including the standards and policies contained in the Storm Water Management Plan, the Storm Drainage Master Plan and the Parkways Design Manual.
Policy P3	New development projects shall only be approved if necessary stormwater infrastructure is planned and is in compliance with environmental regulations.
Policy P4	If sufficient downstream stormwater infrastructure has not yet been constructed, new development projects shall be required to implement temporary on-site retention facilities in compliance with City standards.
Safety Element	
Goal/Policy No.	Goal/Policy Content
Goal SA-2	**A reduction of hazards related to flooding or inundation.**
Objective SA-2.1	*Minimize flood risks to development.*
Policy P1	Development shall only be allowed on lands within the 100-year flood zone, if it would not: • Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use. • Create difficult emergency vehicle access in times of flood.

Table 4.9-1 General Plan Policies Relevant to Hydrology and Water Quality

Public Facilities Element	
	• Create a safety hazard due to the unexpected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site. • Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities. • Interfere with the existing waterflow capacity of the floodway. • Substantially increase erosion and/or sedimentation. • Contribute to the deterioration of any watercourse or the quality of water in any body of water.
Policy P2	Public and private development in the 100-year flood zones shall have the lowest floor elevated at least 1 foot above the base flood level, or be of floor proof construction.
Policy P3	The City shall prevent the construction of flood barriers within the 100-year flood zone that divert flood water or increase flooding in other areas.
Policy P4	Property owners within the 100-year floodplain are encouraged to purchase National Flood Insurance, which reduces the financial risk from flooding and mudflows.

Source: City of Tracy General Plan.

4.9.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. Significant impacts to hydrology and water quality could result from implementation of the Project if they would:

- Violate any water quality standards or waste discharge requirements;
- 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);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- 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;
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- 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;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- 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; or
- Expose people or structures to inundation by seiche, tsunami, or mudflow.

ENVIRONMENTAL IMPACTS AND ANALYSIS

VIOLATION OF ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS

Construction-Related Impacts

Construction activities for all lots, infrastructure and the storm drain system would require a NPDES permit. Prior to the issuance of an NPDES permit, the approved SWPPP would need to be prepared for the Project Area. The SWPPP would incorporate BMPs such as sedimentation basins, silt fence, and fiber rolls, which would minimize storm water runoff during construction. Individual lot developments within the Project would also require NPDES permits. Thus, future development would be responsible for obtaining and complying with NPDES permit requirements. Implementation of BMPs during construction, would minimize water quality impacts to a *less- than- significant* level.

Operational-Related Impacts

Non-point source surface water from impervious surfaces may contain contaminants or increase sediment loads in the storm drain system. A combination of terminal retention/percolation basins, open channels and underground storm drains are proposed in the Storm Drain Infrastructure Plan for the THSP Project Area. Each proposed storm drain backbone system within the Project would terminate at a proposed retention basin. The retention basins would capture and retain contaminants contained in the runoff; thus, reducing contaminants discharged from the Project Area.

The retention basins are designed to store and percolate runoff generated during a very large and rare storm scenario. The percolation rates of the soil on the site are very beneficial to this type of design and the conservative approach to sizing the basins also makes it unlikely that one of these basins would ever overtop. In the event that unforeseeable factors cause a retention basin to overtop, the stormwater runoff would drain directly to open space along the Interstate 580, California Aqueduct and/or Delta-Mendota Canal. There are conveyance systems in place in these facilities to convey the runoff downstream or intercept the runoff. There are also areas in the open space where water can pond and reduce the amount of runoff entering those conveyance systems. Retention basins also provide attenuation storage and opportunities for pollutants to settle and be retained within the basin and provide opportunities for recharge. These facilities would be utilized to satisfy the requirements set forth in the City's SWQC Manual and NPDES for new development areas.

In addition, proposed open channels and existing drainage swales would be used for conveyance of storm runoff from some of the upslope offsite sub-basins to downstream terminal retention/percolation basins or other facilities. These facilities would also assist in providing additional flow attenuation and storm water quality treatment. Impacts to water quality would be *less- than- significant* with the implementation of the terminal retention/percolation basins, open channels and drainage swales.

SUBSTANTIALLY DEPLETE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE

As discussed in Section 4.12 Public Services and Utilities and the WSA (included in Appendix F-2) for this Project, the Project proposes to use groundwater as portion of its potable water supply. The City conducted an update to a 1990 Kennedy/Jenks/Chilton study in 2001, which estimated perennial groundwater yield in the Tracy Sub-basin. The Estimated Groundwater Yield Study, prepared by Bookman-Edmonston Engineering in

2001 provided an evaluation of potential groundwater yield and determined that a 2,300 acre feet/year increase of the average annual operational groundwater yield above the groundwater yield recommended in the 1990 Kennedy/Jenks/Chilton study (6,700 acre feet/year) could be provided within the estimated sustainable yield of the Tracy Sub-basin in the City, without adverse impact to groundwater resources or quality in the City over a 50 year timeframe. This expansion of groundwater usage to 9,000 acre feet/year would be within the City's estimated share of the aquifer's sustainable yield of 22,000 acre feet/year of the 28,000 acre feet/year total (which includes groundwater usage within West Side Irrigation District, Naglee-Burk Irrigation District, Plain View Water District (now part of the Byron Bethany Irrigation District), and Banta-Carbona Irrigation District). It was also estimated that this expansion of groundwater usage would result in a groundwater level drop of 10 feet, but would stabilize at this level. [7]

A Groundwater Management Policy was adopted by the City in 2001 to establish a maximum annual groundwater extraction rate of 9,000 acre feet/year based upon the results of the Bookman-Edmonston Engineering study. As part of that plan, the City monitored the impacts of groundwater extraction on groundwater levels, groundwater quality and land subsidence. The most recent Mitigation Monitoring Report dated January 23, 2009 prepared by Bookman indicated that groundwater levels in the City's wells have increased over the last couple of years, likely as a direct result of decreased groundwater pumpage by the City since 2005. The report also indicated that there is no evidence that pumping by the City is significantly or adversely affecting groundwater levels or water quality at this time.

The Project would require 670 acre feet per year of groundwater to meet the potable water demands at buildout. This quantity would be within the City's future planned groundwater usage described above. The WSA concluded that the City's existing and additional planned future water supplies are sufficient to meet the City's existing and projected future water demands, including those future water demands associated with the Project to the year 2035 under all hydrologic conditions. The projected water demand of the Project would not substantially deplete the City's groundwater supplies; therefore, the Project would not result in a net deficit in aquifer volume or a significant lowering of the local groundwater table.

The Project includes the construction of impermeable surfaces, which reduces the amount of surface water infiltration and recharge. As discussed above, groundwater recharge would continue in open space, retention basins and natural channels. Thus, the Project would not cause an adverse impact on groundwater recharge.

SUBSTANTIAL ALTERATION OF THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER, IN A MANNER WHICH WOULD RESULT IN SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE.

Construction-Related Impacts

The Project would increase erosion and sedimentation through the removal of vegetation during construction. Development of the THSP Project infrastructure (mass grading, roadways and utilities) and each lot would be required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Order No. 2009-0009-DWQ) and implement BMPs to the maximum extent practicable. All Project

[7]West Yost Associates Consulting Engineers, Tracy Hills Specific Plan Revised Water Supply Assessment Final Report, October 2015.

Applicants would be required to obtain a Construction Stormwater Permit and prepare a SWPPP specifying BMPs that would reduce construction stormwater flows. With implementation of Mitigation Measures 4.9-1a and 1b below, potential impacts on erosion and sedimentation during construction would be *less-than-significant*.

Operational-Related Impacts

Implementation of the Project would result in an increase in flow rates and volumes of runoff with an increase in the amount of impervious surface such as buildings, streets and parking areas. The increase in impervious surface can increase erosion within existing and proposed drainages, which in turn can increase the sedimentation within and downstream of the Project Area. A combination of terminal retention/percolation basins, open channels and underground storm drains are proposed in the Storm Drain Infrastructure Plan for the THSP Project Area. The existing culverts, drain inlets and overchutes discussed above have historically provided adequate capacity for conveying runoff from the existing watersheds. With the development of the Project, the watersheds contributing to most of these facilities would be substantially reduced or eliminated due to runoff being directed to the proposed terminal retention basins. Only two crossings of the California Aqueduct (culvert ID's 19 and 21), one crossing of the Union Pacific Railroad tracks (culvert ID 35), and one crossing of the Delta Mendota Canal (culvert ID 33) would continue to convey significant flows as all or portions of their upstream offsite watersheds would be allowed to "pass through" the proposed development areas. The runoff conveyed through culvert ID 21 at the California Aqueduct would discharge into a storm drain system and eventually be stored in Retention Basin G. The other crossings of the California Aqueduct and drain inlets to the Delta Mendota Canal would continue to convey or accept stormwater runoff from the Open Space along the south side of these canals. The areas along the California Aqueduct and Delta Mendota Canal would remain undeveloped and would continue to drain in a manner consistent with the existing condition. The culvert locations and proposed terminal retention basin locations are depicted on Figure 4.9-2, *Tracy Hills Major Drainage Features Map* and Figure 4.9-4, *Proposed Storm Drain Infrastructure Plan.*

The Project would be required to implement the post-construction BMPs described in the SDMP to help minimize the amount of sedimentation. In addition, individual developers may be required to implement additional post-construction BMPs in accordance with the City's SWQC Manual in order to further reduce sedimentation. With implementation of Mitigation Measure 4.9-2, potential impacts on erosion and sedimentation would be *less-than-significant*.

SUBSTANTIAL ALTERATION OF THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER, OR SUBSTANTIAL INCREASE IN THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER WHICH WOULD RESULT IN FLOODING ON- OR OFF-SITE.

Implementation of the Project would require terminal retention/percolation basins as a means of managing runoff from new development via storage and percolation as described in the SDMP for the THSP Project Area. The proposed locations for terminal retention basins and the storm drain system are shown on Figure 4.9-4, *Proposed Storm Drain Infrastructure Plan*. The addition of these retention basins would capture, store and percolate runoff generated during storm events and minimize the potential for flooding on- or off-site.

As noted above, the majority of the Project Area is not located within the 100-year and 500-year floodplains. With implementation of the drainage improvements described in the SDMP, it is unlikely that the Project would

result in or be affected by flooding. Flows from the off-site, upstream drainages tributary to the Project would be intercepted and conveyed through a combination of open channels and underground storm drain system and discharge to the proposed retention basins. The retention basins would capture increases in peak flow as result of development and would substantially reduce or eliminate downstream flow. Thus, the risk of offsite flows flooding the Project or downstream development are expected to be *less-than-significant.*

There are no streams or rivers in the Project, and accordingly *no impacts* associated with streams or rivers would occur.

CREATION OF OR CONTRIBUTION TO RUNOFF WATER WHICH WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF.

As discussed above, the Project includes the construction of terminal retention/percolation basins, open channels and underground storm drains. The drainage facilities have been sized based on the following criteria:

- Open channels: 100-year 24-hour storm.
- Underground storm drains: 100-year 24-hour storm for the Master Plan framework facilities. The subsequent design of "onsite" storm drains serving individual development projects would be required to follow the City Design Standards (10-year storm). It should be noted that the underground storm drain pipe sizes calculated in the SDMP are for the major backbone infrastructure and are based on assumed minimum pipe gradients. The size of these facilities would be re-evaluated in final design based on a detailed hydraulic analysis.
- Terminal Retention Basins: Runoff volume generated by 2 times the 10-year, 48-hour storm.

No detention basins are proposed to serve the Project. If detention basins are proposed at some point in the future, the following capacity criteria would be applied to them:

- Detention basins: 100-year 24-hour storm.
- Detention basin pump stations (when needed): provide the desired function and attenuation during the 100-year 24-hour storm.

"Onsite" storm drainage facilities serving individual future development projects or phases of future development projects shall be designed in consideration of Master Plan storm drainage infrastructure presented in the SDMP, but in conformance with the City Design Standards.

According to the SDMP, the drainage improvements described above are designed to accommodate the projected runoff from the Project Area. Thus, the Project would not exceed the capacity of the proposed stormwater drainage system.

Additionally and as discussed in Section 4.8, Hazards and Hazardous Materials, the types of uses and facilities allowed in the THSP Project Area may generate, store, use, distribute or dispose of hazardous materials such as industrial waste, oils, solvents, paints, diesel fuel, hydraulic fluid and corrosives. The Project would also introduce sediments, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides as a result of the development of roadways, buildings, parking areas, sidewalks, and landscaping. The proposed retention basins, open channels and drainage swales described above would minimize water quality impacts associated with these new sources of storm water runoff. In addition, SWPPPs would be required for development with the Project. The SWPPPs

would describe necessary BMPs to reduce pollutants associated with construction activities from entering stormwater runoff. With implementation of Mitigation Measures 4.9-1a, 4.9-1b, 4.9-2 and 4.9-3, potential impacts from polluted runoff would be *less-than-significant.*

OTHER SUBSTANTIAL DEGRADATION OF WATER QUALITY

As discussed above, with implementation of Mitigation Measures 4.9-1a, 4.9-1b, 4.9-2 and 4.9-3, the Project would not substantially degrade water quality. There are no additional project features that would result in the degradation of water quality.

PLACEMENT OF 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

A small portion of the Project is located in 100-year and 500-year floodplains for Corral Hollow Creek (FEMA Flood Insurance Rate Map (FIRM) Panel No. 06077C0740F for San Joaquin County, California and Incorporated Areas dated October 16, 2009). However, there are no residential uses proposed within the 100-year and 500-year floodplains. Thus, *no impact* would occur.

PLACEMENT OF STRUCTURES WHICH WOULD IMPEDE OR REDIRECT FLOOD FLOWS WITHIN A 100-YEAR FLOOD HAZARD AREA

The majority of development within the Project would be located outside of the 100-year floodplain and therefore, the floodplain would not impact development. However, as described above, a small portion of the Project is located in 100-year and 500-year floodplains for Corral Hollow Creek. General Highway Commercial Land uses proposed in the easternmost edge of the THSP Project Area would encroach into the 100-year floodplain. Depending on the ground elevations at the proposed building locations, development within this area may need to elevate building finished floors a minimum of 1 foot above the 100-year flood elevation for Corral Hollow Creek, and possibly, meet the requirements to withstand a 200-year flood per the ULOP Criteria. Additionally, the open channels and underground storm drain system proposed in the SDMP have been designed to accommodate the 100- year flood event in accordance with the City's design standards. With implementation of Mitigation Measure 4.9-4, potential impacts associated with placing structures within the 100-year floodplain would be *less-than-significant.*

EXPOSURE OF 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

As described above, the Project is not located within the dam inundation risk areas. Thus, *no impact* would occur as a result of the failure of a levee or dam.

POTENTIAL INUNDATION BY SEICHE, TSUNAMI, OR MUDFLOW

The Project is located inland across several mountain ranges from the Pacific Ocean and as referenced above, is not downstream of any significant body of water. Therefore, there is no risk of exposure to inundation by seiche or tsunami.

The Project site is situated at the toe of the Tracy Foothills and generally slopes from the southwest border to the northwest border of the site. As discussed in Section 4.6 Geology, Soils and Seismicity, steep hill areas were

observed west of the development areas within the Project; however, the slopes appear to remain fairly stable while vegetation is present. Although areas to the west of the Project are higher in elevation, these areas are vegetated, so the potential for a mudflow is unlikely. Thus, *no impact* is anticipated to occur with implementation of the Project.

CUMULATIVE IMPACT ANALYSIS

The Project and related projects would increase the amount of impermeable surfaces in the area. This would decrease the area available for water percolation and groundwater recharge. However, the SDMP prepared for the Project indicates that the groundwater recharge would continue in open space, proposed retention basins and natural channels. In addition, the WSA prepared for the Project estimates that the groundwater usage for the Project's potable water demands are within the City's future planned groundwater usage and would not contribute toward a significant cumulative impact.

The SDMP requires that new developments within the Project be designed to accommodate the 100-year storm event, which means, that storm drain infrastructure must be designed to avoid flood hazards created by 100-year or less intense storm events. Since new developments within the City are required to implement similar measures consistent with the Citywide Storm Drain Master Plan, no cumulative adverse impacts with respect to flooding are anticipated.

Stormwater discharges from the Project and other new developments in the City are regulated by the State Water Resources Control Board General Permit for Storm Water Runoff from Construction Activities (Order No. 2009-0009-DWQ). Additionally, all new developments within the City are required to incorporate General Site Design Control Measures for LID and appropriate site-specific source and treatment control measures in accordance with the City's SWQC Manual. The treatment control BMPs proposed for the Project consists of terminal retention basins, open channels and drainage swales to satisfy the LID requirements outlined in the City's SWQC Manual. Individual lot developments are required to incorporate BMPs to reduce runoff volumes, rates and duration; to prevent erosion, sedimentation and reduce pollutants. Given these measures, cumulative impacts on downstream water quality are expected to be *less-than-significant*.

IMPACTS AND MITIGATION MEASURES

Impact 4.9-1: Implementation of the Project would result in a significant impact to downstream surface water quality during construction.

Mitigation Measures:

4.9-1a Prior to issuance of a grading or building permit, whichever occurs first, all Project Applicants shall demonstrate to the City of Tracy compliance with NPDES General Construction Activities Storm Water Permit Requirements established by the Clean Water Act (CWA), including the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall identify specific types and sources of stormwater pollutants, determine the location and nature of potential impacts, and specify appropriate control measures to eliminate any potentially significant impacts on receiving water quality from stormwater runoff. The SWPPP shall comply with the most current standards established by the

Central Valley RWQCB. Best Management Practices shall be selected from a menu according to site requirements and shall be subject to approval by the City Engineer and Central Valley RWQCB.

4.9-1b Prior to issuance of a grading or building permit, whichever occurs first, all Project Applicants shall submit to the City Engineer for review a draft copy of the Notice of Intent (NOI) and SWPPP. After approval by the City, the NOI and SWPPP shall be sent to the State Water Resources Control Board for approval.

Significance After Mitigation: Implementation of the mitigation above would reduce potential water quality during construction to a L*ess-than-significant* level.

Impact 4.9-2: Implementation of the Project would result in substantial erosion or sedimentation on- and off- site with the alteration of existing drainage patterns.

Mitigation Measure:

4.9-2 All Project Applicants shall submit and obtain City approval of a drainage plan to the City of Tracy for on-site post-construction BMP drainage improvements consistent with the Tracy Hills Storm Drain Master Plan. Once City approval is received, all Project Applicants shall construct the drainage improvements as necessary and in accordance with the timing described in the Tracy Hills Storm Drain Master Plan.

Significance After Mitigation: Implementation of the mitigation above would reduce erosion and sedimentation resulting from the alteration of drainage patterns to a L*ess-than-significant* level.

Impact 4.9-3: Implementation of the Project would provide substantial additional sources of polluted runoff during operation of the Project.

Mitigation Measure:

4.9-3 All Project Applicants shall implement the following measures:

1. Shall implement sound Integrated Pest Management (IPM) principles and practices in an effort to minimize the use of pesticides in common landscaped areas, open space areas, or park areas. These programs shall include setting acceptable thresholds of infestations and a process for determining the best prevention or treatment method for a given pest. Pest problems in common landscaped areas, open space areas, or park maintenance shall be managed through prevention and treatment using physical, mechanical and biological controls. The use of toxic pesticides will be implemented only after other non-toxic approaches or products have been determined infeasible. Fertilizers shall be applied sparingly, and shall be derived from natural sources, such as fish emulsion or manure.

2. Shall cooperate with the City to create a public education program for future business owners to increase their understanding of water quality protection, which should include but not be limited to:
   - Hazardous material use controls;

- Hazardous materials exposure controls;
- Hazardous material disposal and recycling.

3. Encourage the use of alternative methods to avoid hazardous materials to the extent feasible, and prohibit the dumping of hazardous materials in open space areas or the storm drain system.

~~4. To the extent feasible, direct stormwater runoff to percolation swale and basin areas rather than directing stormwater to storm drain pipes.~~

~~5. Use biotreatment (natural pollutant filtering) where stormwater runs off paved surfaces onto pervious surfaces.~~

~~6. Utilize sediment traps, evaporation basins, flow dissipaters, and other methods to reduce the volume and speed of stormwater runoff and reduce pollutant loads.~~

Significance After Mitigation: Implementation of the Mitigation Measures 4.9-1a, 4.9-1b, 4.9-2 and 4.9-3 would reduce substantial sources of polluted runoff during operation of the Project to a *Less-than-significant* level.

Impact 4.9-4: Implementation of the Project could place structures within a 100-Year Flood Hazard Area.

Mitigation Measure:

4.9-4 All Project Applicants within the 100-year floodplain shall submit and obtain approval of grading and building plans that demonstrate that the building's finished floor elevations are a minimum of 1 foot above the 100-year flood elevation for Corral Hollow Creek, and meet the requirements to withstand a 200-year flood per the ULOP Criteria.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts of placing structures within a 100-year floodplain to a *Less-than-significant* level.

4.10 LAND USE AND PLANNING

This section describes existing land uses within the THSP Project area and vicinity, evaluates the Project's consistency with applicable land use plans, goals, and policies and addresses land use compatibility.

4.10.1 ENVIRONMENTAL SETTING

SITE CONDITIONS

THSP AREA

As described in Chapter 3, *Project Description* the THSP Project Area is primarily undeveloped and has been utilized for grazing and other agricultural purposes. The portion of the Project generally located between I-580 and the Union Pacific Rail Road Line/California Aqueduct is primarily vacant except for a structure used in the on-site livestock operation. The portion of the Project Area bounded by the California Aqueduct, Union Pacific Rail Road, Delta-Mendota Canal, and Corral Hollow Road is utilized for agricultural crops and also contains several homes. The commercial property east of Corral Hollow Road is the site of an abandoned truck stop. A number of linear features also bisect the Project Area. These include a Union Pacific Railroad line, the California and Delta Mendota Canals, multiple underground pipelines and the Interstate 580 corridor. Refer to Figure 3-3, *Specific Plan Area* in Chapter 3, *Project Description.*

The recently adopted Ellis Specific Plan represents the majority of the land to the northeast of the Project, and would be made up of low density residential, with limited commercial and industrial components once developed. The area northwest of the Project site is characterized by sparse rural residential development. The Union Pacific Rail Road Line and the Delta-Mendota Canal both serve as portions of the northern border of the Project site, and the California Aqueduct also traverses the property. Currently, most of the property to the north of the Project Area is in agricultural production.

The land to the west of the Project Area is the location of the approximately 3,500 acre habitat conservation easement and is primarily utilized as grazing land. A portion of the land to the south is designated as Agriculture and is utilized for grazing purposes. This area is also under a conservation easement with the Contra Costa Water District. The Corral Hollow Landfill which closed in 1995 is located to the southeast, in an area designated as Public Facilities by San Joaquin County. A portion of the land to the east of the Project site is designated by the General Plan for Aggregate production. In addition, the Tracy Municipal Airport is located to the east of the Project Area. A portion of the THSP Project Area is located within the airport Area of Influence which contains restrictions to ensure compatibility and safety between adjacent land uses.

TRACY MUNICIPAL AIRPORT

According to the San Joaquin County's Aviation System Airport Land Use Compatibility Plan (ALUCP) update of 2009, the Tracy Municipal Airport is owned and operated by the City of Tracy. Located within the City limits, this general aviation airport provides a range of aviation services including general aviation and jet fuel sales, and hangar and tie down rentals. The fixed base operator (FBO) at the airport provides aircraft maintenance services, flight training, and aircraft rental services for both standard aircraft and Light Sport

Aircraft. Directly southeast of the airport, International Aerobatic Club Chapter 38 sponsors a designated aerobatic box in which aerobatic maneuvers are performed.

The airport is served by two runways[1]: 8-26 and 12-30. Pursuant to the 2009 ALUCP, runway 8-26 is 3,437 feet long and 100 feet wide, and oriented east-west. Runway 12-30 is 4,001 feet long and 100 feet wide, and aligned to the northwest-southeast. Both runways are constructed of asphalt. The airport has several published instrument approach procedures, to aid pilots in navigation. Both runways are equipped with medium-intensity runway lights to indicate the pavement edge.

The existing operations[2] for the airport total 59,701, including 20,475 local operations[3] and 39,226 itinerant operations[4]. A majority of the local operations are performed by single engine piston aircraft involved inflight training at the airport. In addition, aerobatic activities occur frequently within the confines of the designated aerobatic box located directly east of the airport[5]. Itinerant operations are also dominated by single-engine piston aircraft, with a small percentage of operations performed by turboprop and business jet aircraft, aerial applicators, powered parachutes, ultralight aircraft, and helicopters.

The long range forecast for the airport indicates a total of 107,200 annual operations. The Master Plan (1998) also indicated the fleet mix distribution for operations at the airport would be 66 percent single-engine piston, 29.4 percent multi-engine piston, 3 percent turboprop, and 1.4 percent business jet. These percentages were applied to the itinerant operations.

SURROUNDING AREA

As described in Chapter 3, *Project Description*, the recently adopted Ellis Specific Plan and Urban Reserve 10 area of the General Plan represent the majority of the land to the northeast of the Project, and, if developed as anticipated, would be made up of low density residential uses, with limited commercial and industrial components. Currently, most of the property to the north of the Project site consists of agricultural land and sparse residential development along Lammers Road. The area northwest of the Project site is also characterized by sparse rural residential development and agricultural land. The land to the west and south of the Project Area is primarily utilized for grazing and open space purposes.

4.10.2 REGULATORY FRAMEWORK

This section summarizes existing policies and regulations relevant to land use and planning in the Project Area. The City of Tracy (City) has developed and maintained several long-range planning documents that will guide future land use in the City and apply to the development of the Project Area. These plans include the City's current General Plan, the Sustainability Action Plan that was adopted on February 1, 2011, and a number of citywide infrastructure master plans (Transportation and Roadways, Water Systems, Wastewater Systems, Storm Drainage, Public Services and Public Safety, and Parks and Recreation).

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1 According to the Federal Aviation Administration, the Tracy Municipal Airport runway lengths per newly adopted (September, 18 2014) Airport Layout Plan, Runway 8-26 is 3,437 feet and runway 12-30 is 4001 feet.
2 Airport Operations are defined as either aircraft arrival to or departure from an airport facility.
3 Operate in the local traffic pattern or within sight of the airport, know to depart or arrive from flight in local practice areas within a 20-mile radius, and/or execute simulated instrument approaches or low passes at the airport.
4 Originate at a different airport or operations that occur outside the local traffic pattern.
5 San Joaquin County's Aviation System Airport Land Use Compatibility Plan Update, July 2009.

CITY OF TRACY LAND USE PLANS AND POLICIES

CITY OF TRACY GENERAL PLAN

OVERVIEW

The Land Use Element of the Tracy General Plan contains the City's Land Use Designations Map, which shows the General Plan land use designations for all of the land in the City. The 2011 land use designations in the Project Area and within the City of Tracy are shown in Figure 4.10-1, *General Plan Land Use Designation Map*. As shown, the Project Area is currently designated primarily Residential Medium and Residential Low mixed with some Office, Industrial, Commercial, Village Center and Residential High uses south of the California Aqueduct. The Project Area located north of the California Aqueduct is designated primarily Industrial and Residential Medium.

The City approved an update to the General Plan on February 1, 2011. The General Plan provides a vision for the future and establishes a framework for how the City of Tracy should grow and change over the next two decades. The General Plan establishes goals, objectives, policies, and actions to guide this change in a desired direction. The General Plan presents existing conditions in the City, including physical, social, cultural, and environmental resources and opportunities. The General Plan looks at trends, issues, and concerns that affect the region. The General Plan articulates a vision for the City's long-term physical form and development. It also brings a deliberate overall direction to the day-to-day decisions of the City Council, its commissions, and City staff.

The General Plan acts as the principal policy and planning document for guiding future conservation, enhancement, and development in the City. It represents the basic policy direction of the Tracy City Council on basic community values, ideals, and aspirations to govern a shared environment through 2025. The General Plan addresses all aspects of development including land use, transportation, housing, economic development, public facilities, infrastructure, and open spaces, among other topics.

PLAN CONTENTS

The City of Tracy General Plan is guided by its vision statement, and the remainder of the General Plan is comprised of nine separate "elements" that set goals, objectives, policies, and actions for a given subject. The goals, objectives, policies, and actions provide guidance to the City on how to accommodate growth and manage its resources over the next 20 years. The goals, objectives, policies, and actions in each element are derived from a number of sources including: the 1993 General Plan, the background information collected for the General Plan Update, discussions with the City Council and Planning Commission, public workshops, and meetings with property owners. Many of the recommendations from the Tracy Tomorrow 2000 final report are also brought forward into the General Plan. In addition to the goals, objectives, policies, and actions, each element contains background information that describes current conditions in the City of Tracy relative to the subject of the element.

Seven of these elements cover topics required by State law, while the remaining three elements have been prepared by the City to meet local needs and concerns. Some elements also have additional sections that are specific to them. For example, the Land Use Element contains a series of land use designations that guide overall development in the City and the Circulation Element contains information on the network and hierarchy of streets in the City. The elements that form the General Plan Update are briefly described below:

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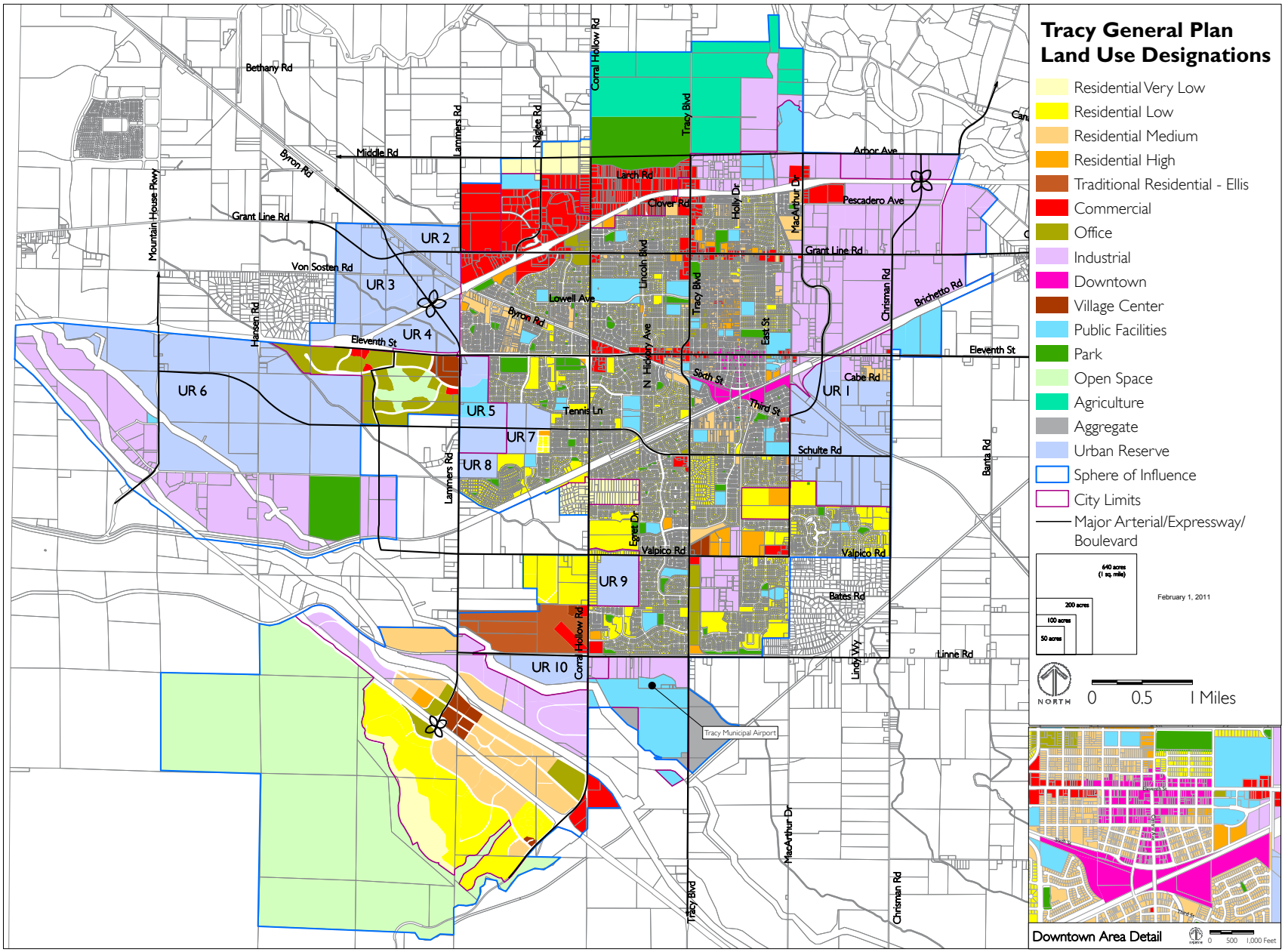

FIGURE 4.10-1

GENERAL PLAN LAND USE DESIGNATION MAP

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Land Use Element

The required Land Use Element designates all lands within the City for a specific use such as residential, office, commercial, industry, open space, recreation, or public uses. The Land Use Element provides policy direction for each land use category, and also provides overall land use policies for the City. Table 4.10-1, *General Plan Policies Relevant to Land Use*, below, identifies the General Plan goals, objectives and policies that are relevant to land use.

Community Character Element

The Community Character Element is not required by State law. However, due to the importance of maintaining and enhancing Tracy's hometown feel and the related importance of urban design for the City, this optional element has been included.

Economic Development Element

This optional element contains goals, objectives, policies, and actions to encourage the development of desired economic activities throughout the City. The information in this element is derived from the City's Economic Development Strategy prepared in 2002.

Circulation Element

This required element specifies the general location and extent of existing major streets, level of service, transit facilities, and bicycle and pedestrian network. As required by law, all facilities in the Circulation Element are correlated with the land uses foreseen in the Land Use Element.

Open Space and Conservation Element

The Open Space Element and the Conservation Element are required under State law and are combined in this General Plan. Issues addressed include the preservation of open space and agricultural land, the conservation, development, and utilization of natural resources, and the provision of parks and recreational facilities. Open space goals for public health and safety are covered in the Safety Element.

Public Facilities and Services Element

This optional element covers a wide range of topics related to the provision of public services and infrastructure in the City. Topics covered include law enforcement, fire protection, schools, public buildings, solid waste, and the provision of water, wastewater, and stormwater infrastructure.

Safety Element

State law requires the development of a Safety Element to protect the community from risks associated with the effects of flooding, seismic and other geologic hazards, and wildland fires.

Noise Element

This required element addresses noise in the community and analyzes and quantifies current and projected noise levels from a variety of sources, such as traffic, industry, rail, and the airport. The Noise Element includes goals, objectives, policies, and actions to address current and foreseeable noise issues.

Air Quality Element

This element, which is required for all jurisdictions in the San Joaquin Air Pollution Control District, outlines goals, objectives, policies, and actions to mitigate the air pollution impacts of land use, the transportation system, and other activities that occur in the City of Tracy.

In addition, the City has prepared a Housing Element under a separate cover. Each city and county has an obligation to contribute its part by including a Housing Element as one of the seven mandatory elements of the General Plan. The Housing Element provides a long-term, comprehensive plan to address the housing needs for all economic segments of the community. The Housing Element addresses existing and projected housing demand and establishes goals, objectives, policies, and actions to assist the City in implementing the plan in accordance with other General Plan policies. It is not included with the remainder of the General Plan because it was prepared under a separate timeline and under detailed State criteria.

Table 4.10-1: General Plan Policies Relevant to Land Use

Land Use Element	
Goal/Policy No.	**Goal/Policy Content**
Goal LU-1	**A balanced and orderly pattern of growth in the City.**
Objective LU-1.3	*Ensure that public facilities such as schools, parks and other community facilities are accessible and distributed evenly and efficiently throughout the City.*
Policy P1	Schools and parks should be located and designed to serve as focal points of neighborhood and community life and should be distributed in response to user populations.
Policy P2	Schools and parks should be accessible by automobile and bicycle and within walking distance from residential areas.
Policy P5	Projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities shall be allowed to transfer density to other portions of the site.
Objective LU-1.4	*Promote efficient residential development patterns and orderly expansion of residential areas to maximize the use of existing public services and infrastructure.*
Policy P1	The City shall use guidelines for residential growth detailed in the Growth Management Ordinance.
Policy P2	On a regular basis, the City shall prioritize the allocation of Residential Growth Allotments (RGAs) and Building Permits for new residential development to meet the goals of the General Plan including, but not limited to, growth concentrated around existing urban development and services, infill development, affordable housing, senior housing, and development with a mix of residential densities and housing types, as a high priority.

Table 4.10-1: General Plan Policies Relevant to Land Use

Land Use Element	
Goal/Policy No.	**Goal/Policy Content**
Policy P3	The City shall encourage residential growth that follows an orderly pattern with initial expansion targeted for areas shown in Figure 2-3. Applications for residential development shall only be considered in the following instances: • In areas designated within Figure 2-3 or on a property with a recorded Development Agreement that allows for the allocation of RGAs and building permits. • In areas and Urban Reserves that primarily contain land uses focused on the generation of jobs with ancillary residential development. However, the residential portions of such areas or Urban Reserves shall not be considered eligible to apply for RGAs and building permits until RGAs and building permits necessary to develop all areas within Figure 2-3 have been awarded, unless those RGAs and building permits sought for projects in such areas are for affordable housing as defined by the Tracy Municipal Code, in which cases RGAs and building permits for affordable housing may be awarded.
Policy P5	New development shall not be approved unless there is infrastructure in place or planned to support the growth.
Policy P6	Zoning Districts, Specific Plans or PUDs should be created to plan for the development of Urban Reserves 5, 7, 8 and 9 for residential development, that will further the City's goal to promote the efficient and orderly expansion of the City's housing base within the Secondary Residential Growth Areas.
Goal LU-2	**Expand economic opportunities in Tracy.**
Objective LU-2.1	*Balance residential development with jobs, retail growth, and the ability to provide services.*
Policy P1	The City's priorities for future growth, in order of priority, are: job-generating development to match the skills of Tracy residents; diversification of housing types suitable for Tracy's workforce, including those types suitable for Tracy's workforce; and continued growth of the retail base.
Objective LU-2.2	*Expand the City's retail base.*
Policy P2	New neighborhood-serving retail and service commercial uses, such as supermarkets, dry cleaners, coffee shops, banks and drug stores, shall be located in Village Centers and the Downtown and be designed to meet the principles presented in the Community Character Element.
Objective LU-2.3	*Expand the City's industrial base.*
Policy P3	Consistent with goals in the Economic Development Element, office-flex uses or higher-quality space should be located in areas at entryways to the City such as in Tracy Gateway, Cordes Ranch, and the Tracy Hills Specific Plan area along I-205 and I-580. The Cordes Ranch area should also contain commercial uses and services to meet the daily needs of workers and high density housing suitable for the workforces in these areas.
Objective LU-2.4	*Ensure adequate land for office development.*
Policy P3	Medical offices should be located in Gateway, near the intersection of Grant Line Road and Corral Hollow Road, in the vicinity of the Sutter Tracy Hospital and in Tracy Hills.
Goal LU-4	**Neighborhoods that support Tracy's small-town character.**
Objective LU-4.1	*Create a mix of housing types in neighborhoods.*
Policy P1	Residential neighborhoods should contain a mix of housing types including single family homes on a range of lot sizes; townhomes; duplexes, triplexes and fourplexes; and apartments.
Policy P2	Second units on individual parcels shall be allowed and encouraged in existing and new neighborhoods.

Table 4.10-1: General Plan Policies Relevant to Land Use

Land Use Element	
Goal/Policy No.	**Goal/Policy Content**
Policy P3	Within the range of allowable residential densities, intensities and uses, the City shall determine the most appropriate density, intensity, or use for any individual site. Consideration may include, but is not limited to: quality of design; implementation of the General Plan Housing Element; mitigation of potential adverse impacts such as noise and traffic; compatibility with the character, circulation system, and general improvements of adjacent neighborhoods; and the shape, configuration and natural character of the site; and whether densities are supportive of transit.
Objective LU-4.2	*Locate services and amenities within walking distance of neighborhoods.*
Policy P1	Commercial uses that provide goods and services to support daily life should be located within walking distance to as many neighborhoods as possible.
Policy P2	Direct, pedestrian connections shall be created between residential areas and nearby commercial areas.
Policy P3	New neighborhoods shall be designed to incorporate neighborhood parks and other gathering spaces into developments.
Goal LU-6	**Land development that mitigates its environmental, design and infrastructure impacts.**
Objective LU-6.1	*Minimize the impact of industrial development or aggregate mining on adjacent uses.*
Policy P1	New industrial or mining uses shall be designed to not adversely impact adjacent uses, particularly residential neighborhoods, with respect to, but not limited to, noise, dust and vibration, water quality, air quality, agricultural resources and biological resources.
Policy P2	All proposed development shall comply with existing applicable County and State waste management plans and standards.
Policy P3	Use of berms, landscaped buffer zones, soundwalls, and other similar measures between quarrying operations and noise-sensitive adjacent uses is encouraged to ensure consistency with standards established in City's Noise Element of the General Plan.
Objective LU-6.2	*Ensure land use patterns that minimize conflicts between transportation corridors and neighboring uses.*
Policy P1	Uses that are compatible with the noise, air quality and traffic impacts associated with freeways, such as auto-oriented commercial and industrial uses, should be located near and along freeway corridors whenever possible.
Policy P2	Adequate environmental protection and mitigation shall be provided for uses that are less compatible with development near and along freeway corridors.
Objective LU-6.3	*Ensure that development near the Tracy Municipal Airport is compatible with airport uses and conforms to safety requirements.*
Policy P1	New development and expansion of existing development shall conform to the requirements of the zoning ordinance (as related to the Airport Overlay area) and the requirements of the San Joaquin County Airport Land Use Plan.
Policy P2	All development near the Tracy Municipal Airport shall file deed notices for real estate disclosure, or record aviation easements on properties with new development in compliance with the 2009 San Joaquin County Airport Land Use Compatibility Plan.
Policy P3	Uses that are compatible with the noise, air quality and traffic impacts associated with airports, such as aviation oriented commercial and industrial uses, should be located near the airport whenever possible.
Policy P4	Adequate environmental protection and mitigation shall be provided for uses that are less compatible with the development near Tracy Municipal Airport.
Community Character Element	
Goal/Policy No.	Goal/Policy Content
Goal CC-1	**Superior design quality throughout Tracy.**

Table 4.10-1: General Plan Policies Relevant to Land Use

Land Use Element	
Goal/Policy No.	**Goal/Policy Content**
Objective C-1.1	*Preserve and enhance Tracy's unique character and "hometown feel" through high-quality urban design.*
Policy P2	All new development and redevelopment shall adhere to the basic principles of high-quality urban design, architecture, and landscape architecture including, but not limited to, human-scaled design, pedestrian-orientation, interconnectivity of street layout, siting buildings to hold corners, entryways, focal points, and landmarks.
Goal CC-2	**A high level of connectivity within the City of Tracy.**
Objective CC-2.1	*Maximize direct pedestrian, bicycle and vehicle connections in the City.*
Policy P1	New development projects shall be designed on a traditional, modified or curvilinear grid within the City's arterial street network. Cul-de-sacs may be used within the grid so long as the objective of pedestrian and bicycle connectivity is achieved.
Objective CC-2.2	*Provide connections that reinforce the role and function of the Building Blocks within the City.*
Policy P2	Neighborhoods shall have direct pedestrian, bicycle and vehicular connections to their Focal Points and Village Center, compatible with the character, circulation network, and general configuration of the neighborhoods.
Policy P4	Neighborhoods shall be designed so that daily shopping errands and trips to their Focal Points can generally be completed within easy walking or biking distances or within a short car drive.
Policy P5	Streets shall be continuous within and between Neighborhoods, including those that are built by different developers or builders.
Policy P6	New development projects shall not be gated communities or constructed with walls surrounding individual projects (i.e., a single developer or builder). Gated communities and walls should only be allowed on a case by case basis and will generally be considered only for projects such as "estate" developments where the minimum lot size is at least 1 acre or in housing with specialized clientele such as senior citizens.
Policy P7	New and existing site features, such as parks, utility easements, and drainage ways, should be improved and used as physical connections within and between Neighborhoods.
Goal CC-5	**Neighborhoods with a recognizable identity and structure.**
Objective CC-5.1	*Design Neighborhoods around a Focal Point.*
Policy P1	Every Neighborhood should have at least one Focal Point, which should be a park, school, plaza, clubhouse, recreation center, retail, open space or combination thereof.
Policy P2	Focal Points shall have ample public spaces that are accessible to all citizens.
Policy P3	Focal Points should be within ¼ mile from any point in the Neighborhood.
Objective CC-5.2	*Size and design Neighborhoods to be walkable.*
Policy P1	Neighborhoods should generally be no more than ½ mile wide in any direction.
Policy P2	Neighborhoods should not be bisected by a physical barrier, such as an arterial street, a railroad track or a major drainage way.
Policy P3	Design streets in Neighborhoods to enhance the sense of place and create a safe and comfortable pedestrian environment.
Policy P4	In most instances, block lengths should be short, typically no more than 400 feet, to create an easily navigable street pattern that allows for multiple routes through a neighborhood and greater opportunities for pedestrian activity.

Table 4.10-1: General Plan Policies Relevant to Land Use

Land Use Element	
Goal/Policy No.	**Goal/Policy Content**
Policy P5	Street patterns and block lengths in hillside areas may be designed to follow natural topography and open spaces as long as the objective of hometown feel and bicycle and pedestrian connectivity are achieved.
Policy P6	Alleys are encouraged for access to garages, as well as to enhance Neighborhood appearance and to facilitate the inclusion of secondary units over garages. Alleys shall not be the maintenance responsibility of the City. Where developed, alleys should provide for garage access, utility hook-ups and trash collection.
Policy P7	Common driveways serving multiple units may be allowed at the discretion of the City.
Policy P8	Sidewalks should be provided on both sides of the street in all Neighborhoods, except areas designated as Residential Very Low, where it may be acceptable to have sidewalks on only one side of the street.
Policy P9	Street trees shall be planted on all residential streets.
Goal CC-11	**Well-designed Employment Areas that are integrated with other parts of Tracy.**
Objective CC-11.1	*Ensure that Employment Areas are developed with a recognizable identity and structure.*
Policy P1	Employment Areas should contain one or more Focal Points such as a retail use, park, or plaza.
Policy P3	Development within an Employment Area should occur such that a majority of business parks or office parks are within a reasonable walking or biking distance, generally ½ mile, of one or more Focal Points.
Policy P4	Future Specific Plans for Employment Areas should identify Focal Points.
Economic Development Element	
Goal ED-5	**Support for Tracy's key economic assets.**
Objective ED-5.3	*Support I-205/I-580/I-5 infrastructure as key to economic growth in the area.*
Goal ED-6	**Healthy, key economic activity centers.**
Objective ED-6.7	Develop higher end office and office flex uses, particularly along entryways to the City along 1-205 and I-580.
Policy P1	Development of a high amenity campus style business park is encouraged.
Policy P2	The City shall support attraction efforts for Class A Office and certain flex-tech development tenants seeking a high amenities workplace, particularly along entryways to the City along I-205 and I-580.
Policy P3	High-speed telecommunications systems should be included in development to help create the premier office location in Tracy.
Open Space and Conservation Element	
Goal OSC-4	**Parks, open space, and recreation facilities and services that maintain and improve the quality of life for Tracy residents.**
Objective OSC-4.2	Ensure that new development is responsible for providing parks and recreation facilities throughout the City of Tracy
Public Facilities And Services Element	
Goal PF-7	**Meet all wastewater treatment demands and federal and State regulations.**
Objective PF-7.3	*Promote coordination between land use planning and wastewater conveyance, treatment and disposal.*
Policy P3	The approval of new development shall be conditioned on the availability of sufficient capacity in the wastewater collection and treatment system to serve the project.

Source: City of Tracy General Plan.

TRACY ZONING ORDINANCE

The THSP Project Area is located within the Tracy City limit. Upon approval of the THSP, the Project Area will be designated "Tracy Hills Specific Plan" in the City of Tracy Zoning Ordinance.

SAN JOAQUIN COUNTY AIRPORT LAND USE COMPATIBILITY PLAN

The San Joaquin Council of Governments (SJCOG), which serves as the Airport Land Use Commission (ALUC) for San Joaquin County, adopted an update to its 1993 Airport Land Use Compatibility Plan, the 2009 Airport Land Use Compatibility Plan (2009 ALUCP). The intention of the 2009 ALUCP is to protect and promote the safety and welfare of residents and airport users near the public use airports in San Joaquin County (County), while promoting the continued operation of those airports. Specifically, the plan seeks to protect the public from the adverse effects of airport, noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace.

The 2009 ALUCP includes all components of the Updated Comprehensive Land Use Plan for five of the six public-use airports within San Joaquin County. Stockton Metropolitan Airport is in the process of an airport master plan update. The 2009 ALUCP will be amended to include the Stockton Metropolitan Airport after the Master Plan has been through the approval process. Additionally, policies are provided for the portion of the County affected by the operations at Byron Airport located in neighboring Contra Costa County.

State of California Public Utilities Code Section 21676 grants the ALUC the authority to review amendments to general plans, specific plans, zoning amendments, and building regulations that apply within the airport planning boundary.

4.10.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Based on criteria derived from Appendix G of the State *CEQA Guidelines*, a project will normally have a significant land use impact if the project would:

- Physically divide an established community.
- 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.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

ENVIRONMENTAL IMPACTS AND ANALYSIS

PHYSICAL DIVISION OF AN ESTABLISHED COMMUNITY

An example of a project that has the potential to divide an established community includes the construction of a new freeway or highway through an established neighborhood. The THSP proposes development in the southwest area of the City of Tracy, abutting the Altamont Mountain Pass. The Project Area is south of existing development and the Ellis Specific Plan area which is proposed as a mix of residential, commercial,

office/professional, retail and recreational uses. The THSP would complement the uses within the Ellis Specific Plan area, and would not physically divide an established community.

The Delta-Mendota canal runs along the northern boundary of the Project Area, dividing the Project from areas to the north. The Delta-Mendota canal acts as an existing buffer between the Project Area and areas to the north, but does not create a barrier due to the existing access on Corral Hollow Road and the future extension of Lammers Road.

While new development, improvements, and intensification of the Project Area would occur under the THSP, implementation of the Project would not physically divide an established community and impacts would be *less-than-significant.*

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

General Plan Consistency

The California Environmental Quality Act (CEQA) Guidelines set forth a requirement that an EIR analyze any inconsistencies between a proposed project and applicable general plans and regional plans (14 CCR Section 15125[d]). However, inconsistencies between a proposed project and such plans are not in themselves "environmental impacts." Instead, inconsistencies between plans and proposals are a regulatory issue. CEQA distinguishes physical impacts that might later result from a land use approval relating to the project site from the simple planning act of the approval itself. In this EIR, where planning approvals could potentially result in adverse physical impacts on the environment, such as increased noise levels or loss of valuable habitat, those impacts are discussed and analyzed in their respective impact sections. In accordance with 14 CCR Section 15125(d), this section of the Draft EIR analyzes the consistency between the THSP and the City's General Plan, City Code, and applicable regional plans.

Implementation of the Project would require a General Plan amendment to amend the General Plan Land Use Map to reflect the proposed land use changes identified in Figure 3-5, *Tracy Hills Land Use Plan*. In addition to the map changes, the General Plan Land Use Element text would require minor modifications to reflect the related policy changes and updates to descriptive portions of the General Plan related to Tracy Hills (refer to Section 3.0, *Project Description).*

No impact is anticipated regarding conflict with the City's General Plan as a result of the Project. The 2011 update of the General Plan identified the potential development and development intensity allowed within the THSP. The changes proposed by the comprehensive update to the 1998 THSP are not substantive in nature, (i.e.., do not expand the development footprint, or overall density or intensity of development) and thus, are no greater in magnitude than the impacts anticipated and evaluated in the General Plan for the THSP Project Area. The General Plan Map amendment would include a transition of some land use designations such as Residential Medium to Residential Low, Industrial to Mixed-Use Business Park, Village Center to General Highway Commercial and Residential High.

Based on the inclusion of the THSP designation in the City's General Plan, the Project is consistent with the anticipated level, magnitude and pace of development identified within the General Plan. Implementation of the Project would include a General Plan Map amendment to reflect the proposed land use designation revisions on the General Plan Map, and would include minor text modifications to update the "Area of Special Consideration," Area No. 8 (Tracy Hills) to reflect the updated THSP.

Development within the THSP Project Area would implement the goals and policies of the General Plan (identified above, in Table 4.10-1). These goals and policies relate to expanding economic opportunities, particularly along the I-580 corridor, providing parks, open space, recreation facilities and services that maintain and improve the quality of life for Tracy residents, and designing neighborhoods with a superior design aesthetic and small-town character throughout Tracy. The Project is consistent with these goals and policies identified in the General Plan, thus, impacts related to consistency with the General Plan are *less-than-significant*.

Zoning Consistency Analysis

The THSP Project Area is currently zoned by the City of Tracy as the 1998 Tracy Hills Specific Plan Area. The Project would require zoning text and map amendments to add the proposed (new) zoning districts to the City's Municipal Code and Zoning Map. As identified in the THSP, zoning districts have been assigned to each parcel as the basis for establishing the land use and development standards for build-out of the THSP. These districts are defined in Section 2.1 through 2.5 of the THSP and include: Residential Estate, Low Density Residential, Medium Density Residential, High Density Residential, General Highway Commercial, Mixed Use Business Park, Light Industrial and Tracy Hills Conservation District. The THSP defines the permitted and conditionally permitted uses for each zoning district and establishes the types of accessory and temporary uses that are allowed pursuant to the Tracy Municipal Code. Upon approval of the THSP, the Project Area would be zoned in accordance with the zoning districts identified in the THSP, thereby establishing internal consistency with the zoning. Therefore, impacts would be *less- than- significant* in this regard.

Airport Land Use Compatibility

A portion of the northeast corner of the THSP Project Area is located within the Tracy Municipal Airport Inner Approach/Departure Zone 2, Inner Turning Zone 3, Outer Approach/Departure Zone 4, and Traffic Pattern Zone 7 in the 2009 San Joaquin Airport Land Use Compatibility Plan (ALUCP) (refer to Figure 4.10-2, *Airport Land Use Compatibility*). The ALUCP specifies sensitive land uses and structure heights which are restricted within these zones. This has the potential to create a significant impact if incompatible development is allowed in these zones.

Development within an airport safety zone requires land use restrictions to minimize risks to both people working and residing in this area, and aircraft utilizing the airport. The two principal methods for reducing these risks are to limit the number of persons in an area, and to limit the area covered by occupied structures. Development within the airport's sphere of influence, including approach and safety zones, would be subject to Federal Aviation Administration (FAA) regulations and the 2009 ALUCP and the City's 1998 Airport Master Plan – Tracy Municipal Airport.

According to the 2009 ALUCP, the following conditions are applicable in the Inner Approach/Departure Zone 2:

- The maximum dwelling units per acre (du/ac) is 1 du per 10 acres
- The maximum non-residential intensity is 50 persons per acre
- 30 percent of the land is required to remain in open space
- Prohibited uses include:
  - Residential except for very low density residential
  - Manufacturing and industrial uses
  - Chemicals and allied products
  - Petroleum refining and storage
  - Rubber and plastics
  - Passenger terminals & stations
  - Radio, TV & Telephone centers
  - Electrical & natural gas generation & switching
  - Oil & gas extraction
  - Natural gas & petroleum pipelines11
  - Petroleum truck terminals
  - Businesses & personal services
  - Hotels, motels, restaurants
  - Public & quasi-public services
  - Children's schools, day care centers, libraries
  - Hospitals, nursing homes
  - Places of worship
  - Schools
  - Recreational uses, athletic fields, playgrounds, & riding stables
  - Theaters, auditoriums, & stadiums
  - Dumps or landfills, other than those consisting entirely of earth & rock.
  - Waterways that create a bird hazard
  - Hazards to flight

The following conditions are applicable in the Inner Turning Zone 3:

- The maximum dwelling units per acre is 1 du per 5 acres
- The maximum non-residential intensity is 120 persons per acre
- 20 percent of the land is required to remain in open space
- Prohibited uses are the same as identified in the Inner Approach/Departure Zone 2, above.

The following conditions are applicable in the Outer Approach/Departure Zone 4:

- The maximum dwelling units per acre is 1 du per 5 acres
- The maximum non-residential intensity is 180 persons per acre
- 20 percent of the land is required to remain in open space
- Prohibited uses include:

- Children's schools, day care centers, libraries
- Hospitals, nursing homes
- Buildings with 3 or more above ground habitable floors
- Highly noise sensitive outdoor non-residential uses
- Hazards to flight

The following conditions are applicable in the Traffic Pattern Zone 7:

- No limit on residential dwelling units per acre
- The maximum non-residential intensity should be no more than 450 persons per acre
- 10 percent of the land is required to remain in open space
- Prohibited uses include hazards to flight and outdoor stadiums
- Airspace review is required for objects greater than 100 feet tall

The portion of the Project Area within Zones 2, 3, and 4 runway approach zones is designated as Light Industrial (M-1). As defined by the Tracy Zoning Code, the M-1 Light Industrial designation would allow the following uses:

- Minor public services uses;
- Local public service and utility installations;
- Temporary buildings and uses;
- Crop and tree farming;
- Specialty corps;
- Accessory uses except recreational facilities and residences;
- Contract construction;
- Warehousing and storage;
- Small recycling collection facilities; and,
- Manufacturing uses, light.

The THSP Project designations and its allowable uses would be in conformance with the Outer Approach/Departure Zone 4, and the Traffic Pattern Zone 7 of the 2009 ALUCP. However, given the conflict of allowable land uses within the M-1 Light Industrial designation, the Inner Approach/Departure Zone 2 and the Inner Turning Zone 3, there would be a *potentially significant* impact.

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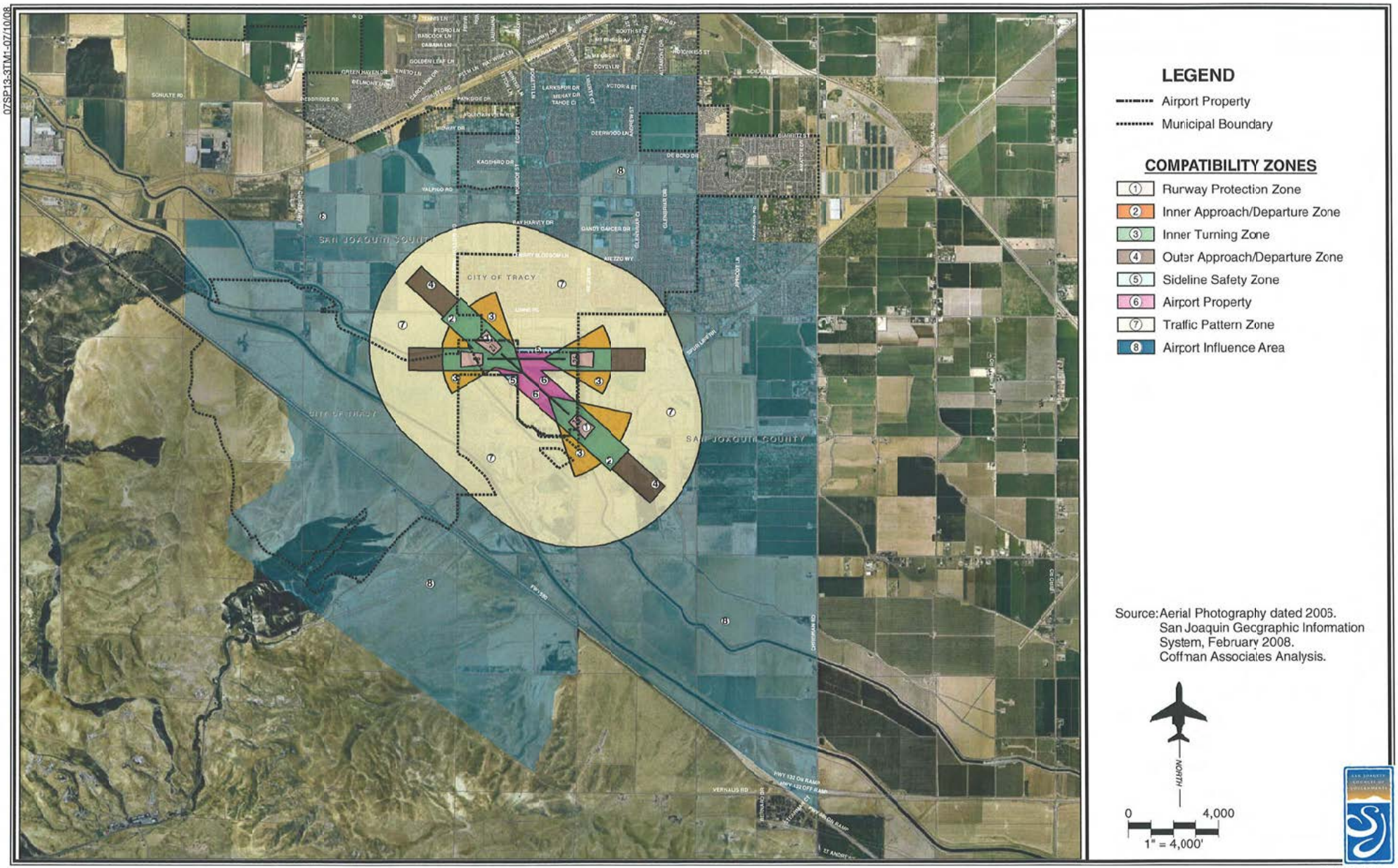

FIGURE 4.10-2
AIRPORT LAND USE COMPATIBILITY

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CONFLICT WITH ANY APPLICABLE HABITAT CONSERVATION PLAN OR NATURAL COMMUNITY CONSERVATION PLAN

The San Joaquin Council of Governments, Inc. (SJCOG) has implemented the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The principal biological goal of the plan is to maintain habitat of sufficient quality and quantity to conserve populations of all fish, wildlife, and plant species covered by the SJMSCP. As part of the plan, lands within the SJMSCP area are acquired from willing landowners through either conservation easements or fee title purchase.

As discussed in Chapter 4.4, *Biological Resources,* prior to the finalization of the SJMSCP, the Tracy Hills Development (under the 1998 THSP) opted to create a separate HCP rather than participate in the SJMSCP. As a result, the Tracy Hills Development was called out as a project specifically not covered by the SJMSCP in Section 8.2.2.2 of the plan. The Tracy Hills HCP was never finalized, but as a result with recent coordination with SJCOG Inc., coverage for Phase 1 under the SJMSCP was obtained in July 2013. Other phases of the THSP are not currently covered by the SJMSCP and would need to apply independently for coverage or otherwise mitigated. The THSP is located within the Southwest Zone and Central/Southwest Transition Zone designated by the SJMSCP. Specifically, Phase 1 of the THSP is located in the Central/Southwest Transition Zone and the area west of I-580 is located in the Southwest Zone.

Pursuant to the detailed discussion of consistency with the SJMSCP in Chapter 4,4, *Biological Resources,* with implementation of Mitigation Measures 4.4-2a and 4.4-2b, *no impact* relative to inconsistency with habitat conservation plans would occur.

CUMULATIVE IMPACT ANALYSIS

The geographic scope of this impact is cumulative development generally located within the City of Tracy and the Tracy Sphere of Influence (SOI), as identified in the City's General Plan.

Cumulative impacts would occur if development within the Project Area, together with other cumulative projects, would physically divide an existing community or conflict with an applicable land use plan, policy, or regulation, with adjacent land uses or with an adopted conservation plan.

As discussed above, implementation of the Project would not create a physical divide in an existing community or conflict with land uses, or an adopted general, specific, or habitat conservation plan. Potential impacts related to a conflict with the 2009 ALUCP would be addressed on a project by project basis and would therefore not create a cumulative impact. The Project would not contribute to cumulative impacts associated with these land use issues.

Build-out of the THSP Project Area would also be within an area planned for urban development within the City as identified in the General Plan and Zoning Ordinance and would help the City achieve its long-term planning vision. Also, as described in Chapter 4.12, *Public Services and Utilities*, future development of the THSP is supported by the City's plans for expanding utilities and infrastructure to accommodate development of the THSP Project Area and implementation of the Project. Therefore, while growth and development would continue, this growth has been anticipated in the City's General Plan and would be accommodated by the City of Tracy. Therefore, implementation of the Project would result in a *less-than-significant* cumulative impact.

IMPACTS AND MITIGATION MEASURES

Impact 4.10-1: The Project may result in a conflict with the existing provisions of the 2009 San Joaquin Airport Land Use Compatibility Plan (ALUCP), or the ALUCP in effect at the time of future Project Applicant submissions. This is considered a potentially significant impact regarding the Project's consistency with previously adopted land use plans and policies.

Mitigation Measure:

4.10-1 All tentative and final maps within the THSP shall conform to the provisions of the 2009 ALUCP (or the ALUCP in effect at the time of Project Applicant submissions), including but not limited to:

- Land use restrictions of the ALUCP;
- All proposed school sites within a 2 mile radius of the airport runway must obtain approval by the State Department of Transportation Division of Aeronautics.

Significance After Mitigation: The mitigation measure listed above would reduce potential impacts regarding compatibility with the existing land use plans and policies to a *less- than- significant* level by ensuring that tentative and final maps comply with 2009 ALUCP (or the ALUCP in effect at the time of Project Applicant submissions) provisions.

4.11 NOISE

The purpose of this section is to evaluate noise source impacts onsite and to surrounding land uses as a result of the development of Phase 1a of the Project, and buildout of the Project. This section evaluates short-term construction-related impacts, as well as buildout conditions. Mitigation measures are also recommended to avoid or lessen the Project's noise impacts. Information in this section was obtained from the City of Tracy General Plan (General Plan); the Tracy Municipal Code (Municipal Code), the Tracy Hills Traffic Impact Analysis, prepared by Kimley-Horn and Associates, dated October 2014); and the Tracy Hills Phase 1 Noise Impact Analysis, prepared by Urban Crossroads on November 14, 2013; (refer to Appendix G, *Noise Data*).

4.11.1 ENVIRONMENTAL SETTING

NOISE SCALES AND DEFINITIONS

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise generally increases with the environmental sound level. However, many factors also influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses range from "highly annoyed" to "not annoyed."

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, 20 dBA higher is four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Table 4.11-1, *Sound Levels and Human Response.*

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period of time. Table 4.11-2 *Noise Descriptors,* provides a listing of methods to measure sound.

Table 4.11-1: Sound Levels and Human Response

dB(A)	Overall Level - Sound Pressure Level Reference: 0.0002 Microbars	Community (Outdoor)[1]	Home or Industry[1]	Loudness - Human Judgment of Different Sound Levels
130		- Military jet aircraft take-off with after-burner from aircraft carrier @ 50 feet (130)	- Oxygen torch (121)	120 dB(A) 32 times as loud
120 110	Uncomfortably loud	- Turbo-fan aircraft @ take-off power @ 200 feet (110)	- Riveting machine (110) - Rock and roll band (108-114)	110 dB(A) 16 times as loud
100		- Jet flyover @ 1,000 feet (103) - Boeing 707, DC-8 @ 6,080 feet before landing (106) - Bell J-2A helicopter @ 100 feet (100)		100 dB(A) 8 times as loud
90	Very loud	- Power mower (96) - Boeing 737, DC-9 @ 6,080 feet before landing (97) - Motorcycle @ 25 feet (90)	- Newspaper press (97)	90 dB(A) 4 times as loud
		- Car wash @ 20 feet (89) - Prop airplane flyover @ 1,000 feet (88) - Diesel truck, 40 mph @ 50 feet (84) - Diesel train, 45 mph @ 100 feet (83)	- Food blender (88) - Milling machine (85) - Garbage disposal(80)	80 dB(A) 2 times as loud
70	Moderately loud	- High urban ambient sound (80) - Passenger car, 65 mph @ 25 feet (77) - Freeway @ 50 feet from pavement edge, 10:00 a.m. (76 ±6)	- Living room music (76) - TV audio, vacuum cleaner	70 dB(A)
60		- Air conditioning unit @ 100 feet (60)	- Cash register @ 10 feet (65-70) - Electric typewriter @ 10 feet (64) - Dishwasher (rinse) @ 10 feet (60) - Conversation (60)	60 dB(A) half as loud
	Quiet	- Large transformers @ 100 feet (50)		50 dB(A) one-quarter as loud
40		- Bird calls (44) - Lower limit urban ambient sound (40)		40 dB(A) one-eighth as loud
20	Just audible	- Desert at night (dB(A) scale interrupted)		
10	Threshold of hearing			

Notes:
1 - Numbers in Parentheses are the A-Scale Weighted Sound Levels for that Noise Event

Table 4.11-2: Noise Descriptors

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening (7:00 PM to 10:00 PM) and +10 dBA for the night (10:00 PM to 7:00 AM).
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the Leq's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent and 90 percent of a stated time period.

Source: Cyril M. Harris, Handbook of Noise Control, 1979.

HEALTH EFFECTS OF NOISE

When the noise level of an activity rises above 70 dBA, the chance of receiving a complaint is possible, and as the noise level rises, dissatisfaction among the public steadily increases. However, an individual's reaction to a particular noise depends on many factors, such as the source of the sound, its loudness relative to the background noise, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community.

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-Induced Hearing Loss;
- Interference with Communication;
- Effects of Noise on Sleep;
- Effects on Performance and Behavior;
- Extra-Auditory Health Effects; and
- Annoyance.

Although it often causes discomfort and sometimes pain, noise-induced hearing loss usually takes years to develop. Noise-induced hearing loss can impair the quality of life through a reduction in the ability to hear important sounds and to communicate with family and friends. Hearing loss is one of the most obvious and easily quantified effects of excessive exposure to noise. While the loss may be temporary at first, it could become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly caused by the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, substantial damage can be caused by non-occupational sources.

According to the United States Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for effects on performance to occur.

Recent research indicates that more moderate noise levels can produce disruptive after-effects, commonly manifested as a reduced tolerance for frustration, increased anxiety, decreased incidence of "helping" behavior, and increased incidence of "hostile" behavior. Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. Most effects seem to be transitory, but with continued exposure some effects have been shown to be chronic in laboratory animals.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA CNEL, approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

GROUND-BORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

4.11.2 REGULATORY FRAMEWORK

This section summarizes the laws, ordinances, regulations, and standards that are applicable to the THSP Project Area. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to the local jurisdictions.

STATE OF CALIFORNIA GUIDELINES

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA was enacted in 1970 and requires that all known environmental effects of a project be analyzed, including environmental noise impacts. Under CEQA, a project has a potentially significant impact if the project exposes people to noise levels in excess of standards established in the local general plan or noise ordinance. Additionally, under CEQA, a project has a potentially significant impact if the project creates a substantial increase in the ambient noise levels in the project vicinity above levels existing without the project. If a project has a potentially significant impact, mitigation measures must be considered. If mitigation measures to reduce the impact to less-than-significant are not feasible due to economic, social, environmental, legal, or other conditions, the most feasible mitigation measures must be considered.

CALIFORNIA GOVERNMENT CODE

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services.

The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

SAN JOAQUIN COUNTY AIRPORT LAND USE COMPATIBILITY PLAN NOISE STANDARDS

The San Joaquin County Airport Land Use Compatibility Plan Update (ALUCP) was prepared in July 2009. The ALUCP was prepared in accordance with the California Department of Transportation's California Airport Land Use Planning Handbook (July 2002). The ALUCP is intended to protect and promote the safety and welfare of residents and airport users. Specifically, the ALUCP seeks to protect the public from the adverse effects of airport noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace. The ALUCP states the maximum CNEL considered normally acceptable for new residential land uses in the vicinity of airports is 60 dBA CNEL. Similar standards apply to other types of land uses (refer to Table 3B of the ALUCP). The maximum aircraft-related interior noise level that is considered acceptable for land uses near airports is 45 dBA CNEL in any habitable room of single- or multi-family residences, hotels and motels, hospitals, nursing homes, religious areas, meeting halls, theaters, mortuaries, office buildings, schools, libraries, and museums. ALUCP Table 3B includes sound insulation requirements for land uses within airport noise contours of 55 to 75 dBA CNEL.

CITY OF TRACY NOISE STANDARDS

General Plan

The City of Tracy General Plan provides a number of goals, policies, and objectives that would apply to the THSP Project Area. The following provides the goals, objectives, policies, and actions of the City regarding noise regulations:

Noise Element	
Goal/Policy No.	**Goal/Policy Content**
Goal N-1A	**Citizenry protected from excessive noise.**
Objective N-1.1	*Ensure appropriate exterior and interior noise levels for new land uses.*
Policy P1	Noise sensitive land uses shall not be located in areas with noise levels that exceed those considered normally acceptable for each land use unless measures can be implemented to reduce noise to acceptable levels.
Policy P2	Land uses shall require appropriate interior noise environments when located in areas adjacent to major noise generators.

Noise Element	
Policy P3	Recognizing that some new single-family residential uses may be located adjacent to non-residential uses, new single-family residential development shall not exceed 60 L_{dn} (day/night average noise level) for exterior noise in private use areas.
Policy P4	New residential uses exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in the operative California Building Code or other operative code.
Policy P5	For new residential land uses, noise from external sources shall not cause building interiors to exceed 45 L_{dn}.
Policy P6	New multi-family residential land uses, noise from external sources shall not cause the community outdoor recreation areas to exceed 65 L_{dn}. This policy shall not apply to balconies.
Policy P7	New residential development affected by noise from railroads or aircraft operations shall be designed to limit typical maximum instantaneous noise levels to 50 dBA in bedrooms and 55 dBA in other rooms.
Policy P8	Measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all development projects. Acceptable, conditionally acceptable and unacceptable noise levels are presented in [the General Plan Noise Element] Figure 9-3.
Policy P9	If the primary noise sources are train pass-bys then the standard for outdoor noise levels in single- and multi-family residential outdoor activity areas shall be 70 L_{dn}.
Objective N-1.2	*Control sources of excessive noise.*
Policy P1	The City's Noise Ordinance, as revised from time to time, shall prohibit the generation of excessive noise.
Policy P2	Mitigation measures shall be required for new development projects that exceed the following criteria: ♦ Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level. ♦ Cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable." Cause new noise levels to exceed the City of Tracy Noise Ordinance limits.
Policy P3	Pavement surfaces that reduce noise from roadways should be considered as paving or repavement opportunities arise.
Policy P4	All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 AM to 7:00 PM. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts: ♦ Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. ♦ Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area. Utilize "quiet" air compressors and other stationary noise sources where technology exists.
Objective N- 1.3	Consider noise issues in the Development Review process.
Policy P1	Development projects shall be evaluated for potential noise impacts and conflicts as part of the Development Review process.
Policy P2	Significant noise impacts shall be mitigated as a condition of project approval.

Noise Element	
Policy P3	New development projects shall have an acoustical specialist prepare a noise analysis with recommendations for design mitigation if a noise-producing project is proposed near existing or planned noise-sensitive uses.
Policy P4	Proposed noise sensitive projects within noise-impacted areas shall submit acoustical studies and provide necessary mitigation from noise.
Policy P5	Site design techniques shall be considered as the primary means to minimize noise impacts as long as they do not conflict with the goals of the Community Character Element. Techniques include: ♦ Designing landscaped building setbacks to serve as a buffer between the noise source and receptor. ♦ Placing noise-tolerant land uses, such as parking lots, maintenance facilities, and utility areas between the noise source, such as highways and railroad tracks, and receptor. ♦ Orienting buildings to shield noise sensitive outdoor spaces from a noise source. ♦ Locating bedrooms or balconies on the sides of buildings facing away from noise sources. Utilizing noise barriers (e.g., fences, walls, or landscaped berms) to reduce adverse noise levels in noise-sensitive outdoor activity areas.
Policy P6	The City shall seek to reduce impacts from groundborne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g., residences) are sited at least 100 feet from the centerline of the railroad tracks whenever feasible. The development of vibration-sensitive buildings within 100 feet from the centerline of the railroad tracks would require a study demonstrating that ground borne vibration issues associated with rail operations have been adequately addressed (i.e., through building siting or construction techniques).

In addition to the goals and objectives, the General Plan also includes the City's noise standards for different land uses within the City's jurisdiction. According to Figure 9-3 of the General Plan, "normally acceptable" noise standards for single-family residential units and institutional land uses such as schools, libraries, museums, hospitals, personal care, meeting halls, and churches is 60 dBA Ldn. For multi-family residential, hotels, motels, and outdoor recreational areas, a 65 dBA Ldn is "normally acceptable." For office buildings, commercial, and professional land uses, a "normally acceptable" noise level is 70 dBA Ldn.

Municipal Code

In addition to the standards set forth within the General Plan, Title 4.12, Article 9, Noise Control Ordinance, the City's Municipal Code provides the following General Sound Level Limits (Section 4.12.750):

- Residential Districts have a noise limit of 55 dBA
- Commercial Districts have a noise limit of 65 dBA
- Industrial Districts have a noise limit of 75 dBA
- Agricultural Districts have a noise limit of 75 dBA
- Aggregate Mineral Overlay Zones have a noise limit of 75 dBA

The City's Municipal Code, Title 4.12, Article 9, Noise Control Ordinance, provides the following construction and operational noise standards (Section 4.12.820):

Construction Noise Prohibition

The operation between the hours of 10:00 PM and 7:00 AM of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam, or electric hoist, parking lot cleaning equipment, or other appliance, the use of which is attended by loud or unusual noise.

Business and Residential Relationships

1. Delivery vehicles shall have their engines turned off when stationary during the regular business hours (6:00 AM to 11:00 PM).

2. It is unlawful for stores to be loading, unloading, opening or other handling of boxes, crates, containers, building materials, garbage cans, other similar objects and trash compactor operations between the hours of 10:00 PM and 7:00 AM in an area between a business and residential in such a manner to cause a noise disturbance across a residential property line or at any time to violate the general sound level limits.

3. Store deliveries by motorized refrigeration systems shall not be left running between the hours of 10:00 PM and 7:00 AM within seventy-five feet of a residential zone, residential use, or sleeping quarters.

Note that the noise ordinance requirements cannot be applied to mobile noise sources, such as heavy trucks, when traveling on public roadways. Federal and State laws preempt control of mobile noise sources on public roads and airports.

SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack of it, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. Sensitive receptors are depicted below in Table 4.11-3, *Sensitive Receptors*.

Table 4.11-3: Sensitive Receptors

Type	Name	Distance (feet)[1]	Direction
Residential	Single Family Residential [2]	470	North
		190	Northwest
Schools	Anthony Traina Elementary School	4,310	Northeast
	Tender Loving Care Preschool	4,240	Northeast
Parks	Cose (Don) Park	2,050	Northeast
	Schwartz (Bill) Park	3,670	Northeast
	American Legion Park	4,840	East
Hospitals	N/A	N/A	N/A
Places of Worship	The Church of Jesus Christ of Latter-day Saints	6,500	North
	St. Bernard's Holy Family Center	6,500	North

Notes:
1. Distances are measured from the exterior boundary only and not from individual construction projects/areas within the interior of the THSP Project Area.
2. There are two single family residential uses located within the boundaries of the THSP Project area.

AMBIENT NOISE MEASUREMENTS

In order to quantify existing ambient noise levels, Urban Crossroads conducted two long-term (24-hour), and four short-term (20-minute) noise measurements on May 30, 2013; refer to Table 4.11-4 *Noise Measurements*. The long-term noise level measurements were recorded using two Quest DL Pro data logging Type 2 noise dosimeters, and were calibrated using a Quest QC-10 calibrator. All short-term noise level measurements were collected using a Larson Davis Model 824 Type 1 precision sound level meter, and were calibrated using a Larson- Davis calibrator, Model CAL 150. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters. Refer to Appendix G, *Noise Data*, for the data outputs and noise measurement locations.

Table 4.11-4: Noise Measurements

Site	Location	Time	L_{eq}
Long-Term Measurements (24-hours)			
LT-1	At the edge of Caltrans Right-of-Way approximately 40 feet north of the edge of pavement for the northbound I-580 travel lanes.	24-hours	72.6
LT-2	In the center of the Phase 1a Project site approximately 1,700 feet north of the edge of pavement for the northbound I-580 travel lanes.	24-hours	55.0
Short-Term Measurements (20 Minutes)			
ST-1	In the southeastern portion of the Phase 1a Project site, near I-580 and Corral Hollow Road (southeastern corner of Phase 1a residential development).	6:38 AM	62.0
ST-2	In the southeastern portion of the Phase 1a Project site, near I-580 (to the south of ST-1).	7:02 AM	65.8
ST-3	In the southeastern portion of the Phase 1a Project site, near I-580 (to the west of ST-1 and ST-2).	7:25 AM	64.3
ST-4	In the southeastern portion of the Phase 1a Project site, near I-580 (to the west of ST-3).	7:48 AM	65.6

Source: Noise Monitoring Survey conducted by Urban Crossroads, November 14, 2013.

The noise measurement sites indicated in Table 4.11-4 are representative of typical existing noise exposure within and immediately adjacent to Phase 1a of the THSP Project Area. Two long-term measurements were taken at two locations over a 24-hour period, and four short-term 20-minute noise measurements were taken between 6:30 AM and 8:00 AM at four locations. It should be noted that the long-term noise measurements in Table 4.11-4 do not include the hours in which noise levels were recorded in excess of wind speeds of eight miles per hour (mph). The monitored existing long-term noise levels on the Phase 1a Project site within the THSP Project Area range from approximately 55.0 Leq to 72.6 Leq. The highest on-site long-term noise measurement level (72.6 dBA) was taken at the southern boundary of the Phase 1a Project site, adjacent to the I-580 freeway.

Meteorological conditions for the short-term noise measurements were typical, with light wind speeds (0 to 5 miles per hour), low humidity, and clear skies. Existing short-term noise levels within the THSP Project Area range from approximately 62.0 Leq to 65.8 Leq. The highest short-term on-site noise level measurement (65.8 dBA) was taken at the southeastern portion of the THSP Project Area, adjacent to the I-580 freeway, and near Corral Hollow Road.

MOBILE NOISE SOURCES

Vehicular Noise Sources

The Phase 1a Project site and THSP Project Area are in an undeveloped area consisting of mostly agricultural land with residential properties dispersed throughout the area. These types of land uses typically generate little noise. Vehicles using local roadways generate the majority of noise within the Project Area. To assess the potential for Project-generated noise impacts, it is necessary to quantify the existing traffic-generated noise. Noise models were run using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (e.g., number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view and site conditions ("hard" or "soft"). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. The noise levels depicted in Table 4.11-5, *Existing Traffic Noise Levels*, are based on modeled vehicular traffic as derived from the Tracy Hills Traffic Impact Analysis, prepared by Kimley-Horn and Associates, October 2014. It is noted that three roadways within the City of Livermore (Altamont Pass Road, Patterson Pass Road, and Tesla Road) were included in the traffic noise analysis for all scenarios (Existing, Existing Plus Phase 1a Project Conditions, Long Range, and Long Range Plus THSP Buildout) due to frequent commuter vehicle trips between Tracy and Livermore. Existing traffic noise levels range from 45.0 dBA to 66.4 dBA. The highest existing noise levels occur along Corral Hollow Road (from Eleventh Street to New Schulte Road, New Schulte Road to Linne Road, and Linne Road to Spine Road), and Tracy Boulevard (North of Eleventh Street, Eleventh Street to Valpico Road, Valpico Road to Linne Road, and south of Linne Road).

Table 4.11-5: Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Lammers Road					
North of Eleventh Street	3,990	59.2	93	30	9
Eleventh Street to Old Schulte Road	5,600	56.9	79	37	17
Old Schulte Road to Valpico Road	5,600	57.9	79	37	17
South of Valpico Road	290	45.0	11	5	2
Corral Hollow Road					
North of Eleventh Street	24,540	66.5	575	182	57
Eleventh Street to New Schulte Road	23,440	66.4	550	174	55
New Schulte Road to Linne Road	8,615	62.0	202	64	20
Linne Road to Spine Road	6,330	60.7	123	57	27
South of Spine Road	3,260	57.8	79	37	17
Chrisman Road					
North of Eleventh Street	1,220	52.8	21	7	2
Eleventh Street to Linne Road	6,225	59.5	103	48	22
South of Linne Road	2,760	58.1	83	39	18

Table 4.11-5: Existing Traffic Noise Levels

MacArthur Drive					
Linne Road to Valpico Road	2,200	56.8	52	16	5
Valpico Road to West Schulte Road	5,930	62.0	184	58	18
West Schulte Road to Eleventh Street	7,310	61.9	171	54	17
North of Eleventh Street	4,055	59.3	95	30	10
Tracy Boulevard					
North of Eleventh Street	19,300	64.6	333	105	33
Eleventh Street to Valpico Road	17,080	64.0	294	93	29
Valpico Road to Linne Road	8,730	62.4	205	65	20
South of Linne Road	1,000	50.4	25	12	5
Linne Road					
West of Tracy Boulevard	3,990	57.5	76	35	16
East of Tracy Boulevard	3,680	57.2	72	34	16
CITY OF LIVERMORE ROADWAYS					
Altamont Pass Road					
West of Greenville Road	15,860	63.5	192	89	41
Patterson Pass Road					
West of Greenville Road	5,430	61.5	169	53	17
Tesla Road					
West of Greenville Road	6,840	61.0	130	60	28

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level.

Source: Traffic noise modeling is based on traffic data provided by Kimley-Horn and Associates, October 2014.

CITY OF TRACY MUNICIPAL AIRPORT NOISE

The Tracy Municipal Airport is located approximately 0.22-mile east of the THSP Project Area, and 0.62-mile northeast of the Phase 1a Project site. According to the San Joaquin County Airport Land Use Compatibility Plan Update (ALUCP), the existing and forecast operations for the airport total 59,701 (including 20,475 local operations and 39,226 itinerant operations). A majority of the local operations are performed by single engine piston aircraft involved in flight training at the airport. In addition, aerobatic activities occur frequently within the confines of the designated aerobatic box located directly east of the airport. Itinerant operations are also dominated by single engine piston aircraft, with a small percentage of operations performed by turboprop and business jet aircraft, aerial applicators, powered parachutes, ultralight aircraft, and helicopters.

The long range forecast for Tracy Municipal Airport indicates a total of 107,200 annual operations. The Master Plan (1998) also indicated the fleet mix distribution for operations at the airport would be 66 percent single engine piston, 29.4 percent multi-engine piston, 3 percent turboprop, and 1.4 percent business jet. These percentages were applied to the itinerant operations. The ALUCP contains CNEL noise contours for Tracy Municipal Airport, which depict a portion of the THSP Project Area being within the 55 dBA CNEL noise contour.

Railroad Noise

According to the City of Tracy *General Plan*, the Altamont Commuter Express (ACE) provides passenger rail service between Stockton and San Jose. The ACE Station for Tracy is located on Tracy Boulevard at Linne Road. There are currently four ACE trains per day which arrive in Tracy between 4:00 AM and 7:00 AM and return between 5:00 PM and 7:00 PM.

There are three major rail lines that enter the City from the east, two of which merge and subsequently exit to the west. The rail lines are owned by Union Pacific Railroad (UPRR). The main line runs through south Tracy along Linne Road. This line is used both as an industrial (10 freights per day) and commuter (via ACE train service) rail. Train noise contour distances are shown in Table 4.11-6, *Train Noise Contour Distances*.

Table 4.11-6: Train Noise Contour Distances

Railroad Facility	Distance to Noise Contour (Feet)		
	70 L_{dn}	**65 L_{dn}**	**60 L_{dn}**
UPRR Railroad (approximately 10 freight and ACE trains per day)	60	120	260
UPRR Railroad Local Freight to Stockton	60	120	260
UPRR Railroad Leased to California Northern Railroad	60	120	260

Source: City of Tracy, City of Tracy General Plan, Noise Element, Table 9-5, Train Noise Contour Distances.

Stationary Noise Sources

The primary sources of stationary noise in the THSP Project Area are urban-related and rural related activities (i.e., mechanical equipment, landscape maintenance, conversations [normal to loud], farming equipment, and recreational areas) and residential activities (i.e., air conditioners, pool and spa equipment, landscape maintenance, and conversations). Noise associated with these sources may represent a single event noise occurrence, short-term, or long-term/continuous noise.

4.11.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. Noise impacts resulting from implementation of the Project could be considered significant if they would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive ground borne vibration or ground borne noise levels;
- Substantially permanently increase ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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, expose people residing or working in the project site to excessive noise levels; and,

- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels.

SIGNIFICANCE OF CHANGES IN AMBIENT NOISE LEVELS

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB would not be discernible to local residents. A 5 dB change is generally recognized as a clearly discernable difference.

As traffic noise levels at sensitive uses approach or exceed the 65 CNEL standard, a 3.0 dB increase as a result of the Project is used as the increase threshold for the Project. Thus, the Project would result in a significant noise impact when a permanent increase in ambient noise levels of 3.0 dB occurs upon Project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

VIBRATION THRESHOLDS

With respect to ground-borne vibration from construction activities, the Federal Transit Administration (FTA) has adopted guidelines/recommendations to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity.

A technical discussion of construction activity-related vibration is provided in the FTA publication titled Transit Noise and Vibration Impacts Assessment (May 2006). As described therein, a ground-borne vibration level of 0.2 inch-per-second peak particle velocity (PPV) should be considered as damage threshold criterion for structures deemed "fragile," and a ground-borne vibration level of 0.12 inch-per-second PPV should be considered as damage criterion for structures deemed "extremely fragile," such as historic buildings. With respect to structures that are considered "well engineered," a ground-borne vibration damage threshold criterion of 2.0 inch-per-second PPV. The analysis has assumed a conservative threshold of 0.2 inch-per-second PPV.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION IMPACTS

THSP BUILDOUT

Development under the THSP could generate significant amounts of noise during grading and construction operations. Initially, rough grading would be conducted to establish the portion of fixed roadways and install the minimum infrastructure necessary to support each use constructed in the buildout of the THSP . Subsequently, construction of the various land uses in the THSP Project Area would occur in phases, and could potentially impact surrounding sensitive receptors depending on the length of construction, distance to receptors, equipment used, etc. It is anticipated that construction traffic would access the potential construction sites within the THSP Project Area from major roadways, including I-580, Lammers Road, and Coral Hollow Road. Various sensitive receptors exist in close proximity to the THSP Project Area. The closest sensitive receptors are located immediately adjacent to the north and northwest (residential uses); refer to Table 4.11-3. It should be noted that two single family residential uses are currently located within the THSP Project boundaries.

Construction noise can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, scrapers, and other heavy-duty construction equipment. Table 4.11-7 describes the anticipated construction equipment noise levels and is based on the quantity, type, and Acoustical Use Factor for each equipment type that would be used. Construction details for the various land uses under the THSP are unknown at this time, although it is anticipated that construction would occur in a number of phases in various locations. As a result, it is possible that existing sensitive receptors (residential uses in the northern portion of the THSP Project Area, and adjacent to the north along Lammers Road) and future on-site sensitive receptors (i.e., residential uses and schools, etc.) could be exposed to excessive construction noise. However, all development within the THSP Project Area would be subject to compliance with the implementing policies of the Tracy General Plan Noise Element, and Tracy Noise Ordinance. Additionally, implementation of Mitigation Measure 4.11-1 would reduce construction noise associated with development by requiring preparation of a Construction Noise Management Plan that includes requirements for the use of noise attenuation mufflers for construction equipment, coordination with a Noise Disturbance Coordinator, proper notification to surrounding uses of construction activities, and limiting construction to the less noise sensitive periods of the day (i.e., between the hours of 7:00 AM and 10:00 PM per Tracy Municipal Code Section 4.12.820). Therefore, following compliance with the Tracy Municipal Code and implementation of Mitigation Measure 4.11-1, impacts would be reduced to a *Less-than-significant* level.

PHASE 1A

This analysis presents a screening-level analysis to determine areas of potential noise impacts based on the proximity of sensitive receptors, typical noise levels associated with construction equipment, the potential for construction noise levels to interfere with daytime and nighttime activities, and whether construction noise audible to nearby receptors would occur outside of construction time limits specified in local ordinances. The final construction scheduling of the land uses within Phase 1a of the Project could lead to combined or collective impacts resulting from construction of specific overlapping phases or multiple land uses. Another factor considered in assessing whether a noise impact is significant or not is the frequency with which noise levels associated with Project construction might exceed the established standards. If exceedance of a noise standard may happen very rarely and/or briefly, this may not constitute a significant impact. This factor of noise frequency is not considered as part of this impact analysis since there is not yet enough detailed information about the construction scenario for each land use of the Phase 1a to assess the potential construction noise impacts. This factor would be considered as part of the separate impact analysis to be conducted as further site specific plans are approved by the City of Tracy (see Mitigation Measure 4.11-2d).

On-Site Construction Activities

High ground-borne noise levels and other miscellaneous noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, scrapers, and other heavy-duty construction equipment. Table 4.11-7, *Maximum Noise Levels Generated by Construction Equipment*, indicates the anticipated equipment noise levels during the construction period. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Table 4.11-7: Maximum Noise Levels Generated By Construction Equipment

Type of Equipment	Sound Levels at Maximum Engine Power with Mufflers at Indicated Distance (dBA)			
	25 Feet	50 Feet	100 Feet	200 Feet
Air Compressor	87	81	75	69
Backhoe	91	85	79	73
Concrete Mixer	91	85	79	73
Crane, Mobile	89	83	77	71
Dozer	86	80	74	68
Grader	91	85	79	73
Jack Hammer	94	88	82	76
Loader	85	79	73	67
Paver	95	89	83	77
Pneumatic Tool	91	85	79	73
Pump	82	76	70	64
Roller	80	74	68	62
Saw	84	78	72	66
Scraper	94	88	82	76
Truck	97	91	85	79
Impact Pile Driver (peak)	107	101	95	89

Note: Assumes a drop-off rate of 6 dBA per doubling of distance, which is appropriate for use in characterizing point-source (such as construction equipment) sound attenuation over a hard surface propagation path.

Source: Bolt, Beranek, and Newman, *Noise Control for Buildings and Manufacturing Plants*, 1987.

Table 4.11-8, *Typical Outdoor Construction Noise Levels*, provides a description of construction noise levels during specific construction stages. The average noise levels presented in Table 4.11-8 are based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. A reasonable worst-case assumption is that the three loudest pieces of equipment would operate simultaneously and continuously over at least one hour within a focused area of 15 yards of each other.

As shown in Table 4.11-8, the average construction period noise level is expected to range from 77 dBA to 86 dBA at a reference distance of 50 feet. For noise levels throughout the duration of construction activity, these conservative worst-case noise levels would be reduced to account for the percentage of time that the equipment actually operates on the construction site. Based on a standard noise attenuation rate of 6 dBA per doubling of distance for point sources, the worst-case construction-period noise level of 86 dBA at a distance of 50 feet would be approximately 80 dBA at 100 feet, and 74 dBA at 200 feet. Noise source control is the most effective method of controlling construction noise. Source controls, which limit noise, are the easiest to oversee on a construction project. Mitigation at the source reduces the problem everywhere, not just along one single path or for one receiver. The specification of equipment noise limits forces the use of modern equipment having improved engine insulation and mufflers; refer to Mitigation Measure 4.11-1.

Table 4.11-8: Typical Outdoor Construction Noise Levels

Construction Phase	Noise Level at 50 feet with Mufflers (dBA L_{eq})	Noise Level at 100 feet with Mufflers (dBA L_{eq})	Noise Level at 150 feet with Mufflers (dBA L_{eq})	Noise Level at 200 feet with Mufflers (dBA L_{eq})
Ground Clearing	82	76	70	64
Excavation/Grading	86	80	74	68
Foundations	77	71	65	59
Structural	83	77	71	65
External Finishing	86	80	74	68

Source: Bolt, Beranek, and Newman, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, 1971.

As stated above, noise sensitive receptors near the construction site(s) would, at times, experience excessive noise levels from construction activities; however excessive construction-related noise levels generally would occur in the daytime hours only. The City of Tracy Municipal Code prohibits construction or repair work between the hours of 10:00 PM and 7:00 AM. Additionally, implementation of the Mitigation Measure 4.11-1 (i.e., engine muffling, placement of construction equipment, and strategic stockpiling and staging of construction vehicles), and compliance with the City of Tracy Municipal Code requirements, would serve to further reduce exposure to significant noise levels.

For construction noise, a "substantial" noise increase can be defined as interference with activities during the day and night. One indicator that construction noise could interfere with daytime activities would be speech interference, and an indicator that construction noise could interfere with nighttime activities would be sleep interference. This analysis uses the following criteria to define the significance of potential noise impacts:

- *Speech Interference*. Speech interference is an indicator of impact on typical daytime and evening activities. A speech interference criterion, in the context of impact duration and time of day, is used to identify substantial increases in noise from temporary construction activities. Noise peaks generated by construction equipment could result in speech interference in adjacent buildings if the noise level in the interior of the building exceeds 45 to 60 dBA. A typical building can reduce noise levels by 20 dBA with the windows closed. This noise reduction could be maintained only on a temporary basis in some cases, since it assumes windows must remain closed at all times. Assuming a 20-dBA reduction with the windows closed, an exterior noise level of 70 dBA (Leq) at receptors would maintain an acceptable interior noise environment of 50 dBA. It should be noted that such noise levels would be sporadic rather than continuous in nature, because different types of construction equipment would be used throughout the construction process.

- *Sleep Interference*. Based on available sleep criteria data, an interior nighttime level of 35 dBA is considered acceptable. Assuming a 20-dBA reduction with the windows closed, an exterior noise level of 55 dBA at receptors would maintain an acceptable interior noise environment of 35 dBA. Since a 15-dBA reduction would occur with windows open, an exterior noise level of 50 dBA (Leq) would be required to maintain an acceptable interior noise environment of 35 dBA.

In general, most construction noise would exceed the speech interference criterion when heavy equipment is operated within approximately 500 feet of a sensitive receptor (distance ranges between 150 and 500 feet depending on the type of equipment operated). The sleep interference criterion would be exceeded at distances closer than approximately 3,000 feet with windows open or 900 feet with the windows closed (with operation of most types of construction equipment; greater setback distances would be required if trucks and impact equipment were to be operated at night). The nearest sensitive receptor (single family residential use) is located approximately 2,085 feet northwest of the Phase 1a Project site. In addition, residents on the Project site could be exposed to excessive noise levels from construction due to phasing (i.e., residents living on-site while other on-site Project construction is occurring). Therefore, based on the conclusions above, a potentially significant noise impact could occur in regards to speech interference, sleep interference, and noise levels in excess of allowable City standards due to the close proximity of sensitive receptors; refer to Figure 9-3 of the City of Tracy General Plan. However, construction activities would occur during the City's allowable hours (between 7:00 AM and 10:00 PM), and implementation of Mitigation Measure 4.11-1 would reduce short-term construction impacts to a *Less-than-significant* level.

VIBRATION

THSP Buildout and Phase 1a

Construction can generate varying degrees of ground-borne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata and construction characteristics of the receiver building(s). Ground-borne vibrations from construction activities rarely reach levels that damage structures. The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. The peak particle velocities for construction equipment pieces anticipated to be used during Project construction are listed in Table 4.11-9, *Typical Vibration Levels for Construction Equipment*.

As indicated in Table 4.11-9, based on the Federal Transit Administration data, vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.003 to 0.644 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. At 75 feet from the source of activity, vibration velocities range from 0.001 to 0.124 inch-per-second PPV. With regard to the Phase 1a Project site and buildout of the THSP, ground-borne vibration would be generated primarily during site clearing and grading activities on-site and by off-site haul-truck travel. The PPV from bulldozer and heavy truck operations is shown to be 0.089 inch-per-second PPV and 0.076 inch-per-second PPV, respectively, at a distance of 25 feet. As each of these values is below the 0.2 inch-per-second PPV significance threshold, vibration impacts associated with construction of Phase 1a and THSP buildout would be *Less-than-significant* and no mitigation measures are required.

Table 4.11-9: Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 75 feet (inches/second)
Impact Pile Driver	0.644	0.124
Sonic Pile Driver	0.170	0.033
Large Bulldozer	0.089	0.017
Caisson Drilling	0.089	0.017
Loaded trucks	0.076	0.015
Jackhammer	0.035	0.007
Small Bulldozer	0.003	0.001

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

OFF-SITE LONG-TERM OPERATIONAL (MOBILE SOURCE) IMPACTS

The following discussion presents the potential off-site mobile source noise impacts on the surrounding environment as a result of Phase 1a Project implementation, and THSP buildout. This analysis does not combine the stationary source analysis (refer to Impact 4.11-3) with the off-site mobile noise impact analysis, as stationary source noise levels are compared to standards within the Municipal Code which do not apply to mobile noise sources. Mobile noise levels are weighted differently than stationary source noise levels and thus, the two cannot be quantitatively combined and compared against the applicable standards.

Phase 1a

Development of Phase 1a would result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. The "Existing" and "Existing Plus Phase 1a" conditions were compared to analyze interim conditions. As previously discussed, an increase of 3.0 dBA or greater in noise levels occurring from Project-related activities would be significant when the noise level exceeds the applicable exterior standard at a noise sensitive use.

In Table 4.11-10*, Existing Plus Phase 1a Project Conditions*, the dBA at 100 feet from the roadway centerline depicts the noise level perceived at 100 feet perpendicular to the centerline. As noted in Table 4.11-10, there is one roadway segment (Linne Road west of Tracy Boulevard) that could exceed City noise standards for surrounding land uses, and result in an increase of 3.0 dBA or higher above existing conditions. Under the "Existing Plus Phase 1a" scenario, noise levels along this segment would be approximately 61.3 dBA at 100 feet from the roadway centerline. Single family residential uses are located approximately 130 feet to the north from the centerline of Linne Road at this roadway segment. However, there is an existing soundwall and berm along this segment of Linne Road that blocks the line of sight between the residents and the roadway. Therefore, traffic noise would be attenuated and the residential uses would not experience noise levels that would exceed the City's exterior noise standard for residential uses. Impacts would be *Less-than-significant* in this regard.

Tracy Hills Specific Plan Buildout

Increased traffic on adjacent roadways would be a direct result from buildout of the THSP, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. The "Long Range" (i.e., long range without

THSP Buildout) and "Long Range Plus THSP Buildout" conditions were compared to analyze long term conditions. As previously discussed, an increase of 3.0 dBA or greater in noise levels occurring from Project-related activities would be significant when the noise level exceeds the applicable exterior standard at a noise sensitive use.

In Table 4.11-11, *Long Range Plus THSP Buildout Conditions*, the dBA at 100 feet from the roadway centerline depicts the noise level perceived at 100 feet perpendicular to the centerline. As noted in Table 4.11-11, there are seven roadway segments that could exceed City noise standards for surrounding land uses, and result in an increase of 3.0 dBA or higher above existing conditions. These roadway segments include: Lammers Road from Valpico Road to Linne Road, Linne Road to Spine Road, and South of Spine Road; Corral Hollow Road from Linne Road to Spine Road, and South of Spine Road; Chrisman Road south of Valpico Road, and MacArthur Drive from Linne Road to Valpico Road. Of the seven abovementioned roadway segments, three are located adjacent to sensitive receptors and would generate noise levels in exceedance of City exterior residential noise standards (60 dBA), and would result in a noise increase above 3.0 dBA compared to the Long Range Scenario: Lammers Road from Valpico Road to Linne Road (67.3 dBA, a 4.9 dBA increase), Chrisman Road south of Valpico Road (63.2 dBA, a 3.1dBA increase), and MacArthur Road from Linne Road to Valpico Road (63.9 dBA, a 3.7 dBA increase). Therefore, a *Significant impact* would occur. The other roadway segments were ruled out (i.e., Lammers Road from Linne Road to Spine Road, and South of Spine Road; and Corral Hollow Road from Linne Road to Spine Road, and South of Spine Road) as there are no sensitive uses located adjacent to the roadways.

Table 4.11-10: Existing Plus Phase 1a Project Conditions

Roadway Segment	Existing					Existing Plus Phase 1a					Difference in dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour	
Lammers Road											
North of Eleventh Street	3,990	59.2	93	30	9	4,010	59.3	94	30	9	0.1
Eleventh Street to Old Schulte Road	5,600	56.9	79	37	17	5,695	56.9	80	37	17	0
Old Schulte Road to Valpico Road	5,600	57.9	79	37	17	5,770	58.0	81	38	17	0.1
South of Valpico Road	290	45.0	11	5	2	290	45.0	11	5	2	0
Corral Hollow Road											
North of Eleventh Street	24,540	66.5	575	182	57	24,540	66.5	575	182	57	0
Eleventh Street to New Schulte Road	23,440	66.4	550	174	55	12,953	63.8	303	96	30	-2.6
New Schulte Road to Linne Road	8,615	62.0	202	64	20	15,505	64.6	363	115	36	2.6
Linne Road to Spine Road	6,330	60.7	123	57	27	20,470	65.8	270	125	58	5.1
South of Spine Road	3,260	57.8	79	37	17	11,240	63.2	181	84	39	5.4
Chrisman Road											
North of Eleventh Street	1,220	52.8	21	7	2	1,220	52.8	21	7	2	0
Eleventh Street to Linne Road	6,225	59.5	103	48	22	6,225	59.5	103	48	22	0
South of Linne Road	2,760	58.1	83	39	18	2,760	58.1	83	39	18	0
MacArthur Drive											
Linne Road to Valpico Road	2,200	56.8	52	16	5	2,739	57.7	64	20	6	0.9
Valpico Road to West Schulte Road	5,930	62.0	184	58	18	6,202	62.2	193	61	19	0.2
West Schulte Road to Eleventh Street	7,310	61.9	171	54	17	7,567	62.0	177	56	18	0.1
North of Eleventh Street	4,055	59.3	95	30	10	4,244	59.5	99	31	10	0.2
Tracy Boulevard											
North of Eleventh Street	19,300	64.6	333	105	33	19,300	64.6	333	105	33	0
Eleventh Street to Valpico Road	17,080	64.0	294	93	29	7,380	60.4	127	40	13	-3.6
Valpico Road to Linne Road	8,730	62.4	205	65	20	10,820	63.3	254	80	25	0.9
South of Linne Road	1,000	50.4	25	12	5	1,050	50.6	26	12	6	0.2
Linne Road											
West of Tracy Boulevard	3,990	57.5	76	35	16	9,450	61.3	136	63	29	3.8
East of Tracy Boulevard	3,680	57.2	72	34	16	6,610	59.7	107	50	23	2.5
CITY OF LIVERMORE ROADWAYS											
Altamont Pass Road											
West of Greenville Road	15,860	63.5	192	89	41	16,380	63.6	196	91	42	0.1
Patterson Pass Road											
West of Greenville Road	5,430	61.5	169	53	17	6,420	62.2	200	63	20	0.7
Tesla Road											
West of Greenville Road	6,840	61.0	130	60	28	8,060	61.7	145	67	31	0.7

Source: Traffic modeling is based upon data contained within the Tracy Hills Traffic Impact Analysis, prepared by Kimley-Horn and Associates, October 2014.

Table 4.11-11: Long Range Plus THSP Buildout Conditions

Roadway Segment	Long Range					Long Range Plus THSP Buildout					Difference in dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour	
Lammers Road											
North of Eleventh Street	12,740	64.3	298	94	30	18,540	65.9	434	137	43	1.6
Eleventh Street to Old Schulte Road	28,680	64.0	235	109	51	50,780	66.4	344	160	74	2.4
Old Schulte Road to Valpico Road	28,890	65.0	236	110	51	64,740	68.5	405	188	87	3.5
Valpico Road to Linne Road	12,095	62.4	160	74	34	37,695	67.3	341	158	73	4.9
Linne Road to Spine Road	10,400	62.8	172	80	37	57,900	70.3	540	251	116	7.5
South of Spine Road	10,200	62.8	170	79	37	33,400	67.9	374	174	81	5.1
Lammers Road/Eleventh Street Extension											
North of I-205	39,700	65.4	293	136	63	42,700	65.7	307	142	66	0.3
I-205 to Lammers Road	56,400	66.9	369	171	80	63,200	67.4	398	185	86	0.5
Lammers Road to Corral Hollow Road	46,730	66.1	326	151	70	54,530	66.8	361	168	78	0.7
East of Corral Hollow Road	46,510	66.1	325	151	70	49,610	66.3	339	157	73	0.2
Corral Hollow Road											
North of Eleventh Street	49,330	69.6	1,157	366	196	58,730	70.3	1,375	435	138	0.7
Eleventh Street to New Schulte Road	43,140	69.0	1,012	320	101	53,440	70.0	1,253	396	125	1
New Schulte Road to Linne Road	20,600	65.8	483	153	48	36,250	68.3	849	269	85	2.5
Linne Road to Spine Road	13,905	64.1	209	97	45	39,805	68.7	421	195	91	4.6
South of Spine Road	10,060	62.7	168	78	36	29,360	67.3	344	159	74	4.6
Chrisman Road											
North of I-205	26,300	65.7	268	125	58	27,800	66.0	278	129	60	0.3
I-205 to Eleventh Street	23,995	62.8	170	79	37	29,145	63.6	194	90	42	0.8
Eleventh Street to Valpico Road	19,640	64.5	221	102	48	26,940	65.8	273	126	59	1.3
South of Valpico Road	7,210	60.1	113	53	24	14,710	63.2	182	84	39	3.1
MacArthur Drive											
Linne Road to Valpico Road	4,895	60.2	115	36	11	11,485	63.9	269	85	27	3.7
Valpico Road to West Schulte Road	14,950	66.0	465	147	47	20,205	67.4	629	199	63	1.4
West Schulte Road to Eleventh Street	15,380	65.1	360	114	36	18,220	65.8	427	135	43	0.7
North of Eleventh Street	18,590	65.9	435	138	44	20,250	66.3	475	150	48	0.4
Tracy Boulevard											
North of Eleventh Street	38,360	67.6	661	209	66	41,860	68.0	722	228	72	0.4
Eleventh Street to Valpico Road	31,900	66.7	550	174	55	38,250	67.5	659	208	66	0.8
Valpico Road to Linne Road	17,595	65.4	412	130	41	24,345	66.8	570	180	57	1.4
South of Linne Road	2,210	53.8	43	20	9	3,310	55.6	56	26	12	1.8
Linne Road											
West of Corral Hollow Road	10,980	61.9	150	70	32	41,860	68.0	722	228	72	6.1
Corral Hollow Road to Tracy Boulevard	20,685	64.7	228	106	49	38,250	67.5	659	208	66	2.8
Tracy Boulevard to Macarthur Drive	14,730	63.2	182	85	39	24,345	66.8	570	180	57	3.6
Macarthur Drive to Chrisman Road	13,110	62.7	169	78	36	3,310	55.6	56	26	12	-7.1
East of Chrisman Rd	11,340	64.3	214	99	46	41,860	68.0	722	228	72	3.7
CITY OF LIVERMORE ROADWAYS											
Altamont Pass Road											
West of Greenville Road	21,620	64.8	235	109	51	22,140	64.9	239	111	52	0.1
Patterson Pass Road											
West of Greenville Road	5,630	61.7	175	55	18	6,620	62.4	206	65	21	0.7
Tesla Road											
West of Greenville Road	14,300	64.2	213	99	46	15,520	64.6	225	104	48	0.4

Source: Traffic modeling is based upon data contained within the Tracy Hills Traffic Impact Analysis, prepared by Kimley-Horn and Associates, October 2014.

Typically, feasible mitigation measures for off-site roadway noise impacts includes repairing the roads with rubberized asphalt and developing sound walls or attenuation barriers to minimize noise impacts. However, this mitigation can only be imposed on on-site roadways. As impacts would also occur on off-site roadways and properties, it is usually infeasible for the Applicant to implement these measures. Therefore, impacts to off-site uses from traffic noise would be considered *Significant and unavoidable* since feasible mitigation measures would not be available to mitigate noise levels on all surrounding roadways to below thresholds.

ON-SITE LONG-TERM OPERATIONAL IMPACTS

The following analysis is in two parts. First, it analyzes "Stationary Source Impacts," which includes discussion of noise-related impacts of Phase 1a and buildout of the THSP on the surrounding environment as a result of proposed on-site uses. Second, it analyzes "Mobile Source Impacts," which includes a discussion of the noise-related impacts from existing noise sources such as noise from vehicles, trains, and the airport on future occupants of the Project site. It should be noted that based on recent case law, this latter analysis of Mobile Noise Impacts is not required by CEQA, insofar as CEQA is intended to require analysis of a project's impact on the environment, but not the impact of the existing environment on the Project. Nonetheless, this EIR provides this analysis for informational purposes.

Stationary Source Impacts

THSP Buildout and Phase 1a

Implementation of Phase 1a and buildout of the THSP would create new sources of noise in the Project vicinity. The major noise sources associated with the Project that may impact existing and future nearby residences include the following:

- Mechanical equipment (i.e., trash compactors, air conditioners, etc.);
- Slow moving delivery/supply trucks on the Project site, approaching and leaving the loading docks;
- Activities at the loading docks (i.e., maneuvering and idling trucks, banging and clanging of equipment);
- Parking lots (i.e., car door slamming, car radios, engine start-up, and car pass-by);
- Landscape maintenance;
- Outdoor pools.

Implementation of the Project would encourage development of a mix of uses including residential, office, commercial/retail, industrial/warehousing, and institutional uses (elementary school) within the Project site. As the Project site is currently vacant, undeveloped land, new noise sources would be introduced as a result of the Project. Although several noise sources would be introduced, many of them would operate for very brief time periods, such as delivery truck movements, trash compactors and parking lot sweepers. These types of sources usually do not operate concurrently. Other noise sources, such as air conditioning equipment, parking lot traffic and loading dock activities, operate for comparatively longer periods of time. Further, it is noted that the projected noise levels presented below do not account for any noise attenuation due to walls, berms, intervening structures or topography.

Residential Areas

Noise that is typical of residential areas includes children playing, pet noise, amplified music, car repair, pool and spa equipment, woodworking, and home repair. Noise from residential stationary sources would primarily occur during the "daytime" activity hours of 7:00 AM to 10:00 PM. Furthermore, the residences would be required to comply with the noise standards set forth in the City's General Plan and Municipal Code.

Mechanical Equipment

Mechanical equipment (heating, ventilation, and air conditioning [HVAC] units) would be located throughout the Project site in residential, institutional, office, and commercial/retail land uses. HVAC units typically generate 55 dBA at 50 feet from the source. Noise generated by mechanical equipment on the Project site could exceed the City's noise standards unless mitigated. Compliance with the General Plan policies and Municipal Code would reduce noise impacts from mechanical equipment. Noise levels from mechanical equipment would be further reduced with implementation of the recommended mitigation requiring orientation of equipment away from any sensitive receptors, proper selection of equipment, and installation of equipment with proper acoustical shielding. Following compliance with Mitigation Measure 4.11-2a, a *Less-than-significant* impact is anticipated.

Slow-Moving Trucks (Deliveries) and Loading Docks

Noise sources at loading docks may include maneuvering and idling trucks, truck refrigeration units, forklifts, banging and clanging of equipment (i.e., hand carts and roll-up doors), noise from public address systems and voices of truck drivers and employees. The maximum noise levels of slow-moving heavy and small trucks range between 70 and 73 dBA at 50 feet. Noise sources at loading areas may include maneuvering and idling trucks, truck refrigeration units, forklifts, banging and clanging of equipment (i.e., hand carts and roll-up doors), noise from public address systems, and voices of truck drivers and employees. The maximum noise level associated with loading docks is typically 73 dBA at 75 feet.

Final location of loading docks have not been determined. Loading docks would be designed per the final end users, and configurations may vary. To mitigate noise levels resulting from activities at loading docks, loading docks constructed within 250 feet of a residential use shall be designed to have either a depressed (i.e., below grade) loading dock area; an internal bay; or a wall to break the line of sight between residential land uses and other noise sensitive uses, and loading operations. Prior to issuance of conditional use permits, an acoustical analysis shall be performed to demonstrate that operation of potential loading docks does not result in noise levels that exceed City's Municipal Code standard of 55 dBA at the exteriors of nearby residences' living areas or other sensitive uses. It is anticipated that with the implementation of Mitigation Measure 4.11-2b, impacts would be *Less-than-significant.*

Parking Areas

Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors.

Parking lot noise levels at or beyond the property line of the specified use could exceed the City's noise standards within the Municipal Code. This impact is considered potentially significant unless mitigated. Mitigation is recommended requiring future Applicants to demonstrate that all feasible sound attenuation has been incorporated into proposed parking areas (e.g., landscaping and brushed driving surfaces), so that noise from the parking areas is minimized to the greatest extent practicable. Following implementation of Mitigation Measure 4.11-2c, noise generated by parking lots is not expected to exceed the Municipal Code noise standards.

Landscape Maintenance

Development of the proposed uses would introduce new landscaping requiring periodic maintenance. Noise generated by a gasoline-powered lawnmower is estimated to be approximately 70 dBA at a distance of five feet. Maintenance activities would operate during daytime hours for brief periods of time and would increase ambient noise levels in the Project vicinity. Section 4.12.840 of the Municipal Code exempts minor maintenance to real property (i.e., use of lawn mowers, power brushes, leaf blowers, etc.) from the noise standards, provided activities take place between the hours of 7:00 AM and 10:00 PM. Therefore, with adherence to the Municipal Code, a *less-than-significant* impact is anticipated in this regard.

Pool Equipment Noise

Mechanical equipment, such as pool pumps and filters typically produce noise levels of 55 dBA at 50 feet from the source. Since the equipment noise would be a constant noise source, it would require compliance with the City standards. The pool equipment would be enclosed, which would provide an approximately 20 dBA reduction in noise levels. Therefore, the noise level would be reduced to 35 dBA. This projected noise level is within the City's noise standards and therefore impacts in this regard would be *Less-than-significant.*

Pool Activity Noise

Peak pool activity noise typically ranges from 65.6 dBA Lmax to 87.5 dBA Lmax at 35 feet. Although pool activity may result in peak noise instances of 87.5 dBA Lmax at 35 feet, the continuous noise level is not anticipated to exceed the City's noise standard. Noise from pool activities would be further attenuated by distance and intervening structures. As a result, the continuous noise level is not anticipated to exceed the City's noise standards. Impacts would be *Less-than-significant.*

Site 300

Lawrence Livermore National Laboratory's Site 300, a U.S. Department of Energy National Nuclear Security Administration experimental test site, is located approximately 1.33 miles (7,000 feet) to the west/southwest of the THSP Project Area along Corral Hollow Road. Site 300 was established in 1955 as a non-nuclear explosives test facility to support Livermore Laboratory's national security mission. Today, work at Site 300 supports the Lawrence Livermore National Laboratory's nuclear weapons program by assessing the operation of non-nuclear weapon components using hydrodynamic testing and advanced diagnostics, such as high speed optics and x-ray radiography. Site 300 also fabricates and tests explosives that are instrumental to the Lawrence Livermore National Laboratory's Stockpile Stewardship Program. Explosives testing at Site 300 generates significantly audible noise levels. However, to minimize noise impacts to adjacent neighbors, Site 300 constructed the Contained Firing Facility in 2000. This concrete-reinforced, 28,000 square foot facility allows the Lawrence Livermore National Laboratory to conduct explosives tests indoors. Site 300 does conduct intermittent outdoor tests, in which Site 300 staff monitors the atmosphere to determine when conditions are best for minimal sound travel. However, due to the distance from Site 300 to the nearest THSP Project Area boundary (approximately 1.33 miles, or 7,000 feet), and the fact that Site 300 predominantly conducts noise-generating explosive tests indoors, noise impacts to future residents of the THSP Project Area and Phase 1a would be *Less-than-significant.*

Conclusion

Overall, analysis has concluded that with mitigation and/or adherence to Municipal Code requirements, stationary noise impacts from mechanical equipment, deliveries, loading/unloading activities, parking lot

noise, landscape maintenance, neighborhood parks, and pools would be reduced to a *Less-than-significant* level. In addition, due to site distance and indoor noise attenuation, noise impacts from Site 300 would be *Less-than-significant*.

Mobile Source Impacts

Traffic Noise Impacts to On-Site uses - Phase 1a

As noted in Table 4.11-10, 65 and 70 dBA traffic noise contour lines along City roadways in the immediate vicinity of the Phase 1a Project site would not extend on any residential uses on-site. Thus, future residential uses introduced along these roadways would not be exposed to mobile source noise levels from City roadways that exceed the City's established maximum acceptable exterior noise level of 60 dBA for single-family residential uses and 65 dBA for multi-family residential uses. As part of Phase 1a, low density residential uses would be located adjacent to the northbound lanes of the I-580 freeway. According to the City of Tracy General Plan, the I-580 65 dBA and 60 dBA noise contours extend approximately 950 feet, and 2,040 feet from the I-580 centerline. Therefore, future single-family residential uses could be exposed to noise levels in exceedance of the City's 60 dBA exterior noise standard for single family residential uses.

The City's General Plan Policy P1 (under Goal N-1A and Objective N-1.1) states that noise sensitive land uses shall not be located in areas that exceed normally acceptable levels for each land use. The City also has conditionally acceptable standards in Figure 9-3 of the General Plan. Specified land uses may be permitted in the conditionally acceptable areas after a detailed analysis of the noise reduction requirements and needed noise insulation features included in the design. Additional General Plan policies would reduce the impacts of introducing noise sensitive uses in noisy areas by considering noise issues in the development review process and requiring that significant noise impacts to be mitigated. For example, Policy P4 addresses new residential uses exposed to noise levels exceeding 60 L_{dn} and requires these areas to be analyzed following the protocols in the California Building Code. Policy P5 requires interior noise levels not to exceed 45 L_{dn}. Mitigation Measure 4.11-2d would require subsequent noise studies for proposed development along these roadways that would be within the 65 or 70 dBA traffic noise contours to demonstrate that noise levels have been properly accounted for and attenuated in accordance with established City standards.

Additionally, the Project would amend the General Plan to include Policy P10 (under Objective N-1.1) to state:

> *Notwithstanding the above policies, a Specific Plan or other zoning district may set noise exposure limits for the various Land Use Categories listed in Figure 9-3 in the Conditionally Acceptable range when both of the following conditions are present: (a) noise from an existing interstate freeway is expected to result in noise levels at the proposed land uses in excess of the Normally Acceptable levels described in Figure 9-3; and (b) setting the noise exposure limits in the Conditionally Acceptable range is necessary or appropriate to balance competing General Plan policies.*

Furthermore the zoning and development standards in the THSP address residential land uses within the conditionally acceptable range and allow the City to make a determination on the location of such residences at the time of the Tentative Map (or other discretionary application) approval. In making such determination, the City shall take into account the effect of feasible noise reduction measures on the anticipated noise levels at the proposed residential uses, as well as the project's conformance with other General Plan goals,

objectives, and policies. As described above, Mitigation Measure 4.11-2d requires subsequent noise studies for residences within the conditionally acceptable standards to identify appropriate noise control measures in accordance with established City standards.

Traffic Noise Impacts to On-Site uses - Tracy Hills Specific Plan Buildout

As noted in Table 4.11-11, the 65 and 70 dBA traffic noise contour lines along Lammers Road, Corral Hollow Road, and Linne Road would extend onto the Specific Plan Area. In addition, single family residential and multi-family residential uses located adjacent to the I-580 freeway could be exposed to traffic noise levels of 65 to 70 dBA, according to the City of Tracy *General Plan*. Thus, future residential uses introduced along these roadways could be exposed to mobile source noise levels that exceed the City's established maximum acceptable exterior noise level of 60 dBA for single-family residential uses and 65 dBA for multi-family residential uses. Mitigation Measure 4.11-2d requires subsequent site specific noise studies (based on architectural plans) to verify that residences are adequately shielded and/or located at an adequate distance from mobile noise sources. In addition, proper noise attenuation such as Title 24 (Noise Insulation Standards), sound walls, and proper building orientation would help meet the City's interior and exterior noise standards.

No detailed architectural plans associated with the THSP are available at this time to determine specific noise impacts to future residential uses. Thus, at this time, traffic noise impacts to future residential uses along Lammers Road, Corral Hollow Road, and Linne Road, and I-580 are considered to be significant. Mitigation Measure 4.11-2d would require subsequent noise studies for proposed development along these roadways that would be within the 65 or 70 dBA traffic noise contours to demonstrate that noise levels have been properly accounted for and attenuated in accordance with established City standards. The subsequent noise study based on architectural plans would verify that residences are adequately shielded and/or located at an adequate distance from mobile noise sources. In addition, proper noise attenuation such as Title 24 (Noise Insulation Standards), sound walls, and proper building orientation would help meet the City's interior and exterior noise standards.

Airport – Phase 1a

The Tracy Municipal Airport is located approximately 0.60-mile east/northeast of the Phase 1a Project site bordering Corral Hollow Road and Linne Road. The Project site is not located within any CNEL Airport Noise Contours. Thus, a *Less-than-significant* impact would occur in this regard.

Airport – Specific Plan Buildout

The Tracy Municipal Airport is located approximately 0.22-mile east of the Specific Plan buildout area bordering Corral Hollow Road and Linne Road. A small portion of the Specific Plan Area is located within the 55 CNEL Airport Noise Contour. However, this portion of the Specific Plan Area is proposed for light industrial uses, which are not considered sensitive receptors. As such, the Tracy Municipal Airport would not create a significant noise to residents, employees, and users of the Project site. Thus, a *Less-than-significant* impact would occur in this regard.

Railroad Train Noise – Phase 1a

The Union Pacific Railroad (UPRR) is located approximately 2,745 feet north of the Phase 1a Project site. The railroad is both an industrial and commuter (via ACE train service) rail. The Altamont Corridor Express (ACE) provides passenger rail service between Stockton and San Jose along this railroad. Currently, four

ACE trains per day which arrive in Tracy between 4:00 AM and 7:00 AM and return between 5:00 PM and 7:00 PM. According to the City of Tracy *General Plan*, train noise contour distances for this railroad produce noise levels of 60 L_{dn} at a distance of 260 feet; refer to Table 4.11-6, *Train Noise Contour Distances*. As stated above, Phase 1a is located over 2,500 feet from the UPRR tracks. Therefore, residents, employees, and users of the Projects site would be exposed to railroad train noise levels below 60 L_{dn}. These noise levels would be within the City's standards, per the City of Tracy's *General Plan* standards, and a *Less-than-significant* impact would occur.

Railroad Train Noise – Tracy Hills Specific Plan Buildout

The UPRR traverses through the northern portion of the Tracy Hills Specific plan are in an east-west direction. As noted above, the railroad is both an industrial and commuter (via ACE train service) rail. The Specific Plan proposes medium density residential uses adjacent to the UPRR. According to the City of Tracy *General Plan*, train noise contour distances for this railroad produce noise levels of 60 L_{dn} at a distance of 260 feet; refer to Table 4.11-6, *Train Noise Contour Distances*. As stated above, residential uses are proposed adjacent to the UPRR in the northern portion of the Specific Plan Area (west of Lammers Road). As such, the potential exists for residential uses to be exposed to noise levels in exceedance of the City's exterior noise standards for multi-family (65 dBA), and single family residential uses (60 dBA). Implementation of Mitigation Measure 4.11-2e would require residential uses located within 260 feet of the UPRR corridor to have a Focused Acoustical Analysis prepared to fully analyze acoustical impacts and develop measures, if required, to ensure that the City's exterior standards of 60 dBA for single family residential uses, and 65 dBA for multi-family residential uses 50 dBA would be achieved for the proposed land uses that are subject to noise from train pass-bys. Implementation of Mitigation Measure 4.11-2e would reduce impacts to a *Less-than-significant* level.

Conclusion

THSP Buildout

Buildout of the THSP would both create new noise sources, and expose sensitive receptors (i.e., residential uses) to traffic noise and railroad noise. The analysis above determined that impacts related to on-site stationary sources would be reduced to a *Less-than-significant* level with compliance with the City's Municipal Code and implementation of Mitigation Measures 4.11-1a through 4.11-2c. Mobile source noise impacts related to roadway (traffic) noise would also be reduced to a *Less-than-significant* level with implementation of Mitigation Measure 4.11-1d. Noise impacts from the Tracy Airport would be *Less-than-significant*, as only the 55 CNEL Tracy Airport noise contours would extend onto the northeastern portion of the Specific Plan Area, where light industrial uses are proposed. However, despite the implementation of Mitigation Measure 4.11-2e, railroad train noise would remain *Significant and unavoidable*, as there are no detailed architectural plans available at this time to determine specific noise impacts to future residential uses. Thus, at this time, noise impacts to future residential uses along the UPRR are considered to be *Significant*.

Phase 1a

Implementation of Phase 1a would both create new noise sources, and expose sensitive receptors (i.e., residential uses) to traffic noise. The analysis above determined that impacts related to on-site stationary sources would be reduced to a *Less-than-significant* level with compliance with the City's Municipal Code and implementation of Mitigation Measures 4.11-1a through 4.11-1e. Mobile source noise impacts related to roadway (traffic) noise would also be reduced to a *Less-than-significant* level with implementation of Mitigation

Measure 4.11-2d. Due to the distance from future sensitive receptors (residential uses) on the Phase 1a Project site to the UPRR the north, a *Less-than-significant* impact would occur with regard to railroad noise. Noise impacts from the Tracy Airport would also be *Less-than-significant*, as the Tracy Airport noise contours would not extend onto the Phase 1a Project site. Thus, at this time, noise impacts to future residential uses on the Phase 1a Project site would be *Less-than-significant with mitigation incorporated.*

CUMULATIVE IMPACTS

CUMULATIVE STATIONARY NOISE

THSP Buildout and Phase 1a

Implementation of Phase 1a, and buildout of the THSP would introduce the use of stationary equipment that would increase noise levels within the area. Based on the long-term stationary noise analysis, impacts from sources such as mechanical equipment, delivery trucks, parking lots, residential uses, landscape maintenance, and recreational uses would be *Less-than-significant* with adherence to the Municipal Code and Mitigation Measures 4.11-2a through 4.11-2c. Because noise dissipates as it travels away from its source, noise impacts from on-site stationary sources would be limited to each of the respective sites and their and vicinities. Therefore, it is anticipated that future sensitive receptors would not be exposed to stationary noise levels in excess of the Municipal Code standards from the Project in combination with other foreseeable stationary noise sources. Future development proposals within the City of Tracy would also require separate discretionary approval and CEQA assessment, which would require the study of potential noise impacts. Therefore, in conjunction with cumulative projects, Phase 1a and buildout of the THSP would not have the potential to result in cumulatively significant stationary noise impacts.

CUMULATIVE MOBILE NOISE

THSP Buildout

In Table 4.11-12, *Cumulative Long Range Plus THSP Buildout Conditions*, the dBA at 100 feet from the roadway centerline depicts the noise level perceived 100 feet perpendicular to the centerline. Note that the following cumulative noise analysis is based on the traffic impact analysis for the Project, which considered the overall buildout of the THSP Area.

Under the "Long Range Plus THSP Buildout" scenario, noise levels at a distance of 100 feet from centerline would range from approximately 55.6 dBA to 70.3 dBA. Table 4.11-12 compares the "Long Range Plus THSP Buildout" scenario to the "Existing" scenario. As indicated in Table 4.11-12, the highest noise level increase of 22.3 dBA would occur along Lammers Road, from Valpico Road to Linne Road. This would be considered a significant increase in ambient noise levels. As indicated in the Table 4.11-12, noise levels with implementation of the THSP buildout scenario would exceed City noise standards and significantly increase along multiple roadway segments in the City of Tracy, as well as one segment in the City of Livermore (Tesla Road, West of Greenville Road, 64.6 dBA, increase of 3.6 dBA) that would exceed Livermore's single-family residential exterior noise threshold of 60 dbA. As such, cumulative noise impacts would be considered *Significant and unavoidable* under the Long Range Plus THSP Buildout scenario.

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Table 4.11-12: Cumulative Long Range Plus THSP Buildout Conditions

Roadway Segment	Existing					Long Range Plus THSP Buildout					Difference in dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour			60 Ldn Noise Contour	65 Ldn Noise Contour	70 Ldn Noise Contour	
Lammers Road											
North of Eleventh Street	3,990	59.2	93	30	9	18,540	65.9	434	137	43	6.7
Eleventh Street to Old Schulte Road	5,600	56.9	79	37	17	50,780	66.4	344	160	74	9.5
Old Schulte Road to Valpico Road	5,600	57.9	79	37	17	64,740	68.5	405	188	87	10.6
Valpico Road to Linne Road	290	45.0	11	5	2	37,695	67.3	341	158	73	22.3
Linne Road to Spine Road	NA	NA	NA	NA	NA	57,900	70.3	540	251	116	NA
South of Spine Road	NA	NA	NA	NA	NA	33,400	67.9	374	174	81	NA
Lammers Road/Eleventh Street Extension											
North of I-205	NA	NA	NA	NA	NA	42,700	65.7	307	142	66	NA
I-205 to Lammers Road	NA	NA	NA	NA	NA	63,200	67.4	398	185	86	NA
Lammers Road to Corral Hollow Road	NA	NA	NA	NA	NA	54,530	66.8	361	168	78	NA
East of Corral Hollow Road	NA	NA	NA	NA	NA	49,610	66.3	339	157	73	NA
Corral Hollow Road											
North of Eleventh Street	1,220	52.8	21	7	2	58,730	70.3	1,375	435	138	17.5
Eleventh Street to New Schulte Road	23,440	66.4	550	174	55	53,440	70.0	1,253	396	125	3.6
New Schulte Road to Linne Road	8,615	62.0	202	64	20	36,250	68.3	849	269	85	6.3
Linne Road to Spine Road	6,330	60.7	123	57	27	39,805	68.7	421	195	91	8
South of Spine Road	3,260	57.8	79	37	17	29,360	67.3	344	159	74	9.5
Chrisman Road											0
North of I-205	NA	NA	NA	NA	NA	27,800	66.0	278	129	60	NA
I-205 to Eleventh Street	NA	NA	NA	NA	NA	29,145	63.6	194	90	42	NA
Eleventh Street to Valpico Road	6,225	59.5	103	48	22	26,940	65.8	273	126	59	6.3
South of Valpico Road	2,760	58.1	83	39	18	14,710	63.2	182	84	39	5.1
MacArthur Drive											
Linne Road to Valpico Road	2,200	56.8	52	16	5	11,485	63.9	269	85	27	7.1
Valpico Road to West Schulte Road	5,930	62.0	184	58	18	20,205	67.4	629	199	63	5.4
West Schulte Road to Eleventh Street	7,310	61.9	171	54	17	18,220	65.8	427	135	43	3.9
North of Eleventh Street	4,055	59.3	95	30	10	20,250	66.3	475	150	48	7
Tracy Boulevard											
North of Eleventh Street	19,300	64.6	333	105	33	41,860	68.0	722	228	72	3.4
Eleventh Street to Valpico Road	17,080	64.0	294	93	29	38,250	67.5	659	208	66	3.5
Valpico Road to Linne Road	8,730	62.4	205	65	20	24,345	66.8	570	180	57	4.4
South of Linne Road	1,000	50.4	25	12	5	3,310	55.6	56	26	12	6.1
Linne Road											10
West of Corral Hollow Road	10,980	61.9	150	70	32	41,860	68.0	722	228	72	9.6
Corral Hollow Road to Tracy Boulevard	3,990	57.5	76	35	16	38,250	67.5	659	208	66	NA
Tracy Boulevard to Macarthur Drive	3,680	57.2	72	34	16	24,345	66.8	570	180	57	NA
Macarthur Drive to Chrisman Road	NA	NA	NA	NA	NA	3,310	55.6	56	26	12	6.1
East of Chrisman Rd	NA	NA	NA	NA	NA	41,860	68.0	722	228	72	10
CITY OF LIVERMORE ROADWAYS											
Altamont Pass Road											
West of Greenville Road	15,860	15,860	63.5	192	89	22,140	64.9	239	111	52	1.4
Patterson Pass Road											
West of Greenville Road	5,430	5,430	61.5	169	53	6,620	62.4	206	65	21	0.9
Tesla Road											
West of Greenville Road	6,840	6,840	61.0	130	60	15,520	64.6	225	104	48	3.6

Source: Traffic modeling is based upon data contained within the *Tracy Hills Traffic Impact Analysis,* prepared by Kimley-Horn and Associates, October 2014.

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Impact 4.11-1 Grading and construction on the Project site could result in a potentially significant temporary noise and/or vibration impacts to nearby noise sensitive receivers.

Mitigation Measures:

4.11-1 Prior to the issuance of demolition permits or ground disturbing activities (whichever occurs first), the Contractor shall demonstrate to the satisfaction of the City of Tracy Engineering and Building Divisions that the Project complies with the following:

- Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.
- Property occupants located adjacent to the Project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the Project. A sign, legible at a distance of 50 feet shall also be posted at the Project construction site. All notices and signs shall be reviewed and approved by the City of Tracy Planning Division prior to mailing or posting and shall indicate the dates and duration of construction activities, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints.
- The Contractor shall provide evidence that a construction staff member would be designated as a Noise Disturbance Coordinator and would be present on-site during construction activities. The Noise Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Noise Disturbance Coordinator shall notify the City within 24-hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Planning Division. All notices that are sent to residential units immediately surrounding the construction site and all signs posted at the construction site shall include the contact name and the telephone number for the Noise Disturbance Coordinator.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.
- Construction activities shall occur between the hours of 7:00 AM and 10:00 PM daily pursuant to Section 9.12.030 and Section 4.12.820 of the Tracy Municipal Code.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts to a *Less-than-significant* level.

Impact 4.11-2 Implementation of the Project would result in a potentially significant increase in off-site ambient noise levels due to operational noise impacts.

Mitigation Measures:

No feasible mitigation measures.

Significance After Mitigation: *Significant and unavoidable* impact.

Impact 4.11-3 Implementation of the Project would result in a potentially significant increase in onsite ambient noise levels due to operational noise impacts.

Mitigation Measures:

4.11-3a Prior to issuance of any Building Permit, the Project applicant shall demonstrate, to the satisfaction of the City of Tracy, compliance with the following:

- To the extent possible, all mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and
- All mechanical equipment shall be screened and enclosed to minimize noise or the equipment shall be factory rated at a noise level that would comply with the noise limits set forth in the City's Municipal Code.

4.11-3b Where a commercial zone abuts a residential zone or residential use, all deliveries of goods and supplies; trash pick-up (including the use of parking lot trash sweepers); and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7:00 AM and 10:00 PM, unless otherwise specified in an approved conditional use permit or other discretionary approval.

4.11-3c All feasible sound attenuation shall be incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking area has been minimized to the greatest extent practicable such that parking lot noise would not exceed the standards indicated in Tracy Municipal Code Section 4.12.750 (General Sound Level Limits).

4.11-3d Prior to the issuance of Building Permits, any residential development within 2,040 feet of the I-580 centerline shall be designed in compliance with the California Building Code (CBC) and an Acoustical Noise Analysis shall be prepared to ensure that the City of Tracy's exterior and interior noise level standards defined in General Plan Figure 9-3, Land Use Compatibility for Community Noise Environment, are met at all residential, commercial, and recreational land uses. The analysis shall verify that residences are adequately shielded and/or located at an adequate distance from mobile noise sources.

Residential buildings or structures shall be designed to ensure interior noise levels do not exceed 45 dBA. In addition, individual developments shall, to the extent feasible, implement site-planning techniques such as the following:

- Increasing the distance between the noise source and the receiver;
- Using non-noise sensitive structures such as garages to shield noise-sensitive areas;
- Orienting buildings to shield outdoor spaces from a noise source;
- Incorporating architectural design strategies, which reduce the exposure of noise-sensitive spaces to stationary noise sources (i.e., placing bedrooms or balconies on the side of the house facing away from noise sources). These design strategies shall be implemented as required by the City to comply with City noise standards;

- Incorporating noise barriers, walls, or other sound attenuation techniques, as required by the City to comply with City noise standards; and
- Modifying elements of building construction (i.e., walls, roof, ceiling, windows, and other penetrations), as necessary to provide sound attenuation. This may include sealing windows, installing thicker or double-glazed windows, locating doors on the opposite side of a building from the noise source, or installing solid-core doors equipped with appropriate acoustical gaskets.

4.11-3e Prior to the issuance of Grading Permits, any residential development associated with the THSP Buildout (i.e., development other than Phase 1a) located within 260 feet of the Union Pacific Railroad corridor shall have an Acoustical Analysis prepared to fully analyze acoustical impacts and develop measures, if required, to ensure that the City's exterior standards of 70 dBA would be achieved for the proposed land uses that are subject to noise from train pass-bys. The analysis shall conduct detailed train noise modeling to verify that residences are adequately shielded and/or located at an adequate distance from the rail corridor to comply with the City's exterior standards. The analysis shall also ensure that interior noise levels do not exceed 45 dBA.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts to a *less-than-significant* level, except for onsite traffic noise impacts, which would remain Significant and unavoidable.

Impact 4.11-4: Development facilitated by the Project and other related cumulative projects could result in cumulatively potentially significant noise impacts.

Mitigation Measures:

Refer to Mitigation Measures 4.11-1 and 4.11-2a through 4.11-2e. No other feasible mitigation measures are available.

Significance After Mitigation: *Significant and unavoidable* impact.

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4.12 PUBLIC SERVICES AND UTILITIES

Public services include fire protection, law enforcement, water services, wastewater services, emergency services, schools, libraries, medical facilities, and other utilities (including electricity, gas, telephone and cable television). In municipal areas such as the City of Tracy, individual departments within the government provide law enforcement, fire protection, and emergency services to their communities.

This section provides discussion of existing conditions within the Project Area as they pertain to public services and utilities based on City of Tracy master planning process and technical reports prepared in association of the THSP. Information in this section is based primarily on the Tracy General Plan; Tracy Parks Master Plan (New Developments), adopted April 2013; Tracy Citywide Water System Master Plan, adopted December 2012; Tracy Citywide Public Facilities Master Plan, adopted January 2013; Tracy Citywide Public Safety Master Plan, adopted March 2013; Tracy Wastewater Master Plan, adopted December 2012; ~~Tracy~~ Revised Water Supply Assessment for Tracy Hills Specific Plan (Final Draft Report), ~~September 2014~~October 2015; Tracy Hills Storm Drainage Master Plan , November 2013; Tracy Hills Phase 1A & 1B Sanitary Sewer Study Technical Memorandum, December 2013, Revised September 2014; and Tracy Hills Water Study Technical Memorandum, December 2014.~~.~~

It is not anticipated that the Project would affect telephone or library services, therefore, no or minimal discussion on those facilities is included in this section. Public providers associated with public transportation are discussed in Section 4.13 *Transportation and Circulation,* storm water drainage is discussed in Section 4.9 *Hydrology, Drainage and Water Quality*. The subject of energy (including a discussion of potential impacts associated with the delivery of electricity and natural gas to the Project site is addressed in Chapter 5, *Other CEQA Topics*.

4.12.1 EXISTING CONDITIONS

FIRE PROTECTION AND EMERGENCY SERVICES

The South County Fire Authority (SCFA) is comprised of the City of Tracy and~~,~~ Tracy Rural Fire Protection District~~, and Mountain House Community~~ though a Joint Exercise of Powers Agreement (JPA) enacted in 1999.[1] SCFA provides fire protection and emergency medical services across approximately 200 square miles and serves over 100,000 people. The SCFA has a force of ~~70~~ 60 professional firefighters, 12 reserve firefighters, a fire chief, three divisions chiefs, one EMS specialist, two professional fire inspectors and a two-person administrative support staff. The SCFA employs ~~seven~~ six staffed engine companies and one truck company in addition to hazardous materials and water tender equipment.[2]

The Tracy Fire Department (Department) operates from ~~seven~~ six fire stations within the jurisdiction of the South County Fire Authority. Four fire stations and one administration building are located within the incorporated Tracy City limit and two additional fire stations are located exclusively within the boundaries of

[1] South County Fire Authority, Annual Report for Fiscal Year 2011 / 2012, http://www.ci.tracy.ca.us/documents/FY_2011_to_2012_Annual_Department_Report.pdf , accessed January 17, 2014
[2] Tracy Fire Department, http://www.ci.tracy.ca.us/?navId=869, accessed January 17, 2014

the Tracy Rural Fire Protection District. One station within the City limit is not detached from the Tracy Rural Fire Protection District. ~~An additional station provides service to the Mountain House Community Service District.~~[3]

The South County Fire Authority/Tracy Fire Department (SCFA/TFD) provides emergency medical services to citizens within the San Joaquin Emergency Medical Services Agency (SJEMSA) Zone C. The emergency response team includes twenty-five paramedics, with at least one paramedic at each fire station. All other Department personnel are trained to the Emergency Medical Technician-1 level (EMT-1). The Department operates Advanced Life Support (ALS) engine out of each fire station and regularly uses air ambulances to deliver medical transport in remote areas.

The Department maintains a fifteen person rescue team to provide technical rescue resources available for immediate response. The rescue team operates an Urban Search and Rescue trailer provided by the San Joaquin Office of Emergency Services. The trailer and rescue team are equipped to provide rescue services for confined space rescue, technically difficult auto extraction, swift water rescue, trench collapse rescue, structure collapse, and high and low angle rope rescue.

The fire station nearest the Project Area is Tracy Fire Department Station 97, located on West Central Avenue, approximately 2.5 miles from the Project Area. Station 97 is staffed with three personnel, including one paramedic, and houses a ~~2003 Pierce/Dash type 1~~2015 Spartan Hi-tech type 1 pumper truck.

POLICE

The Tracy Police Department (TPD) provides police protection services to the City's residents and businesses, serving a population of approximately 83,900. TPD will provide police services to the Project site. TPD operates from its headquarters at 1000 Civic Center Drive, approximately 4.5 miles as the crow flies from the Project site and six miles by public streets from the entrance to Phase 1a. There are currently no sub-stations.

TPD was staffed by 127 full-time, 5 part-time, and 49 volunteer personnel in 2013.[4]

The Police Department defines service calls by four categories:

- Priority 1: Critical "In-Progress" crime against persons and property
- Priority 2: Serious crime against persons and property without imminent threat
- Priority 3: Non-emergency call
- Priority 4: Low priority non-emergency call

The average response time for Priority 1 calls within the City limits is approximately 5:59 minutes. Response times for Priority 2, 3, and 4 calls range from 13 to 32 minutes. In 2013, TPD received 60,164 calls for service, a 2% increase over the previous year.

The Tracy Police Department and the San Joaquin County Sheriff's office have a mutual aid agreement, which is relied upon as needed. Mutual aid is coordinated through the San Joaquin County Sheriff.

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[3] ~~Citywide Public Safety Master Plan, City of Tracy, California, March 21, 2013~~
[4] Tracy Police Department, 2013 Annual Report, http://www.ci.tracy.ca.us/?navId=842, accessed October 15, 2014

TPD's primary funding source is the City's General Fund, which is derived from property taxes, sales tax revenue, and user fees. Additionally, Title 13 of the City Municipal Code establishes development impact fees requiring that new development provide a fair share contribution toward the provisions of services, in combination with the fee structure set forth in the CPSMP.

SCHOOLS

The Project site is located within two school districts: the Jefferson School District (JSD) for elementary school facilities, and Tracy Unified School District (TUSD) for high school facilities. Jefferson Elementary has four schools and has an enrollment of over 2,500 kindergarten through eighth-grade students.[5] Schools in the Jefferson School District are:

- Monticello School
- Tom Hawkins School
- Jefferson School
- Anthony Traina School

Tracy Unified School District serves over 17,000 students though three comprehensive high schools, one community school, two middle schools, four K-8 schools, and nine K-5 elementary schools.[6] High schools in the Tracy Unified School District are as follows:

- Kimball (John C.) High School (9-12)
- Stein (George and Evelyn) High School (11-12)
- Tracy High School (9-12)
- West (Merrill F.) High School (9-12)

A third school district within the City's SOI is the Lammersville Elementary School District (LESD) located in San Joaquin County, northwest of Tracy. LESD consists of four K-8th schools serving 2,153 students. The district has plans to open a new elementary school and high school (Mountain House High School). Mountain House High School ~~is expected to become fully operational~~opened in 2014.

The closest elementary schools are Anthony Traina Elementary, located 1.5 miles to the east, and Tom Hawkins Elementary, located 2.5 miles to the east. Both elementary schools are in the Jefferson School District. The nearest high school is the John C. Kimball High School in the Tracy Unified School District, approximately 3.5 miles to the north of the Project site.

PARKS AND RECREATION

Maintenance of public parks and related recreational areas is the responsibility of the Tracy Public Works Department. Tracy residents are served by State, County, and City parks and recreational features. State parks serving Tracy include Durham Ferry, Bethany Reservoirs, Casswell State Park, and Carnegie State Vehicular Recreation Area. County parks located near Tracy include Mossdale Boat Ramp and Oak Grove Regional Park.

[5] Jefferson School District, http://www.jeffersonschooldistrict.com/domain/23, accessed January 17, 2014.
[6] Tracy Unified School District, http://www.tracy.k12.ca.us/, accessed on January 17, 2014.

There are 73 parks totaling 335 acres located throughout the City. The City of Tracy Parks Master Plan (CPMP) classifies parks according to the following park types:

- **Mini Parks:** small-sized parks that provide basic recreation amenities for nearby residents in a specific neighborhood or subdivision;
- **Neighborhood Parks:** medium-size parks that provide a variety of recreation opportunities within walking or biking distance or residents in one or more neighborhoods;
- **Community Parks:** larger parks that include specialized attractions and/or a mix of active and passive recreation amenities to serve a substantial portion of the community or the entire city. These parks often include large group gathering spaces and specialized facilities, such as amphitheaters, swimming pools, sports complexes, community centers, and large-group venues.

Table 4.12-1, *Park Inventory by Classification* includes an inventory of city parks by park classification and acreage.[7]

Table 4.12-1: Park Inventory by Classification

Park Type	Number of Sites	Acres
Mini Parks	45	46.1
Neighborhood Parks	19	100.8
Community Parks	9	188.4
Total	73	335.3

Park facilities nearest the Project Area are Veteran's Park, located 2.5 miles to the east of the Project site, and Sparks Park, located 2.5 miles north of the Project site. Both parks are classified as neighborhood parks and provide basic recreation amenities for nearby residents within their respective subdivisions.

OUTDOOR FACILITIES

Tracy has many playgrounds, picnic areas, and basketball courts. There are fewer tennis courts and sports fields, and the City has a limited variety of other types of outdoor recreation facilities.

INDOOR FACILITIES

Indoor facilities managed by Parks and Community Services include indoor recreation space as well as meeting/education spaces such as the Tracy Community Center, the Lolly Hansen Senior Center, and specialized structures such as the Lammersville Schoolhouse and Historical Museum. Additional meeting space is provided by the Tracy Public Library, City Hall, Transit Station, and Sports Complex. The City does not have a large, multi-purpose indoor recreation facility.

CITY OF TRACY EXISTING AND FUTURE WATER SUPPLIES

The City of Tracy approved a Citywide Water ~~Service~~ System Master Plan (WSMP) in December, 2012 as the means to provide an evaluation of potable and recycled water systems required to serve buildout of the City's General Plan. The WSMP includes the infrastructure required to serve the Project Area in its analysis and evaluation.

[7] City of Tracy Parks Master Plan, April, 2013.

On the project level, a Water Supply Assessment (WSA) was prepared for the THSP in accordance with California Senate Bill (SB) 610 and SB 221, which requires analysis of water supplies looking forward 20 years to 2035. The WSA evaluates the adequacy of the City's total projected water supplies, including existing water supplies and future planned water supplies, to meet the City's existing and projected future water demands, including those future water demands associated with the Tracy Hills Project, under all hydrologic conditions (Normal Years, Single Dry Years, and Multiple Dry Years), as required by SB 610 and SB 221. ~~The WSA evaluates purveyor's water supplies to satisfy the water demands of the Project, while still meeting the water purveyor's existing and planned future uses. The WSA prepared for the Project demonstrates that the City of Tracy's existing and additional planned future water supplies are sufficient to meet the City's existing and projected future water demands, including those future water demands associated with the Project, consistent with SB 610 requirement, under all hydrologic conditions (Normal Years, Single Dry Years, and Multiple Dry Years).~~[8] Also, because the Proposed Project meets the definition of a residential subdivision, this WSA must also meet the requirements of California Government Code section 66473.7(a)(1), as established by SB 221 in 2001.

The following discussion of water sources is derived from the WSA.

WATER SERVICE AREA

The City's water service area is coterminous with the City limits. As future developments within the City's Sphere of Influence (SOI)[9], but outside of the City limits, are approved, they would be annexed into the City and served by the City water system. The Project was annexed into the City limits in 1998. The domestic water system serves residential, commercial, institutional, irrigation, and industrial customers.

EXISTING WATER SUPPLY

The potable water supply for the Project would come from a combination of sources including 4,500af/yr from the Byron Bethany Irrigation District (BBID) pre-1914, and Central Valley Project (CVP) water as well as other City sources. However, this agreement with BBID states the supply from BBID can only be used within the BBID Raw Water Service Area 2, and cannot be used in any other part of the City's water service area.[10]

The City currently receives water supplies from the following three sources:

- Surface water from the Delta Mendota Canal (Central Valley Project)
- Surface water from the Stanislaus River via the South County Water Supply Project (delivered by the South San Joaquin Irrigation District [SSJID])
- Groundwater pumped from nine groundwater wells located within the City

CENTRAL VALLEY PROJECT WATER VIA THE DELTA MENDOTA CANAL

Municipal and Industrial Supplies

The City is currently under contract with the United States Bureau of Reclamation (USBR) for the delivery of water to the City from the Central Valley Project (CVP). The City's current contract, an Interim Renewal Contract, is effective January 1, 2014 through February 29, 2016 and includes up to 20,000 acre-feet per year (af/yr) of water supplies. This contract amount includes the initial 10,000 af/yr from the City's initial contract

~~8 City of Tracy Water Supply Assessment for Tracy Hills Specific Plan Final Draft Report, September, 2014.~~

9 The SOI is the area outside of the City limits that the City anticipates to annex and urbanize in the future. It is the expected physical limit of the City based on the most current information available. Any changes to the SOI are subject to approval by the Local Agency Formation Commission (LAFCO).

10 Revised Water Supply Assessment for Tracy Hills Specific Plan, Final ~~Draft~~ Report, ~~September 2014~~October 2015

with the USBR (entered into in 1974), 7,500 af/yr from approved assignments from Banta Carbona Irrigation District (BCID) and West Side Irrigation District (WSID), and 2,500 af/yr from an additional assignment from WSID which was exercised in December 2013. The City is currently in negotiations with the USBR for another two-year Interim Renewal Contract to provide service until a long-term renewal contract is executed.~~The City has an existing contract with the United States Bureau of Reclamation (USBR) for 10,000 acre-feet (af) of water per year from the Central Valley Project (CVP). This contract is a 40-year municipal and industrial (M&I) water supply contract, which was entered into in 1974 and expired in 2013. Contract negotiations are on-going and the City and the USBR entered into an interim renewal contract to provide water service until the long-term renewal contract is executed.~~

In the CVP system, in accordance with USBR's Central Valley Project Municipal and Industrial Draft Water Shortage Policy, an M&I contractor is eligible for 75 percent M&I reliability applied to the contractor's historical use, with certain adjustments. This M&I reliability may be reduced when the allocation of Ag-reliability water is reduced below 25 percent of contract entitlement. Historical allocations for the M&I reliability CVP water for the last several years are summarized below:

- 2005: 100 percent allocation
- 2006: 100 percent allocation
- 2007: 75 percent allocation
- 2008: 75 percent allocation
- 2009: 60 percent allocation
- 2010: 75 percent allocation
- 2011: 100 percent allocation
- 2012: 75 percent allocation
- 2013: 70 percent allocation
- 2014: 50 percent allocation ~~(a)~~
- 2015: 25 percent allocation (a)

(a) Based on ~~2014~~ 2015 water supply allocation for CVP agricultural contactors and municipal industrial contractors as updated by USBR on ~~May 13, 2014~~February 27, 2015.

In the last five years (2011-2015), the City's allocations of M&I reliability water have averaged ~~76~~ 64 percent of the City's contractual entitlement.

Litigation has created uncertainty regarding the reliability of water deliveries through the Bay-Delta. Most of this litigation addresses compliance with Federal and State endangered species acts. In August 2007, the Federal court ordered curtailment of Delta pumping to protect the Delta smelt. In December 2008, the United States Fish and Wildlife Service (USFWS) issued a Biological Opinion that upheld the Federal court's restrictions on Delta pumping and essentially made those restrictions permanent. In June 2009, a revised Biological Opinion from the USFWS related to three salmon species further reinforced the imposed pumping restrictions in the Delta. Subsequent to the release of the Biological Opinions, several lawsuits have been filed, rendering the final impacts of the Biological Opinions on future CVP deliveries (and State Water Project deliveries) uncertain.

Ag-Reliability Supplies

In 2004, the USBR approved assignment of 5,000 af/yr of Ag-reliability CVP contract entitlement to the City from the Banta Carbona Irrigation District (BCID). Also in 2004, the USBR approved assignment of another 2,500 af/yr of Ag-reliability CVP contract entitlement water to the City from the West Side Irrigation District (WSID), with the option to purchase an additional 2,500 af/yr of CVP contract entitlement from the WSID. Deliveries of Ag-reliability water can vary significantly, and during severe water shortages supply may be reduced as much as 100 percent. Allocations for the Ag-reliability CVP water for the last several years are summarized below:

- 2005: 85 percent allocation
- 2006: 100 percent allocation
- 2007: 50 percent allocation
- 2008: 40 percent allocation
- 2009: 10 percent allocation
- 2010: 45 percent allocation
- 2011: 80 percent allocation
- 2012: 40 percent allocation
- 2013: 20 percent allocation
- 2014: 0 percent allocation ~~(a)~~
- 2015: 0 percent allocation (a)

(a) Based on ~~2014~~ 2015 water supply allocation for Central Valley Project agricultural contactors and municipal industrial contractors as updated by USBR on ~~May 13, 2014~~February 27, 2015.

Average deliveries of Ag-reliability water during the last five years have averaged ~~39~~ 28 percent of the contractual entitlement based on USBR CVP South of Delta Ag allocations from ~~2009 to 2013~~2011 to 2015.

Treatment of Central Valley Project Supplies

The City's CVP supplies are treated at the City's John Jones Water Treatment Plant (JJWTP), which was constructed in 1979 and upgraded in 1998 and 2008. ~~Recent treatment expansion, the~~The current treatment capacity of the JJWTP is 30 million gallons per day (MGD). Future additional expansion of the JJWTP is planned in conjunction with buildout of the City's General Plan SOI and is described in the Citywide Water System Master Plan.

The City also treats and serves relatively small quantities of CVP/Delta Mendota Canal (DMC) water purchased by others through a "treatment and wheeling agreement" for use at the Patterson Pass Business Park only. The Patterson Pass Business Park is now built out. In ~~2013~~2014, an estimated ~~558~~ 590 acre-feet of water from the Plain View Water District (PVWD) (now part of the Byron Bethany Irrigation District [BBID]) USBR allocation was treated at the City's JJWTP and delivered to the Patterson Pass Business Park using the City's water distribution system. A comparable quantity of BBID CVP/DMC water is anticipated to be delivered annually to the Patterson Pass Business Park in the future.

STANISLAUS RIVER WATER

The City, in partnership with the cities of Manteca, Lathrop, and Escalon, and the SSJID constructed a surface water treatment plant near Woodward Reservoir in Stanislaus County and a transmission pipeline to deliver treated surface water to each city. The project is called the South County Water Supply Project (SCWSP). This

water supply is based on SSJID's senior pre-1914 appropriative water rights to the Stanislaus River, coupled with an agreement with the USBR to store water in New Melones Reservoir. As part of the SCWSP, the City has been allocated up to ~~10,000~~11,120 af/yr of water. In August 2013 the City of Lathrop sold its rights to purchase 1,120 af/yr of water supply surplus to the City of Tracy.

Treated water deliveries commenced in 2005, and deliveries have been essentially uninterrupted since then. In the first few years, SCWSP deliveries were less than the City's full project allotment; however, during these years the City did not require its full SCWSP allotment, even though the full 10,000 af was available from SCWSP. As shown below, since 2009 the City has actually received more than its entitlement. Historical deliveries from the SCWSP to the City of Tracy are shown below:

- 2005: 3,146 af
- 2006: 8,918 af
- 2007: 9,130 af
- 2008: 8,017 af
- 2009: 10,401 af
- 2010: 10,850 af
- 2011: 11,786 af
- 2012: 12,294 af
- 2013: 13,112 af
- 2014: 10,837 af

The SCWSP is expected to have high reliability due to its pre-1914 rights. SSJID's 2010 Urban Water Management Plan (UWMP), adopted by SSJID in September 2011, indicates that SSJID will meet 100 percent of urban demands in normal years, 84.8 to 91.5 percent of urban demands in single-dry years (the percent of urban demand met increases in the future as agricultural demands decrease), and 98 to 100 percent of urban demands in multiple dry years. The City anticipates receiving at least 95 percent of its allocation, even during single-dry years. This increase in supply reliability is premised upon the other project participants not using their entire project allotment and that water being available to the City. ~~In August 2013 the City of Lathrop sold its rights to purchase 1,120 af/yr of water supply surplus to the City of Tracy.~~

It should be noted that the City's SCWSP supplies cannot be used within the THSP Project Area without the Project first paying the agricultural mitigation fee as stipulated in the terms and conditions of the Settlement Agreement for the Delta Keeper's CEQA lawsuit which was filed during the development of the SCWSP.

GROUNDWATER

Overview

The City overlies a portion of the San Joaquin Valley Groundwater Basin-Tracy Subbasin (Tracy Subbasin). The City currently operates nine groundwater wells, with a total extraction capacity of about 15 mgd. Four wells are located near the City's JJWTP and pump directly into the JJWTP clearwells, where the groundwater is blended with treated surface water. The other wells are located throughout the City and pump water directly into the distribution system after disinfection. The City's newest well, located near the intersection of Tracy Boulevard and 6th Street, is an Aquifer Storage and Recovery Well (ASR Well). The City has been, and continues to be, involved in both regional and local groundwater efforts through groundwater management planning.

Groundwater Level Trends

The groundwater level is located approximately 90 to 150 feet above mean sea level (msl). With the exception of seasonal variation resulting from recharge and pumping, water levels in most of these wells have remained stable over at least the last 10 years. Groundwater levels in the Tracy area are monitored by the City on a semi-annual basis. These measurements indicate that groundwater levels in the City's wells have increased over the last few years, likely as a direct result of reduced groundwater pumping by the City since 2005.

Groundwater Storage

There are no published groundwater storage values for the Tracy Subbasin; however, since the Tracy Subbasin comprises roughly one-third of the Tracy-Patterson Storage Unit, it can be inferred that the approximate storage capacity of the Tracy Subbasin is on the order of 1,300,000 af. According to the Tracy Hills WSA, the Subbasin is in a hydrologically-balanced condition and is not overdrafted. Similarly, per Department of Water Resources (DWR) Bulletin 118-80, the Tracy Subbasin is not identified as being in an overdrafted condition.

Groundwater Yield

According to the Citywide Water System Master Plan, an average annual operational yield of 9,000 af/yr for the City could be provided within the estimated sustainable yield of the groundwater basin in the Tracy area, without adverse impacts to groundwater resources or quality in the Tracy area over a 50-year timeframe. This yield would be within the City's estimated share of the aquifer's sustainable yield of 22,000 af/yr of the 28,000 af/yr total (which includes groundwater usage within the West Side Irrigation District, Naglee Burk Irrigation District, Plain View Water District (now part of the Byron Bethany Irrigation District), and Banta Carbona Irrigation District).

The City will continue to rely on groundwater for peaking, drought, and emergency supplies, and may pump up to 9,000 af/yr on a continuous basis, as needed, to meet demands when surface water supplies may be limited. Furthermore, per an August 2015 evaluation by GEI Consultants, based upon current groundwater basin conditions, the City would be able to meet its water demands using only groundwater supplies in any single year without causing long-term impacts to the groundwater basin.

The August 2015 evaluation by GEI Consultants evaluated the effects of pumping up to 22,000 af/yr of groundwater in the event that the City needed to rely solely on groundwater as its source of water supply. If water supply conditions were such that no surface water supplies were available, the City would implement the most severe stage (Stage V) of its Water Shortage Contingency Plan with a corresponding reduction in water demand of 50 percent (prohibiting all water use except as required for public health and safety). Under these severe conditions, groundwater pumpage of 22,000 af/yr would be adequate to meet the City's projected 2035 water demands with demand reductions of 50 percent in accordance with Stage V of the City's Water Shortage Contingency Plan (33,600 af/yr – 50% demand reduction = 16,800 af/yr). Additional drawdown would occur in the confined aquifer with additional pumping, but groundwater levels would recover. Groundwater levels, as measured in the City's wells, are currently high due to reduced pumpage in recent years. Increased pumping from the confined aquifer for a one-year period is not expected to have a significant effect on water quality. Also, the effects of increased pumping from the confined aquifer are not expected to have any significant effect on the shallow unconfined aquifer. A copy of GEI's August 2015 evaluation is included as an appendix to the Revised WSA.

Groundwater Quality

Groundwater quality in the Tracy sub-basin varies spatially and with depth. In general, the water quality in the confined aquifer is better than that of the semi-confined aquifer. Constituents present at elevated concentrations throughout the Tracy sub-basin in both the semi-confined and confined aquifers include nitrate, chloride, sulfate, and boron. Elevated chloride occurs in several areas near Tracy and along the San Joaquin River. Areas of elevated nitrate occur in the northwestern part of the Tracy sub-basin and in the vicinity of Tracy. Elevated boron occurs over a large portion of the sub-basin from south of Tracy extending to the northwest side of the Tracy sub-basin. Sulfate concentrations of up to 500 mg/L have been in the groundwater extracted from the Tracy sub-basin. The groundwater near Tracy is considered to be very hard.

~~Out of Basin Water Banking~~

~~The Semitropic Groundwater Storage District Groundwater Storage Bank (Semitropic) is a water storage system that began operation in the early 1990s. Located in Kern County between the California Aqueduct and the Delta Mendota Canal, Semitropic is one of the eight California groundwater banking agencies. Semitropic works by having its banking partners deliver their surplus water to Semitropic for groundwater storage. Then, when requested by the banking partner, Semitropic returns the stored water to the California Aqueduct for use by its partners either by exchanging its entitlement or by reversing the intake facility (known as "pumpback"). Through pumpback, Semitropic can deliver a maximum of 90,000 af/yr of water into the California Aqueduct. The State would then deliver the water to the banking partners.~~

~~The total storage capacity at Semitropic is 2.15 million acre-feet and, as listed below, there is still a significant amount of storage capacity which is uncommitted and available. The current Semitropic banking partners and their reserved/available storage capacities are listed below[11].~~

~~Original Water Bank (1.0 million acre-feet)~~

- ~~Metropolitan Water District of Southern California: 350,000 acre-feet~~
- ~~Santa Clara Valley Water District: 350,000 acre-feet~~
- ~~Alameda County Water District: 150,000 acre-feet~~
- ~~Zone 7 Water Agency: 65,000 acre-feet~~
- ~~Newhall Land and Farming Company: 55,000 acre-feet~~
- ~~San Diego County Water Authority: 30,000 acre-feet~~

~~Stored Water Recovery Unit (650,000 acre-feet)~~

- ~~Poso Creek Water Company: 60,000 acre-feet~~
- ~~San Diego Water Authority: 15,000 acre-feet~~
- ~~Homer, LLC: 15,000 acre-feet~~
- ~~Harris Farms, LLC: 10,500 acre-feet~~
- ~~Uncommitted: 474,750 acre-feet~~
- ~~Unallocated: 64,250~~

~~Semitropic – Rosamond Water Bank Authority (SRWBA) (800,000 acre-feet)~~

~~[11] Based on information provided on Semitropic Water Storage District website: www.semitropic.com as of June 2014.~~

- Portion Contributed by Semitropic (300,000 acre feet)
  - San Diego County Water Authority: 15,000 acre feet
  - Available Storage: 285,000 acre feet
- Antelope Valley Water Bank (500,000 acre feet)
  - San Diego County Water Authority: 25,000 acre feet
  - Rosamond Community Services District: 30,000 acre feet
  - Available Storage: 445,000 acre feet

In June 2006, the City entered into a pilot agreement with Semitropic Water Storage District for 1,000 ac/ft of water storage at Semitropic, which allows an annual withdrawal of up to 333 af/yr. A Negative Declaration was prepared for the pilot agreement pursuant to the provisions of CEQA (SCH No. 2006052049) and a Finding of No Significant Impact was issued by the United States Bureau of Reclamation (FONSI-05-111). The pilot agreement was intended to establish the procedures for water deposits and withdrawals by the City of Tracy. The permanent agreement with Semitropic has since been implemented, therefore the pilot agreement has been terminated.

In June of 2012, the Tracy City Council approved a long-term agreement with Semitropic for 3,500 units of water storage in Semitropic's Water Recovery Unit. Under the agreement, one unit of water storage allows for withdrawal of up to 1 af/yr for three years. Ultimately, the agreement would allow for withdrawal of 3,500 af/yr for three years.

Aquifer Storage and Recovery

The City's ASR program allows the City to optimize conjunctive use of its water supplies through injection of surplus treated (potable) drinking water into selected aquifer zones within the groundwater subbasin for storage when surplus supplies are available, and recovery of that potable water from the aquifer to optimize water quality and meet seasonal peak demands during droughts, or when emergency or disaster scenarios preclude the use of imported water supplies.

As noted above, the City constructed a new well in January 2004 (Well 8) that was designed to allow for both injection and extraction of water supplies in conjunction with the City's ASR program. In early 2009, the City contracted to construct the above ground well facilities (including the pump house, pump, motor, electrical, telemetry, chemical feed systems, etc.) to have Well 8 operational in September 2010, initially as an extraction well, and currently is part of the City's ASR Program. In addition, the City has installed two monitoring wells for use in the demonstration project monitoring and testing for the ASR Program.

The City has obtained regulatory approval from the Central Valley Regional Water Quality Control Board (Central Valley RWQCB) of its ASR Program. Environmental review of the testing program has been conducted. The Phase 2 ASR Testing was initiated in December 2011 and was completed in September 2012 with injection of 700 acre feet. In December 2012, the Tracy City Council approved and adopted a CEQA Negative Declaration (SCH No. 2012102013) for the permanent ASR Program. In November 2013, the Central Valley RWQCB issued a Notice of Applicability authorizing the City of Tracy to implement the ASR Program. It is estimated that as much as 685 to 915 af/yr of potable water could be injected into the aquifer, assuming a five-month continuous injection rate of 1.5 to 2.0 mgd. Implementation of the City's ASR Program will occur

~~incrementally (as new ASR wells are constructed) with up to 3,000 acre-feet of high-quality groundwater available in drought years by 2025 and approximately 1,000 af/yr of ASR supply available by 2015.~~

WATER VIA THE DELTA MENDOTA CANAL

Byron Bethany Irrigation District Pre-1914 Water Rights Surface Water

Part of the THSP Area was annexed into the BBID service area in 1999 and is entitled to water service from BBID, using BBID's pre-1914 appropriative water rights. The annexed area consists of the portion of the THSP that generally lies south of the California Aqueduct (comprising of approximately 2,006 acres). According to the WSA, although 4,500 af/yr of pre-1914 water will be available, it is anticipated that the pre-1914 BBID water supply to be delivered to the City for the portion of the THSP in the BBID service area at buildout is ~~2,291~~2,430 af/yr.

A wholesale water agreement between BBID and the City was approved by the Tracy City Council in August 2013. This agreement, in conjunction with the Water Exchange Contract between BBID and the USBR executed April 2014 and the associated December 2013 Finding of No Significant Impact (FONSI-09-149), provides for BBID's pre-1914 water to be pumped into the DMC and delivered to the City's JJWTP for treatment and delivery to that portion of the THSP within the BBID service area.

OUT OF BASIN WATER BANKING

The Semitropic Groundwater Storage District Groundwater Storage Bank (Semitropic) is a water storage system that began operation in the early 1990s. Located in Kern County between the California Aqueduct and the Delta Mendota Canal, Semitropic is one of the eight California groundwater banking agencies. Semitropic works by having its banking partners deliver their surplus water to Semitropic for groundwater storage. Then, when requested by the banking partner, Semitropic returns the stored water to the California Aqueduct for use by its partners either by exchanging its entitlement or by reversing the intake facility (known as "pumpback"). Through pumpback, Semitropic can deliver a maximum of 90,000 af/yr of water into the California Aqueduct. The State would then deliver the water to the banking partners.

The total storage capacity at Semitropic is 2.15 million acre feet and, as listed below, there is still a significant amount of storage capacity which is uncommitted and available. The current Semitropic banking partners and their reserved/available storage capacities are listed below[12].

Original Water Bank (1.0 million acre feet)

- ♦ Metropolitan Water District of Southern California: 350,000 acre feet
- ♦ Santa Clara Valley Water District: 350,000 acre feet
- ♦ Alameda County Water District: 150,000 acre feet
- ♦ Zone 7 Water Agency: 65,000 acre feet
- ♦ Newhall Land and Farming Company: 55,000 acre feet
- ♦ San Diego County Water Authority: 30,000 acre feet

[12] Based on information provided on Semitropic Water Storage District website: www.semitropic.com as of June 2014.

Stored Water Recovery Unit (650,000 acre feet)

- − Poso Creek Water Company: 60,000 acre feet
- − San Diego Water Authority: 15,000 acre feet
- − Homer, LLC: 15,000 acre feet
- − City of Tracy: 10,500 acre feet
- − Harris Farms, LLC: 10,500 acre feet
- − Uncommitted: 474,750 acre feet
- − Unallocated: 64,250 acre feet

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In June 2006, the City entered into a pilot agreement with Semitropic Water Storage District for 1,000 ac/ft of water storage at Semitropic, which allows an annual withdrawal of up to 333 af/yr. A Negative Declaration was prepared for the pilot agreement pursuant to the provisions of CEQA (SCH No. 2006052049) and a Finding of No Significant Impact was issued by the United States Bureau of Reclamation (FONSI-05-111). The pilot agreement was intended to establish the procedures for water deposits and withdrawals by the City of Tracy. The permanent agreement with Semitropic has since been implemented, therefore the pilot agreement has been terminated.

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AQUIFER STORAGE AND RECOVERY

The City's ASR program allows the City to optimize conjunctive use of its water supplies through injection of surplus treated (potable) drinking water into selected aquifer zones within the groundwater subbasin for storage when surplus supplies are available, and recovery of that potable water from the aquifer to optimize water quality and meet seasonal peak demands during droughts, or when emergency or disaster scenarios preclude the use of imported water supplies.

As noted above, the City constructed a new well in January 2004 (Well 8) that was designed to allow for both injection and extraction of water supplies in conjunction with the City's ASR program. In early 2009, the City contracted to construct the above ground well facilities (including the pump house, pump, motor, electrical, telemetry, chemical feed systems, etc.) to have Well 8 operational in September 2010, initially as an extraction well, and currently is part of the City's ASR Program. In addition, the City has installed two monitoring wells for use in the demonstration project monitoring and testing for the ASR Program.

The City has obtained regulatory approval from the Central Valley Regional Water Quality Control Board (Central Valley RWQCB) of its ASR Program. Environmental review of the testing program has been conducted. The Phase 2 ASR Testing was initiated in December 2011 and was completed in September 2012 with injection of 700 acre feet. In December 2012, the Tracy City Council approved and adopted a CEQA Negative Declaration (SCH No. 2012102013) for the permanent ASR Program. In November 2013, the Central Valley RWQCB issued a Notice of Applicability authorizing the City of Tracy to implement the ASR Program. It is estimated that as much as 685 to 915 af/yr of potable water could be injected into the aquifer, assuming a five-month continuous injection rate of 1.5 to 2.0 mgd. Implementation of the City's ASR Program will occur incrementally (as new ASR wells are constructed) with up to 3,000 acre-feet of high-quality groundwater available in drought years by 2025. Based on supplies injected in the Spring of 2014, up to 300 acre feet of aquifer storage and recovery supply is available for extraction in 2015.

NON-POTABLE SUPPLIES

Diversion of Non-Potable Surface Water from Sugar Cut

Historically, the City's Holly Sugar property has been irrigated (at least since 1912) using untreated surface water diverted from Sugar Cut. The water rights to the untreated surface water from the Sugar Cut area are considered to be pre-1914 appropriative rights, and may also be classified as riparian rights. Use of the water from Sugar Cut has been continuous on the Holly Sugar property for irrigation purposes since at least 1912 (and continues today). The continuous use of this non-potable water supply from Sugar Cut is proposed for the interim irrigation of the proposed Holly Sugar Sports Park / Legacy Fields until recycled water supplies become available. Therefore, the future use of this non-potable supply, beyond the interim use at the sports park, is not anticipated. Diversion of non-potable surface water will continue for that portion of the City that is in agricultural protection.

Recycled Water

In 2002, the City adopted, and in 2013 revised, a Recycled and Non-Potable Water Ordinance requiring all new subdivisions, to the extent practicable, to install the required infrastructure (such as dual distribution pipelines) to provide recycled water to meet non-potable water demands at parks, golf courses, athletic fields, schools, median island landscapes, and industrial sites. The Citywide Water System Master Plan identifies recycled water for non-potable uses in existing and future publicly landscaped areas in the City where feasible, as one of the City's sustainable infrastructure principles.

The City adopted Ordinance 1183 in March 2013, amending Chapter 11.30 of the Tracy Municipal Code to update the City's recycled water requirements to be consistent with State, regional, and local standards including the 2010 California Green Building Standards Code, California Model Water Efficient Landscape Ordinance, the California Water Conservation Act of 2009, and the City of Tracy Sustainability Action Plan. The new ordinance provides that untreated surface water supplies may be used in lieu of recycled water supplies to meet non-potable demands on an interim basis, but only until December 31, 2020.[13]

At buildout of the City of Tracy General Plan (General Plan), it is estimated that the recycled water demand for landscape irrigation will be approximately 7,500 af/yr. Based on the City's Citywide Wastewater System Master Plan, the quantity of recycled water supply available is up to 21.1 mgd (23,600 af/yr) at buildout, based

[13] Water Supply Assessment for Tracy Hills Specific Plan, Final Draft Report, September 2014

on anticipated wastewater flows and the capacity of the City's Wastewater Treatment Plant (WWTP). Recycled water will be treated to a tertiary level in accordance with Title 22 requirements at the City's WWTP and distributed to recycled water use areas within the City's SOI. The City has spent approximately 85 million dollars on WWTP improvements to produce water suitable for recycled use. Additionally, in December of 2013, the City adopted Development Impact Fees to fund recycled water infrastructure and has collected 1.3 million dollars to date. It is anticipated that adequate recycled water supplies will be available to meet the projected recycled water demands at General Plan buildout, including those associated with the Project. Approvals and permits for the production, distribution, and use of recycled water will be required from the Central Valley RWQCB and the California Department of Public Health (DPH).

FUTURE WATER SUPPLIES

The City is currently anticipating the following additional potable water supplies in the future:

- ♦ BBID CVP supplies; and
- ♦ Additional supplies from the SCWSP.

Byron Bethany Irrigation District CVP Surface Water

Part of the THSP Area lies is in BBID that was formerly the Plainview Water District with CVP contract entitlement water with Ag reliability. This area consists of the northeastern portion of the THSP, north of the California Aqueduct and east of Lammers Road (comprising of approximately 387 acres). The development of this area would convert agricultural land into urban uses and would thus provide for approximately 1,315 af/yr of CVP supply with Ag reliability to the City from BBID's CVP water entitlement. According to the WSA, the potable water demand for the 387 acres of the Project within the BBID CVP area is estimated to be approximately 630 af/yr at buildout.

Additional Supplies from the South County Water Supply Project

Through a Conserved Water Amendment Agreement, the City anticipates that an additional 1,880 af/yr of treated water supplies would be available from the SCWSP in the future. This water would have the same high reliability as the supply that the City is currently receiving from the SCWSP. Delivery of these additional supplies to the City would be through the same, existing facilities currently delivering the City's existing SCWSP supplies. Delivery of these additional supplies would be subject to environmental review. The City anticipates that these additional supplies would be available by 2020.

~~NON-POTABLE SUPPLIES~~

~~Diversion of Non-Potable Surface Water from Sugar Cut~~

~~Historically, the City's Holly Sugar property has been irrigated (at least since 1912) using untreated surface water diverted from Sugar Cut. The water rights to the untreated surface water from the Sugar Cut area are considered to be pre-1914 appropriative rights, and may also be classified as riparian rights. Use of the water from Sugar Cut has been continuous on the Holly Sugar property for irrigation purposes since at least 1912 (and continues today). The continuous use of this non-potable water supply from Sugar Cut is proposed for the interim irrigation of the proposed Holly Sugar Sports Park / Legacy Fields until recycled water supplies become available. Therefore, the future use of this non-potable supply, beyond the interim use at the sports park, is not anticipated. Diversion of non-potable surface water will continue for that portion of the City that is in agricultural protection.~~

WATER VIA THE DELTA MENDOTA CANAL

Byron Bethany Irrigation District Pre-1914 Water Rights Surface Water

Part of the THSP Area was annexed into the BBID service area in 1999 and is entitled to water service from BBID, using BBID's pre-1914 appropriative water rights. The annexed area consists of the portion of the THSP that generally lies south of the California Aqueduct (comprising of approximately 2,006 acres). According to the WSA, although 4,500 af/yr of pre-1914 water will be available, it is anticipated that the pre-1914 BBID water supply to be delivered to the City for the portion of the THSP in the BBID service area at buildout is 2,291 af/yr.

A wholesale water agreement between BBID and the City was approved by the Tracy City Council in August 2013. This agreement, in conjunction with the Water Exchange Contract between BBID and the USBR executed April 2014 and the associated December 2013 Finding of No Significant Impact (FONSI-09-149), provides for BBID's pre-1914 water to be pumped into the DMC and delivered to the City's JJWTP for treatment and delivery to that portion of the THSP within the BBID service area.

Byron Bethany Irrigation District CVP Surface Water Part of the THSP Area lies is in BBID that was formerly the Plainview Water District with CVP contract entitlement water with Ag reliability. This area consists of the northeastern portion of the THSP, north of the California Aqueduct and east of Lammers Road (comprising of approximately 387 acres). The development of this area would convert agricultural land into urban uses and would thus provide for approximately 1,315 af/yr of CVP supply with Ag reliability to the City from BBID's CVP water entitlement. According to the WSA, the potable water demand for the 387 acres of the Project within the BBID CVP area is estimated to be approximately 630 af/yr at buildout.

Future Water Supplies

The City is currently anticipating the following additional potable water supplies in the future:

- BBID CVP supplies;
- Additional supplies from the SCWSP; and,
- Aquifer storage and recovery.

Additional Supplies from the South County Water Supply Project

Through a Conserved Water Amendment Agreement, the City anticipates that an additional 1,880 af/yr of treated water supplies would be available from the SCWSP in the future. This water would have the same high reliability as the supply that the City is currently receiving from the SCWSP. Delivery of these additional supplies to the City would be through the same, existing facilities currently delivering the City's existing SCWSP supplies. Delivery of these additional supplies would be subject to environmental review. The City anticipates that these additional supplies would be available starting in 2015.

Aquifer Storage and Recovery

The City's ASR program allows the City to optimize conjunctive use of its water supplies through injection of surplus treated (potable) drinking water into selected aquifer zones within the groundwater subbasin for storage when surplus supplies are available, and recovery of that potable water from the aquifer to optimize water quality and meet seasonal peak demands during droughts, or when emergency or disaster scenarios preclude the use of imported water supplies.

As noted above, the City constructed a new well in January 2004 (Well 8) that was designed to allow for both injection and extraction of water supplies in conjunction with the City's ASR program. In early 2009, the City contracted to construct the above ground well facilities (including the pump house, pump, motor, electrical,

telemetry, chemical feed systems, etc.) to have Well 8 operational in September 2010, initially as an extraction well, and currently is part of the City's ASR Program. In addition, the City has installed two monitoring wells for use in the demonstration project monitoring and testing for the ASR Program.

The City has obtained regulatory approval from the Central Valley Regional Water Quality Control Board (Central Valley RWQCB) of its ASR Program. Environmental review of the testing program has been conducted. The Phase 2 ASR Testing was initiated in December 2011 and was completed in September 2012 with injection of 700 acre feet. In December 2012, the Tracy City Council approved and adopted a CEQA Negative Declaration (SCH No. 2012102013) for the permanent ASR Program. In November 2013, the Central Valley RWQCB issued a Notice of Applicability authorizing the City of Tracy to implement the ASR Program. It is estimated that as much as 685 to 915 af/yr of potable water could be injected into the aquifer, assuming a five-month continuous injection rate of 1.5 to 2.0 mgd. Implementation of the City's ASR Program will occur incrementally (as new ASR wells are constructed) with up to 3,000 acre-feet of high-quality groundwater available in drought years by 2025 and approximately 1,000 af/yr of ASR supply available by 2015.

Recycled Water

In 2002, the City adopted, and in 2013 revised, a Recycled and Non-Potable Water Ordinance requiring all new subdivisions, to the extent practicable, to install the required infrastructure (such as dual distribution pipelines) to provide recycled water to meet non-potable water demands at parks, golf courses, athletic fields, schools, median island landscapes, and industrial sites. The Citywide Water System Master Plan identifies recycled water for non-potable uses in existing and future publicly landscaped areas in the City where feasible, as one of the City's sustainable infrastructure principles.

The City adopted Ordinance 1183 in March 2013, amending Chapter 11.30 of the Tracy Municipal Code to update the City's recycled water requirements to be consistent with State, regional, and local standards including the 2010 California Green Building Standards Code, California Model Water Efficient Landscape Ordinance, the California Water Conservation Act of 2009, and the City of Tracy Sustainability Action Plan. The new ordinance provides that untreated surface water supplies may be used in lieu of recycled water supplies to meet non-potable demands on an interim basis, but only until December 31, 2020.[14]

At buildout of the City of Tracy General Plan (General Plan), it is estimated that the recycled water demand for landscape irrigation will be approximately 7,500 af/yr. Based on the City's Citywide Wastewater System Master Plan, the quantity of recycled water supply available is up to 21.1 mgd (23,600 af/yr) at buildout, based on anticipated wastewater flows and the capacity of the City's Wastewater Treatment Plant (WWTP). Recycled water will be treated to a tertiary level in accordance with Title 22 requirements at the City's WWTP and distributed to recycled water use areas within the City's SOI. The City has spent approximately 85 million dollars on the WWTP to produce water suitable for recycled use. Additionally, in December of 2013, the City adopted Development Impacts Fees to fund recycled water infrastructure and has collected 1.3 million dollars to date. It is anticipated that adequate recycled water supplies will be available to meet the projected recycled water demands at General Plan buildout, including those associated with the Project. Approvals and permits for the production, distribution, and use of recycled water will be required from the Central Valley RWQCB and the California Department of Public Health (DPH).

[14] Water Supply Assessment for Tracy Hills Specific Plan, Final Draft Report, September 2014

Table 4.12-2, *City of Tracy Existing and Additional Future Water Supplies* provides a summary of the City's existing and additional future water supply entitlements.

Table 4.12-2: City of Tracy Existing and Additional Future Water Supplies

Supply	Water Right or Available Supply Quantity (af/yr)	Supply Ever Used by City
Existing		
USBR CVP Interim Renewal Contract	17,500	Yes
USBR CVP (WSID option)	2,500	Yes
South County Water Supply Project (pre-1914 rights)	11,120	Yes
Groundwater[a]	9,000	Yes
BBID (pre-1914) [b]	2,430	No
Semitropic Water Storage Bank[c]	3,500	Yes
Aquifer Storage and Recovery	3,000	Yes
Additional Future		
USBR CVP (BBID Contract)	11,000	No
Additional SCWSP (pre-1914 rights)	1,880	No
~~Aquifer Storage and Recovery[c]~~Additional Semitropic Water Storage Bank	~~3,000~~500	~~Yes~~No
Recycled Water [d]	~~23,000~~23,600	No

Notes:

a. The City is planning to decrease groundwater use to 2,500 af/yr by the year 2015. However, studies described in the WSA have indicated that up to 9,000 af/yr of groundwater is available to the City to make up for shortfalls in the event of a severe drought or other water shortage.

b. The water supply available from BBID (pre-1914) is up to 4,500 af/yr; however, this supply can only be used with the BBID Raw Water Service Area 2 that is also within the CVP CPOU. Quantity shown is amount needed to meet potable water demands within the Project Area within the BBID Raw Water Service Area 2 and also within the CVP CPOU under the hydrologic conditions (2,430 af/yr).

c. Supplies from Semitropic and ASR are assumed to be dry year supplies. As such, during normal years, supplies from these sources are assumed to be 0 af/yr.

~~d. Based on additional dry-year supplies needed to supplement Ag-reliability CVP supplies available for the Project.~~

~~e. Based on the total projected recycled water production at buildout (21.1 mgd) (reference: Table C-1, Tracy Wastewater Master Plan, Final Report, prepared by CH2MHill, December 2012).~~

EXISTING WATER DISTRIBUTION AND TREATMENT FACILITIES

The City of Tracy's existing water system facilities consist of water treatment plants, pump stations, wells, water mains, and storage reservoirs. As described previously, surface water distributed throughout the City is treated at two plants: the JJWTP, which is located in the southern portion of the City just north of the DMC and

processes the water from the DMC, and a surface water treatment plant near the Woodward Reservoir in Stanislaus County, known as the SCWSP that treats surface water from the Stanislaus River and conveys the water to each partnering City via transmission pipelines. The JJWTP has the capacity to treat 30 mgd and the City's water allocation from the SCWSP is 15 mgd of treatment capacity and 11,120 af/yr of water supply.

Also described previously, the City of Tracy operates nine groundwater wells that pump from the groundwater aquifer, with a total reliable capacity of 15 mgd. The City of Tracy water service is provided over an area with significant changes in elevation. Therefore, the City has established three pressure zones for its treated water distribution system. There are approximately ~~260~~ 420 miles of existing pipelines in the City's water service area, ranging from four to 42 inches in diameter.

The City currently operates four treated water storage reservoirs (two clearwells and two storage tanks) with a total potable water storage capacity of 14.16 million gallons (mg).[15] However, one clearwell is used as a chlorine contact basin, which reduces the total available potable storage capacity to 13.5 mg.[16]

WASTEWATER

In December 2012 the Tracy City Council adopted the Tracy Wastewater Master Plan (WWMP) which outlines wastewater generation factors and present future wastewater flows and loadings to be used within the City and its future service areas. The Project was considered as a future service area within the WWMP. Conclusions and recommendations in the plan assume the implementation of the Project.

The City owns and operates a wastewater collection system consisting of gravity sewer lines, pump stations, and the City of Tracy Wastewater Treatment Plant (WWTP). The City's WWTP provides tertiary-level treatment for all flows received within the City's limits. Service is provided to properties within the City's municipal boundaries as well as certain portions of unincorporated San Joaquin County. Wastewater flows toward the northern part of the City where it is treated at the WWTP and then discharged into the Old River in the southern Sacramento-San Joaquin Delta.

The existing wastewater collection system consists of three major interceptor systems. The Eastside collection system conveys wastewater from areas in the southeastern and eastern parts of the City. The Corral Hollow sewer system conveys wastewater, mainly from residential development, from the southwestern part of the City. The Hansen sewer system conveys wastewater from the western and northern parts of the City, including the Patterson Pass Business Park and the West Valley Mall. The Downtown and City's central area convey wastewater directly to the WWTP using sewer mains in Holly Drive.[17] The Project Area is not currently serviced by the existing facilities.

The City currently has plans to expand and improve the existing WWTP in phases, according to the WWMP. Phase I of the WWTP expansion was completed in 2008, giving the City a treatment capacity of 10.8 mgd. Remaining phases will be completed over time as the City's SOI is built out and would provide the following capacities[18]:

[15] City of Tracy Citywide Water System Master Plan, December 2012.
[16] City of Tracy Citywide Water System Master Plan, December 2012.
[17] City of Tracy General Plan EIR, SCH No: 1992122069, October, 2005
[18] City of Tracy Wastewater Master Plan, December 2012

- Phase II – 12 mgd
- Phase III – 13.65 mgd
- Phase IV – 16 mgd

The expansions and improvements to the WWTP were evaluated in the Draft and Final EIR for the Tracy Wastewater Treatment Plant Expansion (SCH No. 2000012039). The Final EIR was completed in September of 2002 and was certified in November 2002.

SOLID WASTE

Tracy Delta Solid Waste Management (TDSWM) collects and transports solid waste from Tracy residents and businesses to the Tracy Material Recovery Facility (MRF) and Transfer Station on South MacArthur Drive. Solid waste is then transferred to the Foothill Sanitary Landfill on ~~Shelton Road~~Waverly Road, Linden, CA.[19] The TDSWM operates the MRF, which has a daily intake capacity of 1,800 tons of solid waste per day. On average, the MRF receives 431 tons per day, of which 278 tons per day come from Tracy.[20]

4.12.2 REGULATORY FRAMEWORK

FIRE PROTECTION AND EMERGENCY SERVICES

The following describes the regulatory framework around the provision of fire protection and emergency services for the City of Tracy.

STATE REGULATIONS

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises and is enforced by the ~~Bureau of Fire Prevention~~ Building Safety and Fire Prevention Division of the City of Tracy within the South County Fire Authority. The Code addresses fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

LOCAL REGULATIONS

Tracy General Plan

The goals and policies pertaining to fire protection and emergency services from the Tracy General Plan are listed in Table 4.12-3 below.[21]

[19] City of Tracy General Plan, 2011, page 7-17.
[17] City of Tracy General Plan EIR, SCH No: 1992122069, October, 2005
[21] City of Tracy General Plan, 2011.

Table 4.12-3: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-1	**Goal PF-1 – Minimal loss of life and property from fires, medical emergencies, and other types of emergencies.**
Objective PF-1	Objective PF-1.1 – Strive to continuously improve the performance and efficiency of fire protection services.
~~Policies~~ Policy P1	~~Policies~~ Policy P1 – The City shall provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the City.
~~Policies~~ Policy	~~Policies~~ Policy P2 – The City shall ensure that new development pays a fair and equitable amount to offset the costs for fire and emergency facilities by collecting a Public Buildings impact fee, or by requiring developers to build new facilities.
Objective PF-1.2	Objective PF-1.2 – Promote coordination between land use planning and fire protection.
~~Policies~~ Policy P2	~~Policies~~ Policy P2 – The City shall build and require roadways that are adequate in terms of width, radius, and grade to facilitate access by City fire-fighting apparatus, while also maintaining and improving Tracy's neighborhood character and hometown feel.
~~Policies~~ Policy P3	~~Policies~~ Policy P3 – The City shall plan fire station locations to maintain or enhance current response levels.
~~Policies~~ Policy P4	~~Policies~~ Policy P4 – Fire ~~sub-~~stations shall be constructed in new development areas in order to meet the City's response time requirements.
~~Policies~~ Policy P5	~~Policies~~ Policy P5 – New developments shall satisfy fire flow and hydrant requirements and other design requirements as established by the City.
~~Policies~~ Policy P6	~~Policies~~ Policy P6 – The City shall use physical site planning as an effective means of preventing wildland fires by requiring the following: ♦ Drought-resistance native plants incorporated into public works projects. ♦ More than one ingress/egress road to any neighborhood in areas subject to wildland fires. ♦ Roadways with grades that accommodate emergency vehicles. ♦ Structures that are constructed of fire-resistance materials.

Citywide Public Safety Master Plan

The Citywide Public Safety Master Plan (CPSMP) was prepared by the City to guide the provision of public safety facilities, both fire and police services, needed to serve the existing and future public safety needs in the City of Tracy. The ~~SPSMP~~ CPSMP considers a build out scenario that includes the THSP in its evaluation and projections.

POLICE

There are no federal or State regulations related to law enforcement services in Tracy; however, the City of Tracy addresses law enforcement services in the General Plan and the Citywide Public Safety Master Plan.

LOCAL REGULATIONS

Tracy General Plan

The goals and policies pertaining to police protection and emergency services from the Tracy General Plan are listed below.[22]

Table 4.12-4: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-2	**A safe environment in Tracy though the enforcement of law.**
Objective PF-2.1	Plan for on-going management and development of law enforcement services.
Policy P1	Maintain adequate police staffing, performance levels and facilities to serve Tracy's existing population as well as any future growth.
Policy P2	The City shall ensure that new development pays a fair and equitable amount to offset the capital costs for police service and expansion by collecting a public facilities impact fee.
Policy P4	The City shall continue to provide mutual aid with the County Sheriff's Department when a situation exceeds the capabilities of either department.
Objective PF-2.2	Promote coordination between land use planning and law enforcement.
Policy P1	Law enforcement hazards shall be identified and mitigated during the Project review and approval process.
Policy P2	Physical site planning should be used as an effective means of preventing crime. This can be achieved by locating walkways, open spaces, landscaping, parking lots, parks, play areas, and other public spaces in areas that are visible from buildings and streets.
Policy P3	Police sub-stations shall be constructed in new development areas in order to meet the City's response time requirements.

SCHOOLS

The following describes the regulatory framework around the provision of public school services for the City of Tracy.

STATE REGULATIONS

Senate Bill 50

Senate Bill 50 of 1998, also known as the "Leroy Greene School Facilities Act" establishes three levels of school impact fees:

- Level I fees set by law but are adjusted for inflation;
- Level II fees require developers pay for the complete local share of 50 percent of construction costs, and may be imposed by a school district on a yearly basis but only if certain conditions are met; and
- Level III fees require developers pay for 100 percent of construction costs, and are imposed if the state is no longer allocating bond funds.[23]

[22] City of Tracy General Plan, 2011.
[23] California Strategic Growth Plan, Bond Accountability, Leroy F. Greene School Facilities Act of 1998, Chapter 12.5, http://www.bondaccountability.opsc.dgs.ca.gov/bondac/chapter12-5.asp. Accessed April 2nd, 2014.

The payment of school mitigation impact fees authorized by SB 50 is deemed to provide full and complete mitigation of project impacts on school facilities. SB 50 provides that a State or local agency may not deny or refuse to approve the planning, use, or development of real property on the basis of a developer's refusal to provide mitigation in amounts in excess of that established by SB 50.

SB 50 authorized statewide bonds in the amount of $9.2 billion, with $2.9 billion for new kindergarten through 12th grade construction to add capacity to local school districts. In 2002, Assembly Bill 16 modified the School Facility Program and authorized two additional statewide bond measures. Proposition 47 provided $11.4 billion for kindergarten through 12th grade approved by the voters in November 2002 ($8 billion for new construction). A second bond measure in the amount of $10 billion for kindergarten through 12th grade ($7.7 billion for new construction) was approved by the voters in 2004. The most recent statewide bond approval came in 2006 with the passage of proposition 1D, the Kindergarten-University Public Education Facilities Bond Act, and authorizes$20.3 billion of spending on public school construction projects.

LOCAL REGULATIONS

Tracy General Plan

The goals and policies pertaining to level of service in public schools from the Tracy General Plan are listed below.[24]

Table 4.12-5: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-3	**Sufficient educational facilities to meet the demands of existing and new development.**
Objective PF-3.1	Assist the school districts serving the City of Tracy in developing new school facilities to serve Tracy's current and future population.
Policy P1	The City shall coordinate with the school districts serving the City of Tracy to ensure the provision of educational facilities sufficient for the existing and anticipated kindergarten through twelfth grade population, and shall work to ensure that school facilities that serve new development are available concurrent with the need, to the extent allowed by State law.
Objective PF-3.3	Ensure that new development is responsible for its impacts on local schools.
Policy P1	The City, in cooperation with school districts, shall reserve land for purchase by the districts for the construction of new school or the collection of school impact fees in accordance with State law.

PARKS AND RECREATION

The following describes the regulatory framework guiding the provision of public parks and recreation facilities for the City of Tracy.

[24] City of Tracy General Plan, 2011.

FEDERAL REGULATIONS

NRPA Standards

The National Recreation and Parks Association (NRPA) published the following guidelines for communities to consider when planning various types of parks (e.g., regional, community, neighborhood, etc.).

- Community park 2 to 3 acres per 1,000 residents.
- Neighborhood park 1 to 2 acres per 1,000 residents.
- Mini-park 0.25 to 0.50 acres per 1,000 residents.

STATE REGULATIONS

Quimby Act of 1975

California Government Code Section 66477, known as the Quimby Act, enacted in 1975 and amended in 1982, authorizes cities and counties to pass ordinances requiring developers set aside land, donate easements for conservation, or pay fees that can be applied to parkland uses. The land, fees, or any combination thereof is to be used solely for the purpose of developing new or rehabilitating existing recreational facilities. The use of revenues from the Quimby Act for operations and maintenance of facilities is not a permitted use.[25] The Quimby Act set the standard of 3 to 5 acres per 1,000 residents as "adequate" open space/parkland acreage in jurisdictions.

LOCAL REGULATIONS

City of Tracy General Plan

The Tracy General Plan lists the following goals and policies as they relate to parks and recreation.

Table 4.12-6: General Plan Policies Relevant to Public Services and Utilities

Open Space and Conservation Element	
Goal/Policy No.	**Goal/Policy Content**
Goal OSC-4	**Parks, open space, and recreation facilities and services that maintain and improve the quality of life for Tracy residents.**
Objective OSC-4.1	Provide and maintain a diversity of parks and recreational facilities in the City of Tracy.
Objective OSC-4.2	Ensure that new development is responsible for providing parks and recreation facilities throughout the City of Tracy.
Policy P1	The City shall consider increasing the parks standard of 4 acres per 1000 population to 5 acres per 1000 population and require that new developments provide new park acreage or in-lieu fees at this ratio.
Policy P2	All land dedicated for parks shall be of shape and size suitable for parks. Land containing underground or overhead utilities, unsuitable topography, contamination or other factors that restrict the usability of the land shall not be credited against dedication requirements
Policy P4	New neighborhoods should be designed so that parks are located no more than ¼ mile from any home, in approximately the geographic center of the neighborhood and, if possible, next to existing parks or park sites in adjacent neighborhoods or schools.
Policy P6	The City shall ensure that parks and recreational facilities serving new development are available concurrently with need.

[25] The Quimby Act, http://www.calsj.org/TheQuimbyAct.htm, accessed on January 20, 2014

Table 4.12-6: General Plan Policies Relevant to Public Services and Utilities

Open Space and Conservation Element	
Objective OSC-4.3	Establish a regional parkway system that meets recreational, open space and transportation needs.
Policy P2	All development projects should provide linkages to the regional bike and trail system and circulation within the development project site, wherever feasible.
Policy P3	The City shall pursue the completion of all trail systems designed in the Bikeways Master Plan.

City of Tracy Park Development Impact Fees

Tracy Municipal Code section 13.12.080 requires all new development projects dedicate land to the City or pay a fee, or a combination of both, to maintain the City's park minimum standard of four acres of parkland for every 1000 population, as required by Objective OSC-4.1 of the General Plan. The Municipal Code also requires the payment of Public Facilities Impact Fees.

Citywide Public Facilities Master Plan

The Citywide Public Facilities Master Plan (CPFMP) serves to guide the provision of public facilities need to serve the existing population and future planned growth for the City of Tracy. The CPFMP provides for the development of new public facilities building space totaling approximately 126,400 square feet, including a new Community Recreation Building, to accommodate the planned growth. The facilities are planned to be constructed as needed, over time, and as development impact fees are collected.

Citywide Parks Master Plan

The Citywide Parks Master Plan (CPMP) was adopted by the City Council in April 2013 and serves to identify infrastructure needs for parks and public facilities in the City. The CPMP provides policies, design guidelines, and includes analysis of the existing park system, and forecasts demographic and recreation trends to identify future needs. Specifically, the CPMP addresses the demand for park land and recreation facilities spurred by new residential development in future service areas (including the Project Area) and as such, calls for the provision of 4 acres of park space per 1,000 population. The CPMP includes the following design guidelines:

Table 4.12-7: Citywide Parks Master Plan Design Guidelines Relevant to Public Services

Citywide Parks Master Plan	
Guideline No.	**Guideline Content**
G8	For each proposed park, prepare a site master plan. Master planning, phasing, timing, finance and maintenance responsibilities must be defined and resolved by the developer(s) to the City's satisfaction prior to approval of the site master plan.
G12	Where feasible, incorporate unique or significant natural elements in proposed parks, including existing vegetation, hillsides, creeks, and channels as per design guidelines noted below.
G13	Where feasible, incorporate unique cultural, historical, or agricultural areas and/or features for recreation purposes.
G15	Develop distinct themes for each park site to establish a unique character and identity. Contingent with approved city palettes, themes may be highlighted through the use of colors, materials, furnishings, equipment and plant selections. Details, colors and materials should be consistent throughout the individual park sites.
G16	Ensure that proposed park design and construction, including park amenities and facilities, are consistent with City design detail and specifications.
G21	Implement a water efficiency program in compliance with AB 1881, the Water Conservation in Landscaping Act, and all other water efficiency legislation in effect at the time of design.
G22	Use environmentally sustainable park development practices, materials, and green building techniques.
G23	Encourage environmentally sustainable landscape designs that minimize surface water runoff.

WATER

This section describes the regulatory framework with regard to local water supply, distribution, and treatment.

STATE REGULATIONS

There are several state laws and regulations that address water supply and distribution planning, as described below.

California Water Code Sections 10910 through 10915

Sections 10910 through 10915 (inclusive) of the California Water Code require land use agencies to: (1) identify any public water purveyor that may supply water for a proposed development project; and, (2) request from the identified purveyor a Water Supply Assessment for projects that meet the following criteria:

- A proposed residential development of more than 500 dwelling units. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space. A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified above.

- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The purpose of a WSA is to demonstrate the sufficiency of the purveyor's water supplies to satisfy the water demands of a proposed project, while still meeting the water purveyor's existing and planned future uses. Water Code sections 10910 through 10915 identify the specific information that must be included in a WSA.

Sections 10750 through 10756

Sections 10750 through 10756 of the California Water Code (AB 3030) provide a systematic procedure for an existing local agency to develop a groundwater management plan. This section of the code provides such an agency with the powers of a water replenishment district to raise revenue to pay for facilities to manage the basin (extraction, recharge, conveyance, quality). One hundred forty-nine agencies have adopted groundwater management plans in accordance with AB 3030. Other agencies have begun the process. In some basins, groundwater is managed under other statutory or judicial authority.

Senate Bill 610

Senate Bill (SB) 610 amended the Public Resources and Water Codes as it pertains to consultation with water supply agencies and water supply assessments. SB 610 requires the preparation of water supply assessments (WSAs) for projects, as that term is defined by Water Code Section 10912, that are subject to CEQA. The Project meets the definition of a 'project" under the Water Code– and a WSA has been prepared; refer to Appendix F2 of this Recirculated Draft EIR.

Senate Bill 221

SB 221 is a companion measure to SB 610 that seeks to promote more collaborative planning between local water suppliers and cities and counties. Where SB 610 requires water assessments be furnished to local governments for inclusion in any environmental documentation for projects (as defined by Water Code Section 10912) subject to CEQA, SB 221 states that approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply refer to Appendix F2 of this Recirculated Draft EIR.-

Assembly Bill 901, Urban Water Management Planning Act of 1983

The Urban Water Management Planning Act (Division 6 Part 2.6 of the Water Code Section 10610-10656) requires that an Urban Water Management Plan (UWMP) be prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Urban water suppliers are required to assess the reliability of their water sources if that water supplier either provides over 3,000 acre-feet of water annually or serves 3,000 or more connections. The required assessment evaluates reliability over a 20-year period and considers normal, dry, and multiple dry years. The completed assessment is to be included in the supplier's UWMP, which must be prepared every five years and submitted to the Department of Water Resources (DWR). DWR then reviews the submitted UWMP to assure it meets the requirements of the UWMP Act.

When a water agency has prepared and adopted an UWMP in compliance with DWR requirements, it may rely on that UWMP in various respects in preparing WSAs for individual planning and development approvals. The City's most recently adopted UWMP (the City's 2010 UWMP) was adopted in May 2011.

Assembly Bill 2403, Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act empowers local agencies to manage groundwater basins in a sustainable manner over a long-term horizon. The Act provides five to seven years for locals to form a Groundwater Sustainability Agency (GSA) and to create a Groundwater Sustainability Plan (GSP). The plan would have a 20-year implementation horizon with the opportunity for two five-year extensions, if the agency is making progress towards sustainability.

LOCAL REGULATIONS

Delta Mendota Canal Groundwater Management Plan

In 1996, the Tracy City Council adopted the Northern Delta Mendota Canal Groundwater Management Plan (GMP) pursuant to Water Code Section 10750 *et seq.* This plan was developed in coordination with other DMC northern agencies including BCID, BBID, DPWD, PID, WSID, WID, San Joaquin County, and the City of Tracy. The 1996 GMP included information on groundwater levels and quality, conjunctive management of groundwater and surface water resources, and measures to protect groundwater resources within the plan area.

In 2011, the GMP was revised to include additional information to comply with new provisions adopted by the State legislature, which included:

- Department of Water Resources to establish a priority schedule for monitoring groundwater basins and elevation report as well as issuing recommendations to local entities to improve water quality;
- Permit local entities to determine best methods of groundwater monitoring to meet local demand; and,
- DWR to implement groundwater monitoring if local agencies fail to do so, which would result in a loss of eligibility for State grant funds.

The revised GMP was adopted by the Tracy City Council on May 1, 2012.

San Joaquin County Groundwater Export Ordinance

San Joaquin County enacted a Groundwater Export Ordinance in June 2000 that requires an entity to secure a permit from the County prior to exporting groundwater of the County (such as pumping extracted groundwater into the DMC for conveyance to other areas).

City of Tracy General Plan

The City of Tracy's General Plan contains policies to ensure that adequate water supply can be provided within the City, to provide improved water quality while increasing system reliability, and to prepare water facilities for reliability during catastrophic events. The policies also encourage the use of reclaimed water to reduce non-potable demands and to create market opportunities for reclaimed water. The Tracy General Plan lists the following goals and policies as they relate to water supply:

Table 4.12-8: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-6	**Adequate supplies of water for all types of users.**
Objective PF-6.1	Ensure that reliable water supply can be provided within the City's service area, even during drought conditions, while protecting the environment.
Policy P1	The City shall promote water conservation by implementing the Best Management Practices contained in the Urban Water Management Plan.
Policy P2	The City shall continue to acquire additional sources of water supplies to meet the City's future demands.
Policy P3	To the extent feasible, the City shall use surface water supplies to meet daily water needs and reduce reliance on groundwater supplies.
Policy P4	The City shall establish water demand reduction standards for new development and redevelopment to reduce per capita and total demand for water.
Objective PF-6.2	Provide adequate water infrastructure facilities to meet current and future populations
Policy P1	The City shall maintain water storage, conveyance, and treatment infrastructure in good working condition in order to supply domestic water to all users with adequate quantities, flows, and pressures.
Policy P2	Storage reservoirs should be buried or partially buried depending on local groundwater conditions to allow for the joint use of the site with parks or recreational facilities, unless reservoirs are elevated to provide a gravity flow system, in which case the reservoirs shall be screened by landscaping and/or earthen berms.
Objective PF-6.3 -	*Promote coordination between land use planning and water facilities and service.*
Policy P1	Structures with plumbing that are located within the City limits shall connect to the City water supply system.
Policy P2	New developments shall dedicate land for utility infrastructure such as treatment facilities, tanks, pump stations and wells as needed to support the development of their project.
Policy P3	The City shall be responsible for constructing new transmission water lines, as needed to meet future needs. Individual development projects shall be responsible for the construction of all water transmission means.
Policy P4	All new water facilities shall be designed to accommodate expected capacity for buildout of areas served by these facilities but may be constructed in phases to reduce initial and overall costs.
Policy P5	The availability of sufficient, reliable water shall be taken into account when considering the approval of new development.
Policy P6	Costs for water service expansion shall be distributed among new water users fairly and equitably.
Objective PF-6.4	Design and manage water system facilities for reliability during catastrophic events such as fires, power outages, droughts, and earthquakes.
Policy P1	Groundwater supplies should be reserved for emergency use during water treatment shutdowns, short-term shortages of surface water supplies or during droughts.
Policy P2	Backup emergency power systems shall be provided at all essential water facilities that rely on electric power.
Policy P3	Storage reservoir facilities should be located at naturally high topographic locations to capitalize on gravity flow, whenever possible.
Policy P4	Future water systems and facilities shall be designed to minimize the likelihood of damage from vandalism or terrorist activity.

Table 4.12-8: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Objective PF-6.5	Use recycled water to reduce non-potable water demands whenever practicable and feasible.
Policy P1	The City shall provide recycled water systems, including pipelines, pump stations, and storage facilities; to serve primarily City-owned facilities, schools, and parks as funding becomes available.
Policy P2	Recycled water piping systems ("purple pipe") shall be constructed as appropriate in all new development projects to facilitate the distribution and use of recycled water. The specific location and size of the recycled water systems shall be determined during the development review process.
Policy P3	Recycled water shall be used for all public properties and large private open spaces or common areas to the extent feasible.
Policy P4	The City shall plan for recycled water infrastructure in the City's Infrastructure Master Plans and, to the extent feasible, recycled water should be utilized for non-potable uses, such as landscape irrigation, dust control, industrial uses, cooling water, and irrigation of agricultural lands.

Citywide Water System Master Plan

A Citywide Water System Master Plan (WSMP) was adopted in 2013 to evaluate the required backbone potable water and recycled water infrastructure to serve development buildout of the City's General Plan and Sphere of Influence (SOI). An evaluation of the THSP Project Area was included in the Citywide Water System Master Plan as one of the City's future service areas within the City's SOI.

City of Tracy Urban Water Management Plan

The City's most recent UWMP (2010) was adopted by the Tracy City Council in May 2011. The City's 2010 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's General Plan SOI through buildout (estimated to occur in 2040). The water demand projections in the City's 2010 UWMP included existing City water demands (based on 2007 demands), future water demands for developments with approved water supplies (e.g., those projects which have already been approved by the City but have not yet begun construction or have not yet built out), and future water demands for future service areas.

The potable water demands of the 1998 Specific Plan (1,076 acre feet per year) were included in the City's 2010 UWMP future water demands for development with approved water supplies. Recycled water facilities recommended in the Citywide Water System Master Plan have been sized to accommodate additional recycled water demands beyond those included in the City's 2010 UWMP, and adequate recycled water supplies are anticipated to be available in the future to accommodate the recycled water demand associated with the Project.

Tracy Regional Groundwater Management Plan

In 2005, the City was awarded a DWR grant to prepare a Tracy Regional Groundwater Management Plan (Tracy Regional GMP) for the portion of the Tracy Subbasin that underlies the City of Tracy. The Tracy Regional GMP was completed in March 2007. A key objective of the Tracy Regional GMP was the development of Basin Management Objectives (BMOs) for groundwater levels, groundwater quality, and land subsidence in the region.

City of Tracy Groundwater Management Policy

The City adopted a Groundwater Management Policy in 2001 which established the City's maximum annual groundwater extraction rate of 9,000 acre feet per year. The 2001 Groundwater Management Policy includes water level monitoring criteria to measure groundwater quality, groundwater levels, and to detect any ground subsidence. Six monitoring wells were installed. City production wells are also used for monitoring. Water levels are taken from each monitoring well on a monthly basis, water quality samples are taken quarterly, and ground elevation survey monitoring occurs annually. The City's long–term objective is to only use groundwater for emergency and peak demand needs.

City of Tracy Water Shortage Contingency Plan

The City of Tracy developed a Water Shortage Contingency Plan in 1992, which contains five stages of actions to be undertaken in the event of an interruption of water supplies, such as could occur in a drought or emergency situation. The City Council determines the appropriate stage of action in the event of a crisis, after which the City Manager can authorize and implement applicable water conservation and rationing requirements. The Water Shortage Contingency Plan contains a Water Conservation and Rationing Plan wherein the five stages of action are described in detail.

Water Shortage Contingency Ordinance/Resolution

Tracy's Water Management Ordinance (Tracy Municipal Code Chapter 11.28) incorporates the Water Conservation and Rationing Plan, a Water Emergency Plan, Variances and Appeals Ordinance. The ordinance provides the legal authority to implement the Water Shortage Contingency Plan.

City of Tracy Recycled and Non-Potable Water Ordinance

The City of Tracy enacted the Recycled and Non-Potable Water Ordinance (Tracy Municipal Code, Chapter 11.30) in March 2002 and updated in 2013. The ordinance requires that planned new developments in the City of Tracy install pipelines and dual distribution systems to supply non-potable water to green spaces for irrigation and to facilities for industrial cooling or processing. The Project has proposed to incorporate the use of recycled and/or non-potable water for irrigation of parks, golf courses, and other landscaped areas to reduce the potable water demand.

Model Water Efficient Landscape Ordinance

The Model Water Efficient Landscape Ordinance prepared by the State Department of Water Resources was adopted by the Office of Administrative Law (OAL) in September 2009 and requires local agencies to implement water efficiency measures as part of their review of landscaping plans. The City of Tracy applies the requirements of the model ordinance adopted by the OAL. For new landscaping projects of 2,500 square feet or more that require a discretionary or ministerial approval, the applicant is required to submit a detailed "Landscape Documentation Package" that discusses water efficiency, soil management, and landscape design elements.

WASTEWATER

This section describes the regulatory framework with regard to local wastewater treatment and processing.

FEDERAL REGULATIONS

Clean Water Act

The Federal Water Pollution Control Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the nation. Under the CWA, the United States Environmental Protection Agency (US EPA) implements pollution control pro-grams and sets wastewater standards.

National Pollutant Discharge Elimination System Program

The Federal National Pollutant Discharge Elimination System (NPDES) program requires all dischargers receive a permit to release effluent into surface waters. Since the City of Tracy wastewater treatment plant releases effluent into the Old River, the City is subject to NPDES permitting requirements, as implemented by the RWQCB.

STATE REGULATIONS

Central Valley Regional Water Quality Control Board

The Central Valley RWQCB is the local division of the State Water Re-sources Control Board (SWRCB). The SWRCB is a State department that provides a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses of water in California. The Central Valley RWQCB issues NPDES permits in Tracy. NPDES permits allow the RWQCB to collect information on where the waste is disposed, what type of waste is being disposed, and what entity is disposing of the wastes. The RWQCB is also charged with conducting inspections of permitted dis-charges and monitoring permit compliance. The current wastewater treatment plant discharge to the Old River is regulated by discharge requirements stated in Order No. R5-2012-0115. The City's treatment plant's current industrial pretreatment pond, industrial holding ponds, sludge drying beds, and biosolids storage area are regulated by separate waste discharge requirements as defined in Order No. R5-2007-0038.

LOCAL REGULATIONS

City of Tracy Municipal Code, Article 4

The City of Tracy Municipal Code (Code), Article 4, Wastewater Discharge Surveys, Permits, Monitoring, and Administration, consists of a number of provisions relating to wastewater, including Section 5.24.390 (Wastewater discharge surveys) which requires that all potential dischargers, as determined by the City, must file an annually updated Discharge Survey Report. Section 5.24.410 (Mandatory Discharge Permits) requires significant industrial users connecting to or discharging into the sewer to obtain a wastewater discharge permit. The application for the wastewater discharge permit must include a baseline monitoring report that details wastewater constituents and characteristics and total, average, and peak wastewater flow rates, spill prevention and control measures, and certification that Pretreatment Standards are being consistently met, in compliance with Section 5.24.440 (Permit application and baseline monitoring report) of the Code. Wastewater Discharge Permits may contain a variety of conditions, as described in Section 5.24.450 (Permit conditions) of the Code, including the average and maximum allowable wastewater constituents and characteristics, limits on rate and time of dis-charge, specifications for monitoring programs, civil penalties and fees for non-compliance, and specifications as to what waste streams are authorized for discharge. Other sections of the Code relevant to

wastewater include Section 5.24.550 (Data Collection) and Section 5.24.560 (Reporting Requirements) which describe the information that wastewater dischargers must pro-vide, how such information will be collected, and the various standards that must be met in order to comply with discharge reporting requirements.

City of Tracy General Plan

The City's General Plan includes policies directed towards providing necessary wastewater infrastructure and treatment to support growth, and pursuing innovative solutions for wastewater treatment and disposable. The General Plan also includes policies for pursuing safe and environmentally responsible methods of disposing of treated effluent. The following goals, objectives, and policies are listed in the General Plan:

Table 4.12-9: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-7	**Meet all wastewater treatment demands and federal and State regulations.**
Objective PF-7.3	Promote coordination between land use planning and wastewater conveyance, treatment and disposal.
Policy P1	Wastewater collection and treatment facilities shall be designed to serve expected buildout of the areas served by these facilities but constructed in phases to reduce initial and overall costs.
Policy P2	The City shall construct new wastewater trunk lines as needed. Individual development projects shall be responsible for construction of all collection lines other than trunk lines.
Policy P3	The approval of new development shall be conditioned on the availability of sufficient capacity in the wastewater collection and treatment system to serve the project.
Policy P5	New development shall fully fund the cost of new wastewater treatment and disposal facilities.
Policy P6	Prior to any development approvals within an Urban Reserve, the City shall complete new wastewater master planning and wastewater treatment and disposal studies, particularly for the west side of the city. These studies are to be funded by proponents of new development and must show how adequate wastewater treatment will be provided to the Urban Reserve in question.

City of Tracy Wastewater Master Plan

The Tracy Wastewater Master Plan, prepared in May 2012, derives future wastewater flow and mass loading conditions from available land use data and summarizes hydraulic and process infrastructure capacity requirements. The Tracy Wastewater Master Plan recommends a single-plant option which includes expanding the existing WWTP located near Holly Drive.; The Tracy Wastewater Master Plan also addresses using reclaimed water for irrigation throughout the City and Future Service Areas to offset potable water demands.

SOLID WASTE

STATE REGULATIONS

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (Assembly Bill (AB) 939) requires cities and counties to divert 50 percent of all solid waste from landfills as of January 1, 2000 though source reduction, recycling, and composting. AB 939 requires each City and County to prepare a Source Reduction and Recycling Element

to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), in an effort to meet the goal of at least 15 years of ongoing landfill capacity, as defined by the Act. Cal Recycle is a department within the California Natural Resources Agency and administers programs formerly managed by the State's Integrated Waste Management Board (CIWMB) and Division of Recycling.

AB 939 was amended in 2007 by SB 1016 which established a per capita disposal measurement system. The per capita disposal measurement system is based on a jurisdiction's reported total disposal of solid waste divided by the jurisdiction's population with a CIWMB target per capita rate of disposal. Each jurisdiction is responsible for submitting an annual report outlining its progress in implementing diversion programs and its current capital disposal rate. Tracy's disposal rate in 2013 was 4.7 pounds per person per day, which was below the CIWMB target rate of 7.9 pounds per person per day.[26] As of 2012, CalRecycle reports Tracy has implemented 43 waste diversion programs.[27]

AB 341, Mandatory Commercial Recycling Measure

Effective June 2012, the Mandatory Commercial Recycling Measure is designed to reduce greenhouse gas (GHG) emissions by diverting commercial and multifamily family solid waste to recycling efforts. Senate Bill 1018 amended the measure by requiring businesses that generate 4 cubic yards or more of commercial solid waste per week to arrange for recycling services.[28] The threshold for triggering mandatory compliance for multifamily housing is five or more units. Local jurisdictions are required to implement commercial solid waste recycling programs that consists of education, outreach and monitoring of businesses, and shall report the progress of the program to CalRecycle through an Electronic Annual Report.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act require areas within development projects to be set aside for collection and loading recyclable materials. Local agencies are required to adopt a model ordinance developed by CalRecycle, or an ordinance of their own, governing adequate areas in development projects for collection and loading of recyclable materials.

CALGreen Building Code

The California Green Building Standards Code (CalGreen Code) came into effect for all projects beginning after January 1, 2011. Section 4.408, Construction Waste Reduction Disposal and Recycling mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged through the provision of a waste management plan for on-site sorting of construction debris. CALGreen is adopted by reference in section 9.14.030 of the Tracy Municipal Code.

[26] CalRecycle, http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx, accessed on January 17, 2014
[27] CalRecycle, http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx, accessed on January 17, 2014
[28] CalRecycle, http://www.calrecycle.ca.gov/recycle/commercial/, accessed January 17, 2014

LOCAL REGULATIONS

San Joaquin County Environmental Health Department

The San Joaquin Environmental Health Department (EHD) is the State-certified Local Enforcement Agency (LEA) for solid waste laws and regulations in the county established by the CIWMB, legislation, and local enactments including Public Resources Code and California Code of Regulations.[29] The LEA is the permitting agency for all solid waste facilities and operations within the county.

City of Tracy General Plan

The goals, policies, and objectives from the Tracy General Plan relevant to solid waste are listed below.

Table 4.12-10: General Plan Policies Relevant to Public Services and Utilities

Public Facilities and Services Element	
Goal/Policy No.	**Goal/Policy Content**
Goal PF-5	**Reduction in the volume of solid waste**
Policy P1	Promote redesign, reuse, composting, and shared producer responsibility of discarded materials.
Policy P2	The City shall strive to meet or exceed the State's goal of diverting 50 percent of all solid waste from landfills.
Policy P3	The City shall encourage local businesses to expand their recycling efforts and to reduce packaging of products manufactured in the city.
Policy P5	Salvage and reuse of construction and demolition materials and debris is encouraged at all construction projects in the city.
Policy P6	Residential, industrial, commercial and retail buildings should be designed or improved to accommodate an increase in the amount and type of recycled materials.

City of Tracy Municipal Code

Title 5, Sanitation and Health (chapter 5.20) of the Tracy municipal Code addresses the handling, collections, and disposal of solid waste and recycling materials.

4.12.3 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. Significant impacts on public services and utilities could result from implementation of the Project if they would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, or result in the need for new or physically altered law enforcement facilities,

[29] San Joaquin County Environmental Health Department, http://www.sjcehd.com/Programs/Others/solid_waste.htm, accessed on January 17, 2014

the construction of which could cause significant environmental impacts, in or-der to maintain acceptable service ratios, response times, or other performance objectives.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.
- Result in substantial adverse impacts associated with the provision of new or physically altered parks or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.
- Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Have insufficient water supplies available to serve the project from existing and planned future entitlements and resources.
- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Generate a demand for wastewater treatment capacity that is currently not available.
- Exceed wastewater treatment requirements of the applicable RWQCB.
- 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.
- Not be served by a landfill with sufficient permitted capacity to accommodate the buildout of the project's solid waste disposal needs.
- Not comply with federal, State, and local statutes and regulations related to solid waste.

ENIVRONMENTAL IMPACTS AND ANALYSIS

FIRE PROTECTION

The Project site is currently undeveloped, and therefore, minimal fire protection is presently required. The THSP Project Area would be particularly susceptible to a grass or range land fire due to its proximity to the Diablo Range and would form the edge of the urban/wildland interface. Development of Tracy Hills would increase the risks associated with range land fires.. The City of Tracy Fire Department (Department) and the Tracy Rural Fire District (District) shall provide fire protection services as part of the South County Fire Authority (SCFA).

To address service needs, the Citywide Public Safety Master Plan (CPSMP) calls for the construction of four new fire stations within the City, with the potential for two being sited within the Project. Once implemented, the Fire Station would be adequately equipped to provide fire services for the buildout of the project. Since buildout of the Project would not exceed the City's planned growth level, additional service population has already been accounted for in the CPSMP, and would not require additional fire protection facilities beyond what has been planned. All project applicants of individual projects within the THSP Project Area would be required to pay a fair and equitable amount to the City's Public Buildings impact fee to offset the capital costs for fire protection and emergency service facilities. Additionally, prior to issuance of each building permit for commercial projects, all project applicants would be required to submit plans indicating that all buildings have

sprinklers installed in accordance with the California Building Code. all project applicants must also submit landscape plans indicating that drought- and fire-resistant vegetation would be planted between proposed units in accordance with the Municipal Code.

Phase 1a of the Project proposes the development of the residential neighborhood with three neighborhood parks, open space easements, and an elementary school between I-580 and the California Aqueduct, between Corral Hollow Road and Lammers Road. Additionally, development is planned for the Mixed Use Business Park adjacent to Corral Hollow Road. Other development phases include residential, mixed use business park, and general highway commercial development. Development within the THSP Project Area would not exceed the maximum dwelling units or non-residential square footage previously approved in 1998, or the maximum dwelling units/non-residential square footage contemplated by the City's General Plan, therefore fire protection needs are not altered by the land use changes associated with the Project.

POLICE

The Project site is currently undeveloped, and therefore, minimal police protection is presently required. Phase 1a of the Project includes the development of up to 1,200 residential lots and commercial uses, which would increase the demand for police protection services. The City of Tracy Police Department (Department) would provide police protection services.

The Department's primary station house is located in downtown Tracy. The Citywide Public Safety Master Plan proposes the construction of a new police substation located closer to the Project than the current primary station; however the new substation is not associated with the Project. The CPSMP has planned for a new 40,990 square foot service center which would provide the City with comprehensive police services through build-out. The new facility would improve response to existing and new development areas on the southwest side of the City. Since buildout of the Project would not exceed the City's planned growth level and this additional population has already been accounted for in the CPSMP, as stated above, the increase in service population as a result of the Project would not require additional law enforcement facilities beyond what has been identified in the master planning process. Additionally, individual development projects under the THSP would be required to pay the applicable impact fees, which ensure payment of a proportionate share toward the planned facilities.

SCHOOLS

The Project could have a significant environmental impact if the Project would substantially increase the population of school children in Tracy, requiring construction of new school facilities or modification of existing facilities to accommodate the growth of the student body. Development of the Project is estimated to generate 3,520 new students in grades K–8.

The THSP Project Area is located within the Jefferson School District and high school facilities are within the Tracy Joint Unified School District, both of which have adopted plans. The THSP plans three elementary schools (K-8) located throughout the Plan Area, although the final number and locations of elementary schools shall be determined in accordance with the Jefferson School District Facilities Master Plan as the Project is built out.

Additionally, the THSP would also include the development of two interim school sites to support the development. The purpose of the interim school sites would be to provide school services to the initial residents of Tracy Hills until the permanent schools are fully developed.

The initial "interim" students for Tracy Hills Phase 1a would attend Hawkins Elementary School until the permanent school is constructed in Tracy Hill Phase 1a. Hawkins Elementary is currently utilized for this upcoming school year as the interim school site for the Jefferson Elementary School as it is being reconstructed. The facilities that are being put in place to house the Jefferson Elementary School students on an interim basis will be utilized for the Tracy Hills Phase 1a interim students. Ongoing communications with Jefferson School District are being conducted by the City and the Project Applicant regarding the potential use of Hawkins Elementary as an interim school.

The proposed 2-3 acre interim school site adjacent to the Tracy Hills Phase 1a school is intended to serve future phases of Tracy Hills but not the Tracy Hills Phase 1a interim students. Specifically, the Tracy Hills Phase 1a school would have capacity for approximately 800 students. Once over 800 students are generated, the District would require to have a Tracy Hills "on-site" interim school site to house students on an interim basis until the future permanent schools are built (e.g. Hawkins would NOT be used as the interim school facility for future Tracy Hills phases). The interim school site may be used in phases (e.g. the second permanent school in Tracy Hills will likely also have capacity for approximately 800 students, so once there are 1600+ students generated the interim school site would be utilized until the 3rd permanent school is constructed.

The Jefferson School District uses an elementary student generation factor of 0.44 grade K-5 students per dwelling unit, 0.2 grade 6-8 students per unit, and 0.3 grade 9-12 students per dwelling unit to estimate projected student population.[30] Implementation of the Project would generate a maximum of 5,499 dwelling units. Based on the generation factors listed above, 2,420 grade K-5 and 1,100 grade 6-8 students would be generated by the buildout of the proposed residential land uses. Phase 1a would allow for the development of up to 1,200 residential lots with the potential to generate 528 grade K-5 and 240 grade 6-8 students for a total of 768 students . An additional 4,042 K-12 students are anticipated in other phases as the Project reaches build out conditions. Phase 1a of the Project includes an elementary school site that lies between I-580 and the California Aqueduct and between Corral Hollow Road and the future Lammers Road extension to accommodate the above mentioned new student population.

Jefferson School District schools are currently operating near or above capacity and the student enrollment generated by the Project would exceed current school district capacity. As mentioned above, THSP provides for 3 ten acre K-8 school sites. One K-8 school would be constructed with Phase 1a of the Project as defined by the THSP. Furthermore, each individual development application would be subject to the requirement to pay the applicable impact fee subject to school mitigation agreements with TUSD and Jefferson School District. Under Section 65996 of the California Government Code, the payment of such fees is deemed to fully mitigate the impacts of new development on school facilities. Therefore, Project impacts in this regard would be *Less-than-significant.*

[30] Personal communication with City of Tracy staff. March 12, 2014.

PARKS AND RECREATION

The Project could have a significant environmental impact if it would require the provision of new or altered parks and recreational facilities. The Project proposes three acres of neighborhood park land and one acre of community park land per 1,000 population. Neighborhood and community parks which would be distributed throughout the residential areas. Most park and recreation facilities would be under the jurisdiction of the City Parks and Community Services Department and as such would be operated and maintained by the City for the enjoyment of the residents of Tracy.

Active play and sports parks are proposed by the Project and may feature play fields, ball fields, children play areas, picnic areas, tennis courts, and open lawns. Park features may be interconnected by nature walks and bikeways within the greenways and parkways.

With the provision of three acres of neighborhood park land and one acre of community park land per 1,000 population the Project meets the current General Plan adopted requirement of 4 acres of parks per 1,000 residents~~.~~.

It is anticipated that new residents would use the new parks within the THSP more than the City's existing facilities given proximity to their neighborhoods, condition of the new facilities and the ability to walk or bicycle to many of the parks. Therefore, the Project would result in a *Less-than-significant-impact* with regard to the substantial physical deterioration of existing facilities. No mitigation measures would be required.

WATER

The Project contains a series of sustainability principles, including several relevant to water supply, as defined above in the regulatory discussion and outlined in the Citywide Public Facilities Master Plan.

Distribution and Storage

Water would be distributed with a combination of transmission and distribution facilities constructed during the various phases of the Project. Transmission facilities would consist of mains which would connect the City of Tracy Treatment Plant with the two or more storage tanks located on the Project site. The transmission mains would supply water to -the distribution system, with water from the treatment plant or the storage reservoirs, depending on the amount and location of the demand.

The distribution system grid would be designed in accordance with the City of Tracy Design Standards.

Projected Water Demand

As described in the Tracy Hills WSA, the total projected water demand for the Project at build out is as follows:

- Potable Water Demand = 3,730 af/yr
- Recycled Water Demand = 1,970 af/yr

Projected Water Supply

As noted above, the Project would be served by the City from its existing and future portfolio of water supplies. The water supply for the Project would have the same reliability and high water quality as the other existing and future water customers. A proportionate share of required funding would be provided by Project proponents to the City and BBID for the acquisition and delivery of potable and recycled water to the Project.

The recycled water demands for landscape irrigation for the Project, 1,970 af/yr, would ultimately be met using tertiary-treated recycled water treated at the City's wastewater treatment plant (WWTP). According to the WSMP, adequate recycled water supplies would be available to meet the City's recycled water demands at buildout of the General Plan, including those associated with buildout of the Project. Recycled water would be delivered to and distributed within the Project Area via a separate "purple pipe" recycled water distribution system.

Approximately 1,970 af/yr of recycled water supplies would be used to meet the landscape irrigation demands at buildout of the Project. Because recycled water supplies may not be initially available to meet the landscape irrigation demands associated with the initial phase of the Project, potable water supplies, if available, ~~from BBID,~~ may be used in the interim period before recycled water becomes ~~available in only those portions of the Project area where BBID pre-1914 surface water supplies can be used~~. The potable water supply for landscape irrigation shall be distributed and delivered using a recycled water distribution system ("purple pipes"), in conformance with the City's recycled water ordinance. When recycled water becomes available, the "purple pipes" would then be disconnected from the City's potable water system and would be used to distribute and deliver recycled water supplies from the City's WWTP.

No recycled water would be directly generated by the Project. In the future, some portion of sewer flows from the site, conveyed to the City's WWTP, would be combined with other City sewer flows and processed as recycled water.

Potable water supplies for the Project include:

- 2,430 af/yr of surface water supplies from the Byron Bethany Irrigation District (BBID)
- ~~560~~ 630 af/yr of surface water supplies from the Central Valley Project (CVP)
- ~~700~~ 670 af/yr of local groundwater supplies

According to the WSA, the City's Year 2035 potable water supplies in normal, single dry and multiple dry years would be 35,930 af/yr, 40,430 af/yr, and 36,880 af/yr, respectively. These supplies would be sufficient to meet the City's Year 2035 potable water demands (33,600 af/yr) and the Project's projected 2035 recycled water demands (6,234 af/yr). Existing and planned additional water supply would be sufficient to meet water demand for any hydrologic conditions to the year 2035. As stated, for all hydrologic conditions, the City's existing and additional water supplies are sufficient to meet the City's Year 2035 water demands. No water supply shortages are anticipated for any hydrologic conditions based on Year 2035 water demands. Therefore impacts by the Project would be of a *Less-than-significant* level regarding water supply. Refer to Table 4.12-11, *Tracy Hills WSA-Water Supply vs. Demand (2035 Conditions).*

Table 4.12-11: Tracy Hills WSA - Water Supply vs. Demand (2035 Conditions)

Supply	Year 2035 Dry Year Water Supply Availability, af/yr		
	Normal Years	**Single Dry Years**	**Multiple Dry Years**
Potable Water Supplies			
Existing Water Supplies			
♦ USBR CVP Interim Renewal Contract	11,250	7,625	4,750
♦ USBR CVP (WSID option)	1,250	375	250
Total CVP Supplies	~~*28,550*~~*12,500*	*8,000*	*5,000*
♦ South County Water Supply Project (pre-1914 rights)	11,120	10,564	10,564
♦ Groundwater[a]	2,500	9,000	9,000
♦ BBID (pre-1914)[b]	2,430	2,430	2,430
♦ Semitropic Water Storage Bank (Permanent Agreement)[c]	--	~~3,500~~3,500	~~3,500~~3,500
♦ Aquifer Storage and Recovery	--	3,000	3,000
Subtotal Existing Potable Water Supplies	*28,550*	~~*33,494*~~*36,494*	~~*30,494*~~*33,494*
Additional Planned Future Water Supplies			
♦ USBR CVP (BBID contract)	~~5,500~~5,500	~~1,650~~1,650	~~1,100~~1,100
♦ Additional SCWSP (pre-1914)	1,880	1,786	1,786
♦ Additional Semitropic Water Storage Bank[c]	--	500	500
♦ ~~Aquifer Storage and Recovery[c]~~	~~--~~	~~3,000~~	~~3,000~~
Subtotal Additional Planned Future Potable Water Supplies	~~*7,380*~~*7,380*	~~*6,936*~~*3,936*	~~*6,386*~~*3,386*
Total Potable Water Supply	~~35,930~~35,930	~~40,430~~40,430	~~36,880~~36,880
Projected 2035 Potable Water Demand[c]	~~33,600~~33,600	~~33,600~~33,600	~~33,600~~33,600
Potable Water Supply Shortfall	0	0	0
Non-Potable Water Supplies			
Additional Planned Future Water Supplies			
♦ Recycled Water[e]	~~22,500~~22,500	~~22,500~~22,500	~~22,500~~22,500
Subtotal Additional Planned Future Non-Potable Water Supplies	22,500~~*22,500*~~	22,500~~*22,500*~~	22,500~~*22,500*~~
Total Recycled Water Supply[d]	22,500~~22,500~~	22,500~~22,500~~	22,500~~22,500~~
Projected 2035 Recycled Water Demand[d]	~~6,234~~6,234	~~6,234~~6,234	~~6,234~~6,234
Recycled Water Supply Shortfall	0	0	0

[a] The City is planning to decrease groundwater use to 2,500 af/yr by the year 2015 (based on normal year supply conditions). However, studies described in this WSA have indicated that up to 9,000 af/yr of groundwater is available to the City to make up for shortfalls in the event of a severe drought or other water shortage.

[b] The water supply available from BBID (pre-1914) is up to 4,500 af/yr; however, this supply can only be used with the BBID Raw Water Service Area 2 that is also within the CVP Consolidated Place of Use. Quantity shown is amount needed to meet potable water demands within the Project Area within the BBID Raw Water Service Area 2 and also with the CVP Consolidated Place of Use under all hydrologic conditions (2,430 af/yr).

[c] Supply from Semitropic Water Storage Bank and Aquifer Storage and Recovery (ASR) assumed to be zero during normal years. An additional 500 af/yr of Semitropic supplies will be needed in the future to supplement water supplies for the Project.

[d] Projected 2035 water demand includes projected water demand for the Project.

[e] Tables 15 and 17, City of Tracy 2010 Urban Water Management Plan, May 2011. Actual recycled water demands may be higher based on actual recycled water use within future projects. Recycled water demand shown is 6,040 af/yr (per Table 17 of 2010 UWMP) + additional demand for Ellis (125 af/yr with UAFW) + additional demand for Tracy Hills (69 af/yr with UAFW) (see Table 5) = 6,234 af/yr.

Water facility needs for the ultimate buildout of the Project include an expansion and upgrade of the City of Tracy water treatment plant, storage facilities, transmission, and distribution facilities, and use of BBID water conveyed via the Delta Mendota Canal.

Water supply, treatment, and distribution facilities would be constructed in phases as required to meet the water demand of the Project. The first phase of the Project would involve construction of new transmission/distribution and storage facilities as described below.

First phase water improvements shall include construction of the conveyance pipes from the City Water Treatment Plant, and development of an at grade storage tank and pump system. First Phase development would occur at the northwest quadrant of Corral Hollow Road and Interstate 580. First phase water improvements shall include construction of the conveyance pipes from the City Water Treatment Plant. To facilitate future phases, some components shall be oversized or fully constructed in the first phase. Additional transmission/distribution and storage facilities shall be constructed as needed. Development south of I-580 will include elevated storage tanks.

Also, when available from the City of Tracy, recycled water from the wastewater treatment plant would be utilized. A "purple pipe" system would be installed in all phases of development so that recycled water, when available, can ultimately be conveyed and distributed throughout the Project Area.

New potable water conveyance pipelines are proposed to serve both existing urban and municipal needs as well as the Project, in accordance with the WSMP. The proposed pipelines would be installed within public right of way unless specifically approved by the City engineer. These improvements would also be developed to service areas largely outside the THSP Area. The proposed pipelines are analyzed separately from this Draft EIR and are now in the process of undergoing more detailed environmental review and analysis on a site-specific basis as part of the City's Capital Improvement Program.

The environmental impacts that may result from the construction of the above mentioned facilities were evaluated in the environmental review process for adoption of the Water System Master Plan and are also evaluated in the Air Quality, Biology, Noise, and Cultural Resources sections of this EIR.

As described above, the Project's water system demands would not exceed the City's existing and planned water system facilities described in the Urban Water ~~Master~~ Management Plan and the WSMP. The Project would require the construction of the proposed pipeline infrastructure improvements described above and in the WSMP. The Project is considered to have a *Potentially* significant impact due to the need for infrastructure improvements.

The City is currently conducting environmental analysis for several proposed offsite public utility improvements that would partially service the THSP Project. It was determined that these improvements would be referenced within this document but analyzed separately from this Draft EIR. This is because the improvements are both identified in and required as part of implementation of the City's infrastructure master plans. They have been addressed at a programmatic level in the respective Wastewater, and Water System Master Plan Mitigated Negative Declarations on file with the City of Tracy. They are now in the process of undergoing more detailed environmental review and analysis on a site-specific basis as part of the City's Capital Improvement Program

(CIP). These improvements (identified in Section 3.3.2 of Chapter 2, *Project Description)* would also be developed to service areas largely outside the THSP Project Area.

The potential environmental impacts from construction and operation of the WSMP improvements were evaluated and mitigated through the environmental review process for the WSMP and will be further analyzed in the site specific environmental analysis currently being performed for offsite infrastructure. To avoid additional impacts and ensure construction, the Project shall be required to pay appropriate development impact fees. Payment of these development impact fees would reduce this potentially significant impact to a *Less-than-significant* level.

WASTEWATER

Wastewater Demand

The projected wastewater demand for the Project is estimated in Table 4.12-12, *Projected Wastewater Demand.*

Table 4.12-12: Projected Wastewater Demand

	Average Dry Weather Flow	Peak Wet Weather Flow
Phase 1a Demand	+/- .39 mgd	+/- 1.04 mgd
Buildout Demand	+/- 2.08 mgd	+/- 5.69 mgd

Source: Tracy Hills Sanitary Sewer Study, December 2013, Revised September 2014.

Wastewater Treatment and Conveyance Facilities

Wastewater generated from the Tracy Hills development would be treated at the City Wastewater Treatment Plant (WWTP) ~~plant~~ as per the WWMP. The THSP calls for off-site improvements including main sewer conveyance pipelines to be installed from approximately W. Schulte Road, south in Corral Hollow Road to the Project. The Project would gravity flow to a proposed sewer pump station to be located within Phase 1a. The pump station would convey wastewater via force main north in Corral Hollow Road to the California Aqueduct where it would gravity flow north. All conveyance systems would be sized and installed in accordance with the WWMP and all applicable City requirements. Off-site improvements are proposed in accordance with the WWMP and are presently under environmental review separate from this Recirculated Draft SEIR.

On-site wastewater shall be conveyed to a City pump station to be built within Phase 1a. This facility would pump wastewater up Corral Hollow Road to a point after which gravity would convey the Project wastewater to the City treatment plant.

The impacts associated with expanding and improving the City's WWTP were evaluated in the Draft and Final EIR (2002) for the Tracy Wastewater Treatment Plant Expansion (SCH No. 2000012039). Both on- and off-site improvements necessary to serve the Project have been planned for in the WWMP and evaluated by the City though related environmental documents. Off-site improvements are presently undergoing a separate environmental analysis by the City though the WWMP and its related environmental documentation.

Treatment Capacity

The Project would utilize existing treatment capacity for initial development, however treatment capacity is limited and additional or expanded facilities, as identified in the WWMP, may be necessary to serve the Project as well as other developments within the City and its SOI. The WWMP specifically identifies potential options that may include expanded outfall capacity to Old River as well as expanded treatment capacity at the WWTP.

The City's plans to expand and improve its treatment facilities would be completed over time as the City and its SOI is built out and would provide for expanded infrastructure capacities as well as improved quality of the discharged effluent. The impacts associated with expanding and improving the City's treatment facilities was evaluated in the Draft and Final EIR (2002) for the Tracy Wastewater Treatment Plant Expansion (SCH No. 2000012039).

The Development Agreement (DA) between the City of Tracy and the Project Applicant provides that the Applicant shall commit funding for Wastewater Treatment Expansion. In return, the City would provide wastewater service to the Project in accordance with the THSP and WWMP as each development occurs on the Project so long as the Applicant remains in compliance with the terms of the THSP and this EIR. Because the DA provides for the expansion of wastewater facilities in coordination with development of the Project, the Project does not create a demand for wastewater treatment that is not available; however, without the payment of applicable impact fees, the impact of the Project would be *Significant.*

Conveyance Capacity

The City's WWMP calls for main sewer conveyance pipelines to be installed from approximately W. Schulte Road, south in Corral Hollow Road to the project. Conveyance pipes would be sized and installed according to the WWTP and other applicable regulations. The impacts associated with expanding and improving the City's treatment and conveyance facilities were evaluated in the Draft and Final EIR (2002) for the Tracy Wastewater Treatment Plant Expansion (SCH No. 2000012039).

Because the planned conveyance system for the Project has been planned for and evaluated by the City though the WWMP and its related environmental documentation, there is sufficient conveyance capacity to serve both the initial phase of development and buildout. The conveyance system would be installed in phases in conjunction with the corresponding phases of development. Therefore, the Project would have a *Less-than-significant* impact on conveyance capacity.

RWQCB Wastewater Treatment Requirements

The NPDES program, as described in the regulatory framework above, requires all dischargers obtain a permit to release effluent into surface waters. The City's WWTP releases effluent into the Old River and therefore is subject to RWQCB permitting requirements for NPDES. At the present time, the City is in compliance with applicable discharge requirements, although, to accommodate future growth including the Project, the City plans to implement a wastewater treatment system upgrade as outlined in the WWMP.

The Project would be using the City's wastewater treatment facilities, as discussed above. Anticipated wastewater generated by the Project is not expected to exceed any wastewater treatment requirements of the applicable RWQCB. Therefore, there would be a *Less-than-significant* impact.

SOLID WASTE

Solid waste from the Project will be accommodated at the City materials recovery/transfer facility. The facility has planned to accommodate the City of Tracy population which includes Tracy Hills in accordance with the County Solid Waste Master Plan. Solid waste would eventually be hauled from the transfer station to another County landfill east of Tracy.

The City of Tracy uses franchise haulers to provide solid waste collection services to its residents. Based upon the current generation factor of 7.52 pounds per person per day (the residential, commercial, industrial average), solid waste production will be approximately 54 tons per day.

As discussed above, the Project would be served by the City recovery/transfer facility which has sufficient permitted capacity for the buildout of the Project. Additionally, General Plan Goal PF-5 and its associated polices (listed above under regulatory framework) would apply to the Project and would help reduce Project-related solid waste volume. Therefore, the Project would result in a *Less-than-significant* impact to landfill capacity.

The City has implemented 43 waste diversion programs and is currently exceeding its State residential disposal rate target by over 50 percent.[31] The waste diversion programs, together with adherence to the CALGreen Code as described above and the Development Review process, are sufficient to ensure that implementation of the Project would not compromise the ability to meet or perform better than the State-mandated target. Therefore, the Project would comply with applicable statutes and regulations and the impact would be *Less-than-significant.*

CUMULATIVE IMPACT ANALYSIS

The cumulative analysis considers the Project in the context of the City's General Plan, which takes into account the entire incorporated area of Tracy and its Sphere of Influence. Cumulative impacts to public services and utilities would be impacts that result from incremental changes that, in aggregate, would result in significant impacts to public services and utilities within the Tracy area.

FIRE PROTECTION

The General Plan EIR analyzed the long-term development of the City of Tracy and found that no significant impacts to fire protection and emergency medical service facilities would occur with implementation of the General Plan. As this is the baseline for the evaluation of cumulative impacts and the Project would not result in substantial growth beyond that envisioned by the General Plan, nor were any significant impacts found relative to the provision of public services, no significant cumulative impacts relative to fire protection are expected.

POLICE PROTECTION

The General Plan EIR analyzed the long-term development of the City of Tracy and found that no significant impacts to police protection would occur with implementation of the General Plan. As this is the baseline for the evaluation of cumulative impacts and the Project would not result in substantial growth beyond that envisioned by the General Plan, nor were any significant impacts found relative to the provision of public services, cumulative impacts relative to police protection are *Less-than-significant.*

SCHOOLS

The General Plan EIR analyzed the long-term development of the City of Tracy and found that no significant impacts to ~~police protection~~schools would occur with implementation of the General Plan. As this is the baseline for the evaluation of cumulative impacts and the Project would not result in substantial growth beyond that envisioned by the General Plan, nor were any significant impacts found relative to the provision of school facilities, cumulative impacts relative to school facilities are *Less-than-significant.*

[31]CalRecycle, http://www.calrecycle.ca.gov/lgcentral/Reports/OnLineDisposalRateCalc.aspx?ReportingEntityID=1493&ReportYear=2011&Mode=Edit, accessed on March 13, 2014.

PARKS AND RECREATION

Each development would be required to pay any applicable impact fees as part of the development review process, or provide parkland, in accordance with the City's Parks Master Plan, thereby mitigating individual impacts. The Project would not substantially increase the use of parks and recreational facilities or demand for recreation facilities and services, as discussed above. However, maintenance and capital replacement costs should be accounted for when new facilities are developed.

The City will likely need to expand and install additional parks and other recreational facilities to meet increased demand caused by cumulative growth. The City has prepared the Citywide Parks and Facilities Master Plan as a mechanism of estimating future needs for park and recreation facilities and requiring project applicants in Tracy to pay for their fair share. The CPFMP establishes impact fees and project applicants would be required to dedicate land or pay the fees, in accordance with Section 13.12.080 of the Tracy Municipal Code. New parks and recreational facilities are anticipated to be provided, in accordance with the CPFMP, the Parks Master Plan, and other adopted City policies and standards, as the City develops. As a result, the incremental development of the Project would not substantially affect the parks to resident ratio in Tracy.

There is a cumulative demand on parks and recreational facilities given the future growth of the City, the City has planned for the expected demand through the implementation of the Parks Master Plan and the CPFMP. Therefore, the cumulative impact would be *Less-than-significant*.

WATER SUPPLY

The City assessed future water demand for its service area, which includes the City of Tracy SOI, in the UWMP and the WSMP. The UWMP determined that the water supply will be sufficient to accommodate future demand in the service area through buildout of the Tracy General Plan through 2035. This analysis is supported by the Project-specific WSA, which came to the same conclusion. The UWMP, the WSMP, and WSA assessments considered reasonably foreseeable projects. The Project would not contribute considerably to a cumulatively significant impact to water supply at present or in the context of future development, as it was already planned for in the above mentioned analyses. Therefore, the Project would result in a *Less-than-significant* cumulative impact on water supply.

WASTEWATER

The Project would increase the volume of wastewater for treatment at the Tracy WWTP, however, this increase would not exceed the planned expansion capacity stated in the WWMP. Additionally, with the implementation of mitigation measures, the impacts on the City's wastewater treatment capacity and requirements would be reduced to a *Less-than-significant* level.

The WWMP identified the need for new and expanded facilities to meet the needs of existing and planned future growth in the City of Tracy and its SOI. Therefore, a cumulative impact to wastewater facilities would result if the Project, in combination with other cumulative development, is constructed.

The City's WWMP and other infrastructure master planning processes has considered and planned for existing needs and future growth to be provided for through the implementation of new and expanded facilities, the impacts of which have been evaluated by the City as part of the above mentioned master planning process.

Because the Project would require new and expanded facilities, along with other cumulative development, this would constitute a cumulatively considerable contribution to this cumulative impact.

SOLID WASTE

The Project would not result in a significant contribution to cumulative impacts relating to solid waste management or disposal. The City's 43 waste diversion programs ensure that solid waste from future development would meet or exceed California's 50 percent solid waste diversion regulations. Additionally the Project would not generate substantial waste in a manner that would cause impacts to landfill capacity. The City's materials recovery/ transfer center has sufficient capacity to serve the Project. Therefore, cumulative impacts resulting from implementation of the Project would be *Less-than-significant*.

IMPACTS AND MITIGATION MEASURES

Impact 4.12-1: **Result in potentially significant adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.**

Mitigation Measure:

4.12-1 As part of the application process for each individual development under the Specific Plan, the Project applicant shall be required to pay the applicable development impact fees.

4.12-2 Prior to issuance of the first building permit, the developer shall construct an all-whether, emergency vehicle access to all points of the Project site from Lammers Road (including crossings of the Delta Mendota Canal, Union Pacific Railroad, and California Aqueduct). The emergency vehicle access shall be available to police, fire, and all other necessary and relevant emergency responders. The design, location, and maintenance of the access shall meet City standards to the satisfaction of the Fire Chief. The access shall be continuously maintained by the developer until permanent access is developed and accepted for maintenance by the City.

4.12-3 Prior to final inspection or certificate of occupancy for the ~~200th~~ 289th house ~~or first non-residential building permit~~ within Tracy Hills, a fire station and all related equipment shall be constructed and operational to serve Tracy Hills in accordance with the Citywide Public Safety Master Plan. Additional station(s) shall subsequently be constructed and operational, the design of which shall be in accordance with the Citywide Public Safety Master Plan, and adopted standards of coverage, to the satisfaction of the Fire Chief.

Significance After Mitigation: Implementation of the above mitigation measures would reduce potential impacts on fire protection to a *Less-than-significant* level.

Impact 4.12-2: Result in potentially significant adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, or result in the need for new or physically altered law enforcement facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service levels, response times, or other performance objectives.

Mitigation Measure:

4.12-4a The Project applicant of individual projects within the THSP Project Area shall consult with the Police Department during preliminary stages of site design to review safety features, determine their adequacy, and suggest design and/or physical improvements to the proposed site plan. This is achieved through the City's development review process, which currently is coordinated with various City Departments' review of new development proposals.

4.12-5b As part of the application process for each individual development under the Specific Plan, the Project applicant shall be required to pay the applicable development impact fees.

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts on law enforcement to a *Less-than-significant* level.

Impact 4.12-3: Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause potentially significant environmental effects.

Mitigation Measure:

4.12-6 Developers of subsequent phases of the Project (beyond Phase 1a) will be required to prepare SB 221 analysis for each subsequent phase of development. ~~To ensure the construction of planned WSMP facilities, the Project shall be required to pay appropriate development impact fees as contemplated by the WSMP.~~

Significance After Mitigation: Implementation of the mitigation above would reduce potential impacts on water facilities to a *Less-than-significant* level.

Impact 4.12-4: Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause potentially significant environmental effects.

The City's master infrastructure planning process has planned for existing needs and future growth to be accommodated though the construction of new and expanded facilities, the impacts of which have been evaluated as part of the master planning process. The Draft and Final EIR for the Tracy Wastewater Treatment Plant Expansion (SCH No. 2000012039) evaluated the impacts associated with expanding and improving the

City's WWTP. Because impacts relating to wastewater for the Project have been evaluated in aforementioned EIR, no new impacts would result, and mitigation is not required.

Impact 4.12-5: Generate a demand for wastewater treatment capacity that is currently not available and thus potentially significant.

Mitigation Measure:

4.12-7a As part of the development process for each individual site-specific development under the Specific Plan, the City shall review flow monitoring, at the applicant's cost, to determine available capacity. If the City determines, based on technical and legal constraints and other relevant data, that existing capacity is available to serve the development at issue, then no further mitigation is required. However, if the City determines, based on technical and legal constraints and other relevant data, that existing capacity is not available to serve the development at issue, then the improvements as identified in the Master Plan must be constructed that are necessary to create the additional capacity required, subject to any applicable credit and/or reimbursement provisions, as determined by the City.

4.12-8b As part of the development process for each individual site-specific development under the Specific Plan, the applicant shall pay its applicable development impact fees for wastewater facilities prior to issuance of building permits.

Significance After Mitigation: Construction of the identified master plan improvements would mitigate the Project's impacts to a *Less-than-significant* level. With payment of applicable development fees impact toward master planned wastewater facilities improvements, the Project would have a *Less-than-significant* impact.

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4.13 TRAFFIC AND CIRCULATION

4.13.1 TRAFFIC STUDY METHODOLOGY AND BACKGROUND

This chapter presents the existing conditions, regulatory setting, cumulative conditions, and impact analysis for the Project, related to transportation. It includes an overview of existing transportation conditions in the transportation study area; a description of the agencies with jurisdiction over transportation in the study area, including relevant policies; and a description of the Project's impacts on transportation systems, including the methodologies used, thresholds of significance, impact identification, and mitigation measures.

The traffic analysis was prepared by Kimley-Horn to reflect the Tracy Hills Specific Plan impact on the updated 2011 City of Tracy General Plan and to characterize and identify the Existing, Project, and Cumulative Conditions with sufficient accuracy for purposes of CEQA compliance. Information in this section is based on the City of Tracy General Plan (adopted February 1, 2011) and the City of Tracy General Plan EIR (2011) the City of Tracy Citywide Roadway and Transportation Master Plan (TMP) November 2012 and Addendum, November 2013, the City of Livermore General Plan, and the Alameda County TA Travel Demand Model. Full project buildout is evaluated within the parameters of the evaluation tools. Phases of the project were also evaluated as indicated below.

The TMP was prepared pursuant to the direction in the General Plan. The TMP and subsequent TIF (transportation impact fee) Program (November 2013) determine the future roadway infrastructure and set the funding mechanisms in place for the future transportation demand in the City of Tracy.

The TMP was established for the Horizon Year 2035 to be compliant with the San Joaquin Council of Governments regional model at an intersection and street segment detail level. Buildout of the City was evaluated for right-of-way (ROW) needs only in the TMP. This was due to the speculative nature of when and how future development would occur beyond 2035 and the fact that regional travel demand is currently not forecasted to go beyond 2035 by either the City of Tracy or the SJCOG. The analysis of the impacts relating to the construction and operation of the Project at the horizon year (2035) is performed on an intersection level, and the analysis of the impacts relating to the construction and operation of the Project at full buildout (Project Buildout) is performed on a roadway segment level. This is because the Project is not expected to be fully built out by the horizon year of 2035. The longer horizon for full Project Buildout makes intersection-level forecasting infeasible for several reasons, including: (1) a longer-term travel demand model is not available; (2) there are many variables about how the rest of the region would develop both in terms of land use and infrastructure; and (3) engineering design of roadways for the network under Project Buildout conditions is not currently available. As such, broad assumptions for turning movements and interchange layouts are made for the interchange improvements at Project Buildout along the I-580, per Caltrans requirements. From a daily trip generation perspective, approximately 83% of the Project is expected to be developed by 2035 (see Table 4.13-17 and Table 4.13-18). The remainder of the project will develop after 2035. This rate of development is based on the City of Tracy General Plan built assumptions for 2035 and estimates provided by the Applicant.

Unlike detailed intersection-level forecasts, roadway segment forecasts can be projected for the Project Buildout scenario. The roadway segment forecasts are useful metrics of Project traffic impacts because, in urban conditions, when segment operations fail, intersection operations would also fail because intersections govern the roadway network capacity.

Based on the above considerations, the following scenarios are analyzed in this EIR:

- Existing Conditions:
- Existing Plus Project Development (approximately 83%) in 2035
- Existing Plus Project Buildout
- Cumulative Conditions (2035)
- Cumulative Plus Project Development (approximately 83%) in 2035
- Cumulative Plus Project Buildout

For all the above cases, the following analyses are studied:

- Intersection level of service
- Roadway segments
- Freeway segments
- Ramp Merge/Diverge

A Phase 1a Vesting Tentative Map Scenario was also evaluated, including triggers for required improvements along Corral Hollow Road, where this initial phase of the Project would be assessed.

The Cumulative scenario (2035) is consistent with the "Preferred" alternative of the 2011 Tracy General Plan EIR.

Outside the Tracy Planning Area, the development assumptions used in preparing the traffic forecasts are consistent with the 2035 scenario of the SJCOG traffic model, as updated for the 2011 Regional Transportation Plan.

The residential dwelling unit growth assumption for the cumulative development assumptions within the City's Sphere of Influence (SOI) is consistent with the City's Growth Management Ordinance (GMO) limits which residential permits to an average of 600 units per year, and a maximum of 750 units in any single year. The employment level being analyzed is consistent with the 2011 Tracy General Plan. These development assumptions were integrated into the Tracy Citywide Traffic Model to estimate future traffic generation and future cumulative travel within the City of Tracy and across the Altamont Pass into Alameda County, and into San Joaquin County along I-205 and I-580.

Trips generated by development projects in Tracy, typically have origins and destinations inside and outside of the City boundary. Project trips to and from Alameda County are analyzed in this study and the 2014 Alameda County Transportation Commission (Alameda CTC) travel demand model update (2010 base year), was used in the distribution of trips to the County and to BART stations in the County.

4.13.2 REGULATORY FRAMEWORK

STATE OF CALIFORNIA

Caltrans has jurisdiction over I-205 and I-580 and related ramp terminals at interchanges that provide access to the local street system. Caltrans endeavors to maintain a target level of service (LOS) at the transition between LOS C and LOS D on State highway facilities; however, the agency acknowledges that this may not always be feasible, particularly in urban environments where right-of-way is constrained. Where maintaining LOS C/D is not feasible, Caltrans attempts to maintain the existing LOS when assessing the impact of new development.

SAN JOAQUIN COUNTY

SJCOG REGIONAL TRANSPORTATION PLAN

The San Joaquin Council of Governments (SJCOG) recently prepared the 2014 Regional Transportation Plan (RTP) and Sustainable Communities Strategy. The RTP reflects a region-specific, balanced multimodal plan that not only achieves the intent and promise of SB 375, but can be implemented through existing and planned programs or policies. The Plan comprises recent household and job growth forecasts, market demand and economic studies, and transportation studies including SJCOG's Smart Growth Transit Oriented Development Plan, Goods Movement Study, and Regional Bike/Pedestrian/Safe Routes to School Master Plan.

The 2014 RTP policies are as follows:

A. Enhance the Environment for Existing and Future Generations and Conserve Energy
B. Maximize Mobility and Accessibility
C. Increase Safety and Security
D. Preserve the Efficiency of the Existing Transportation System
E. Support Economic Vitality
F. Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts
G. Maximize Cost Effectiveness
H. Improve the Quality of Life for Residents

The RTP rates proposed infrastructure projects with regional significance against these policies and associated performance indicators as part of the planning process. Project costs and potential financing sources are also estimated and tracked in the RTP. Planned projects of regional significance from the 2014 document in the study area include:

1. The construction of HOV lanes and mainline highway widening from 6 to 8 lanes on I-205 between I-580 and I-5;
2. The construction of HOV lanes and mainline highway widening from 9 to 12 lanes on I-5 between I-205 and SR-120;
3. The construction of new or modification of existing interchanges along I-205 at Lammers Road/Eleventh Street, Grant Line Road, and Paradise Road/Chrisman Road;
4. The construction of new or modification of existing interchanges along I-580 at Corral Hollow Road and Lammers Road;
5. Replacement of existing Tracy East Overhead Bridge at UPRR along Eleventh Street;
6. Widening MacArthur Drive from 2 to 4 lanes between Valpico and Schulte Road;

7. Installation of a traffic signal and/or roundabout improvements at Eleventh Street and MacArthur Drive;
8. Widening Corral Hollow from 2 to 4 lanes between Parkside Drive and Linne Road;
9. Extension of the 4 lane roadway along Schulte Road from Faith Lane (Mabel Josephine Drive) to Lammers Road;
10. Widening Corral Hollow from 2 to 4 lanes including ROW and construction of two bridges between Linne Road and I-580;
11. Extension of the 4 lane roadway along MacArthur Drive from Mt. Diablo Road to Eleventh Street;
12. Enhancing ACE service through Lathrop River Islands and Downtown Tracy;
13. Construction of Class I Bike Paths to comprise the Corral Hollow Path along Corral Hollow Road from Cypress Drive to the California Aqueduct and from the UPRR Trail to W. Eleventh Street.

SAN JOAQUIN COUNTY TRAVEL DEMAND MANAGEMENT PLAN

The San Joaquin County Travel Demand Management (TDM) Plan provides a framework between SJCOG and local agencies in San Joaquin County for coordination on issues of demand management and how to more efficiently make use of the existing transportation system, TDM strategies, and their effectiveness for different land uses and new development contexts. Strategies include financial incentives, such as roadway pricing, parking cash-out, and employee transit subsidies; system incentives, such as expanding high occupancy vehicle (HOV) lanes, park and ride, and bicycle facilities; and demand incentives, such as expanding rideshare programs and telecommuting options for workers. All strategies are intended to reduce vehicle demand on the roadway system. The San Joaquin County Congestion Management Program establishes two performance measures for travel demand management:

- Employer-Based Trip Reduction Programs which quantifies participation by employers located within San Joaquin County in employee trip reduction programs. It requires employers of 100 or more full-time employees to participate in San Joaquin Valley Air Pollution Control District's (SJVAPCD) eTRIP program (Rule 9410).
- Local Agency Efforts which is designed to track local jurisdictions' participation in implementing their Level I Travel Demand Management responsibilities as defined in SJCOG's Travel Demand Management Plan (August, 2010).

2012 SAN JOAQUIN COUNTY REGIONAL CONGESTION MANAGEMENT PROGRAM

The San Joaquin County Regional Congestion Management Program (RCMP) is state-mandated and is a mechanism employing growth management techniques, including traffic level of service requirements, development mitigation programs, transportation systems management, and capital improvement programming, for the purpose of controlling and/or reducing the cumulative regional impacts of development. Caltrans utilizes the SJCOG LOS standards on the freeway segments within San Joaquin County. The following provisions of the CMP are relevant to the THSP:

- The CMP system (Figure 4.13-1, *CMP Roadways Map*) includes Interstate 580, Interstate 205, Eleventh Street, Lammers Road, Corral Hollow Road, Linne Road, and Tracy Boulevard north of Eleventh Street; LOS thresholds for local freeways and roadway segments are set at "D."

- The CMP system includes the following intersections:
  - Tracy Boulevard / Interstate 205 Ramps (WB)
  - Tracy Boulevard / Interstate 205 Ramps (EB)
  - Tracy Boulevard / Eleventh Street
  - Eleventh Street / Lammers Road
  - Eleventh Street / Corral Hollow Road
  - Linne Road / Corral Hollow Road
  - Corral Hollow Road / Interstate 580 Ramps (WB)
  - Corral Hollow Road / Interstate 580 Ramps (EB)

  LOS thresholds for these intersections are set at "D."
- A proposed development would have a significant impact to the network if for any RCMP roadway currently operating at LOS D or better under No Project conditions operates at LOS E or F under project-added conditions.

The CMP requires a deficiency plan if a roadway segment LOS falls below LOS "D" after calculating required exemptions for a particular project. A deficiency plan identifies mitigations to alleviate a roadway segment of its deficiency through capital improvements or implementation of system-wide improvements to benefit circulation quality. The two primary purposes of a deficiency plan are to ensure a jurisdiction would not be found noncompliant with the RCMP by exceeding its LOS standard and secondly, to increase the funding priority of any improvement identified through the deficiency planning process.

SAN JOAQUIN COG CAPITAL IMPROVEMENT PROGRAM

The SJCOG RCMP details the Capital Improvement Program (CIP) which is the action plan for the RCMP which provides a framework for the funding and implementation of projects that maintain or improve the transportation performance standards of the RCMP. SJCOG is required to adopt a seven-year CIP every odd numbered year which is intended to maintain or mitigate transportation impacts to the region in addition to conforming to transportation-related vehicle emission air quality mitigation measures. All projects in the Regional Transportation Improvement Program (RTIP) must first be listed in the CIP (this applies to most state-funded projects).

SAN JOAQUIN COUNTY GENERAL PLAN

The San Joaquin County General Plan includes a range of objectives and policies that address the provision of adequate roadway, transit, and bicycle systems. This policy direction applies to areas outside the incorporated City of Tracy city limits. The County of San Joaquin has established LOS D as the minimum acceptable LOS for roadway and intersection operations.

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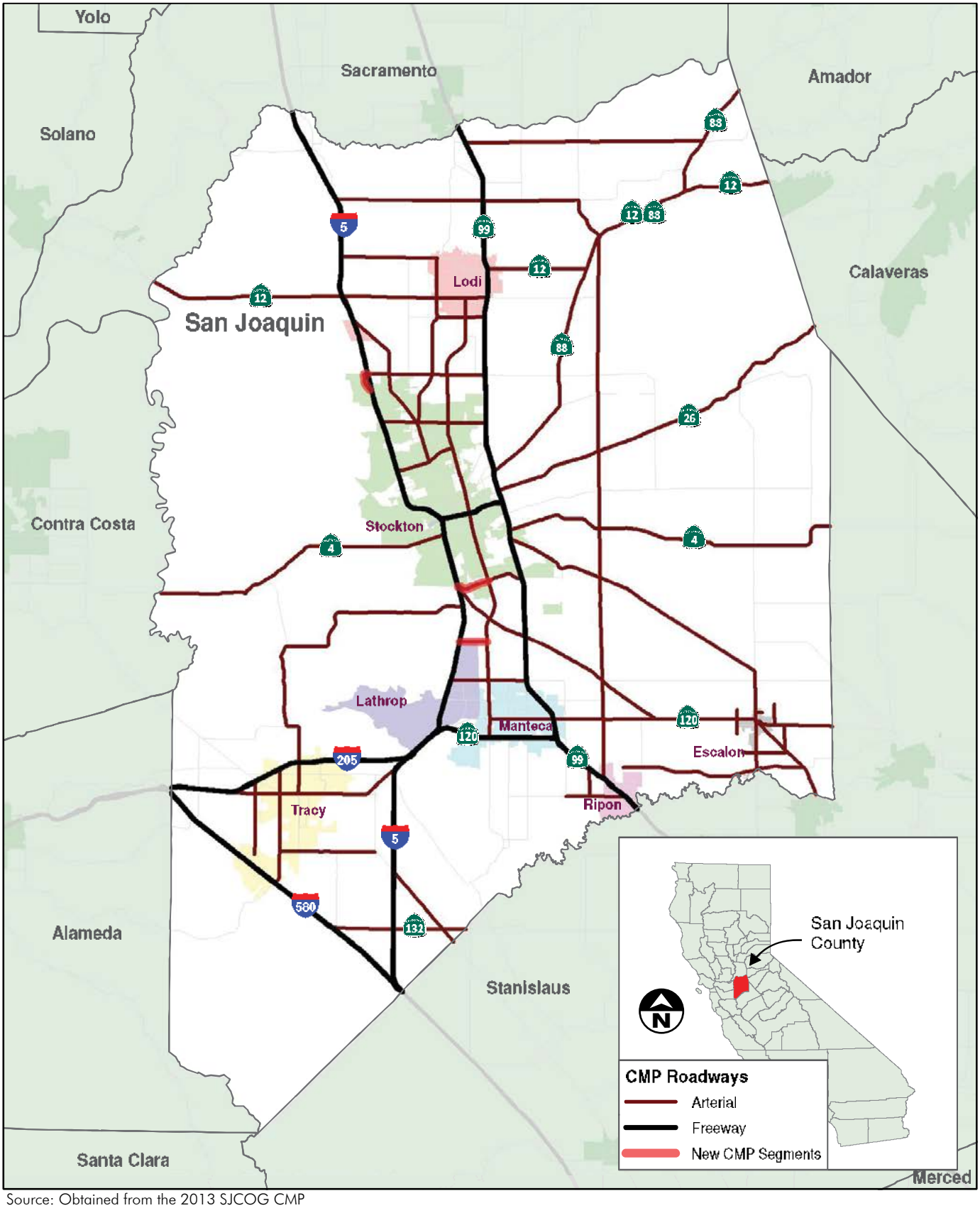

Source: Obtained from the 2013 SJCOG CMP

FIGURE 4.13-1
SJCOG CMP Roadway Map

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CITY OF TRACY

CITY OF TRACY GENERAL PLAN

The General Plan Circulation Element identifies the location and extent of existing and planned circulation and transportation facilities, consistent with the existing and planned land uses described in the Land Use Element. Relevant objectives and policies related to roadways and circulation are listed below.

Objective CIR-1.1: Implement a hierarchical street system in which each street serves a specific, primary function and is sensitive to the context of the land uses served.

P1. The City should develop context-based street designs that allow for variations based on the expected function and location of the facility, and the surrounding land use context. These context-sensitive designs should have the following aims:

- Create aesthetically attractive streetscapes.
- Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians and bicyclists.

P2. The City shall preserve rights-of-way needed for future roadway and freeway interchange improvements through dedication or acquisition as adjacent properties develop or redevelop.

P3. The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.

Objective CIR-1.2: Provide a high level of street connectivity.

P1. The City shall ensure that the street system results in a high level of connectivity, especially between residences and common local destinations, such as schools, Village Centers, retail areas and parks. The standard for roadway (vehicular) connectivity is defined as appropriate spacing of arterials and collectors and local roads as detailed above in Section B of this Element "Roadway Classifications and Standards."

P2. The City shall implement a connected street pattern with multiple route options for vehicles, bikes and pedestrians.

P3. New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.

P4. The City should develop residential street alignments and designs that provide connectivity while discouraging high speed cut-through traffic.

P5. New development shall be designed with a grid or modified grid pattern to facilitate traffic flows and to provide multiple connections to arterial streets.

Objective CIR-1.3 Adopt and enforce LOS standards that provide a high level of mobility and accessibility, for all modes, for residents and workers.

P1. To the extent feasible, the City shall strive for LOS D on all streets and intersections, with the LOS standard for each facility to be defined in the Transportation Master Plan in accordance with the opportunities and constraints identified through the traffic projections and analysis performed for that Plan. The following exceptions to the LOS D standard may be allowed:

- LOS E or lower shall be allowed on streets and at intersections within one-quarter (1/4) mile of any freeway. This lower standard is intended to discourage inter-regional traffic from using Tracy streets.
- LOS E or lower shall be allowed in the Downtown and Bowtie area of Tracy, in order to create a pedestrian-friendly urban design character and densities necessary to support transit, bicycling and walking.

P2. The City may allow individual locations to fall below the City's LOS standards in instances where the construction of physical improvements would be infeasible, prohibitively expensive, significantly impact adjacent properties or the environment, or have a significant adverse effect on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience.

P6. For project-specific development approvals, the LOS at major street intersections shall be determined based on the direct estimation of peak-hour conditions and should reflect the average condition prevailing throughout the peak hour of a typical weekday for all traffic using the intersection.

P7. Traffic studies for new developments within the City may be prepared if necessary and appropriate to determine the impacts of the projects traffic on the transportation system.

Objective CIR-1.5 Protect residential areas from through traffic and high travel speeds by facilitating free flow of traffic on major streets.

P1. Use of local residential streets by non-local and commercial traffic shall be discouraged. The City may consider techniques such as route signs and route maps. This policy should not restrict the ability of local vehicle and non-motorized transportation to utilize residential collectors as an effort to encourage higher levels of roadway connectivity.

P2. The City shall coordinate the timing of traffic signals on arterials to facilitate traffic movement.

Objective CIR-1.6 Maximize traffic safety for automobile, transit, bicycle users, and pedestrians.

P1. The City shall design streets using context-sensitive design principles that enhance safety for all modes of travel.

P2. New development shall implement traffic calming measures where necessary so long as connectivity is not diminished.

Objective CIR-1.7 Minimize traffic-related impacts such as noise and emissions on adjacent land uses.

P1. Appropriate buffering and screening mechanisms shall be incorporated in development projects to limit the impacts associated with traffic. These buffering and screening mechanisms may include setbacks, landscaping, berms, sound walls or other methods as appropriate.

P2. Soundwalls shall only be used next to major arterials, and other high-speed, high-volume facilities in accordance with the policies in the Community Character Element.

Objective CIR-1.8 Minimize transportation-related energy use and impacts on the environment.

P1. Transportation projects shall avoid disrupting sensitive environmental resources.

P2. When possible, road construction and repair project shall use sustainable materials.
P3. The City shall encourage the use of non-motorized transportation and low-emission vehicles.

Objective CIR-2.1 Support regional planning and implementation efforts to improve interregional highways and interregional travel efficiency.

P1. The City shall continue to cooperate with regional and State agencies, including Caltrans and San Joaquin Council of Governments (SJCOG) to study, plan and fund improvements to the regional transportation system. These regional transportation improvements may include freeway widening, the construction of regional roadways, regional passenger rail expansions, additions to the existing commuter bus system and provision of the park-and-ride lots near facilities heavily used by commuters.

P2. The City should ensure that land needed for park-and-ride facilities is conserved in new development areas.

P3. The City shall work with other local jurisdictions, SJCOG, and Caltrans, to identify and develop alternative routes to allow locally generated traffic to bypass congestion on I-205 and I-580 without impacting City streets.

P4. The City shall work with the City of Lathrop and San Joaquin County to preserve a right-of-way along the existing alignment of Middle Road / Arbor Avenue north of I-205 (a.k.a. Golden Valley Parkway) for the future construction of a regional parallel to I-205. This process should determine appropriate funding mechanisms and the design of an interchange with I-205 at Chrisman Road.

Objective CIR-2.2 Discourage inter-regional travel from diverting from freeways onto Tracy streets.

P1. The City shall consider techniques, such as freeway ramp metering or traffic signal timing changes, to discourage the diversion of inter-regional travel from the freeways onto Tracy streets.

Objective CIR-3.1 Achieve a comprehensive system of citywide bikeways and pedestrian facilities.

P1. The City shall incorporate appropriate bicycle and pedestrian facilities on all roadways constructed by the City, Class I to the extent feasible.

P2. To the extent possible, the city shall separate vehicular from bicycle and pedestrian traffic on higher-speed and higher-volume roadways through the use of off-street bicycle and pedestrian facilities.

P3. The City may separate bicycle from pedestrian users on high usage bicycle and pedestrian paths

P4. The City's bicycle and pedestrian system shall have a high level of connectivity, especially between residences and common local destinations, such as schools, shopping, and parks. A higher level of bicycle and pedestrian connectivity is defined as a shorter or similar distance to common destinations for bicycles and pedestrians compared to distances for vehicles.

P5. The City shall establish a ½-mile walkability standard for residents to access goods, services, and recreational facilities.

P6. New development shall include pedestrian and bicycle facilities internal to the development and that connect to city-wide facilities, such as parks, schools and recreational corridors, as well as adjacent development and other services.

P7. New development sites for commercial, employment, educational, recreational, and park and-ride land uses shall provide bicycle parking and/or storage facilities.

Objective CIR-4.1 Promote public transit as an alternative to the automobile.

P1. The City shall promote efficient and affordable public transportation that serves all users.

P2. The City shall continue to partner with SJCOG, SJRTD, and Caltrans in efforts to locate park-and-ride lots and other transit-related facilities in the City of Tracy.

P3. The City shall continue to operate the Tracer fixed-route and paratransit transit service and expand service to new residential and non-residential areas if funding for additional service is available and is warranted by ridership demand.

P4. The City shall seek funding from regional and State and federal agencies to fund additional transit service expansions and improvements.

P5. The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal transit centers through the development and environmental review processes, if appropriate.

P6. The City shall encourage efforts for additional regional transit service, including expansion of the existing commuter bus service, and new commuter rail serve from Tracy to other areas in the region.

Objective CIR-421

P1. The City shall complete the Multi Modal Transit Center at Central Avenue and 6th Street.

P2. The City shall preserve the necessary rights-of-way by continuing the implementation of current arterial street standards and ensuring the preservation of existing rail corridors to facilitate the development of an expanded transit program in the future.

P3. The City shall encourage the expansion of transit services through consultation and cooperation with the Bay Area Rapid Transit District (BART), San Joaquin Regional Rail Commission, San Joaquin Regional Transit District, the Altamont Commuter Express (ACE), on services that expand the mobility and accessibility of transporting people, goods and services in and through Tracy and the region.

P4. The City shall develop a fully integrated multi-modal transportation system that takes into account access to employment, education, shops, medical services and that facilitates participation in social and recreational opportunities.

P5. The City shall provide efficient, effective, and coordinated transit system that maximizes use of regional, state, and federal funds.

P6. The City shall pursue economical, long term solutions to transportation problems by encouraging community designs which encourage transit use and walking, bicycling, and other non-motorized forms of transportation.

CITY OF TRACY SUSTAINABILITY ACTION PLAN

The City's Sustainability Action Plan (SAP) responds to recent state legislation on climate change and greenhouse gas reduction, and integration of transportation and land use planning. The SAP includes policies and programs designed to reduce greenhouse gas emissions generated by a range of activities, including transportation. The transportation targets include:

- Target #5a: 20 percent increase in the percentage of non-City employees who participate in travel demand management programs from 2006 baseline levels
- Target #5b: 20 percent increase in the percentage of City employees who participate in travel demand management programs from 2006 baseline levels
- Target #6a: 20 percent reduction in the community vehicle miles travelled (VMT) per capita from current (2006) levels
- Target #6b: 20 percent reduction in the municipal VMT from 2006 baseline levels

The SAP presents 21 sustainability measures within the Transportation and Land Use category, which have quantifiable effects, based on available research, on greenhouse gas production – mostly through VMT reduction, including the following measures:

- Measure T-2: Reduced parking requirements.
- Measure T-3: Support for bicycling.
- Measure T-4: Support for transit.
- Measure T-5: Smart growth, urban design, and planning.
- Measure T-13: Reduce commute trips.
- Measure T-14: Parking cash-out for employees.
- Measure T-16: Transit passes for residents and employees of new developments.

CITY OF TRACY ROADWAY AND TRANSPORTATION MASTER PLAN

The purpose of the TMP is to implement the transportation policies of the General Plan. The TMP identifies roadway improvements required at the citywide level to support the long-range buildout of the City. Roadway improvements identified include, but are not limited to alignments, cross-sections, roadway and intersection design, and access controls for expressways, arterials, collectors, and industrial streets. In addition, the TMP allocates widths for bike lanes, sidewalks, landscaped setbacks, and median widths. As development takes place, project-specific traffic analyses are utilized to determine the degree of roadway improvements required, as TMP roadway improvements are generally a subset of the ultimate roadway network required to support the buildout of the General Plan.

TRACY TRUCK ROUTE ORDINANCE

Tracy Truck Routes

All freeway interchanges, by nature, serve as truck route access locations to the City of Tracy road network. From the interchanges and freeways, regional routes continue throughout the City road network. In the vicinity of the Project, trucks can access the road network from the interchange at Interstate-580 onto Corral Hollow Road. From Corral Hollow Road the truck route follows Linne Road eastwards.

Section 3.08.290 of the City's Municipal Code establishes truck routes throughout the City restricting vehicles routes within the City with a gross vehicle weight of five tons or more, licensed commercially as a truck in the state of origin, and used for carrying goods for pickup and delivery. Vehicles meeting this requirement shall drive only on truck route designated streets except when necessary for egress and ingress by direct route to and from restricted street for the purpose of loading or unloading.

Currently there are three types of truck routes within the City of Tracy: "Through Truck Routes," "Local Truck Routes" and "STAA truck routes." These routes are indicated throughout the City with the appropriate signage specific to each route type per requirements in the Manual on Uniform Traffic Control Devices (MUTCD).

Through truck routes are defined as a route that allows any vehicle entering the City of Tracy from any point outside the City and destined for any other point located outside the City to proceed entirely through without unloading or loading freight within the City of Tracy. Existing through truck routes within the City of Tracy include:

- Arbor Road (MacArthur Drive to Holly Drive)
- Byron Road (west City limits to Lammers Road)
- Corral Hollow Road (Larch Road to Grant Line Road)
- Corral Hollow Road (Linne Road to I-580)
- Chrisman Road (North of Valpico Road portion of Chrisman Road within City limits)
- Eleventh Street (Lammers Road to the west City limits)
- Eleventh Street (MacArthur Drive to east City limits)
- Grant Line Road (West City limits to Corral Hollow Road)
- Grant Line Road (MacArthur Drive to East City limits)
- Holly Drive (Arbor Road to Larch Road)

Local truck routes are defined as a route that may not be used by any truck to move from any point outside of the City of Tracy continuously to any other point located outside the City of Tracy without unloading or loading within the City of Tracy. All local truck traffic trips must use the shortest local truck traffic route between connecting or through truck traffic routes and the origin and destination within the City. Existing local truck routes within the City of Tracy include

- Eleventh Street (Lammers Road to Tracy Boulevard)
- Eleventh Street (north leg MacArthur Drive to south leg MacArthur Drive)
- Lammers Road (Eleventh Street to 0.5 miles south of Eleventh Street) City portion
- MacArthur Drive (Eleventh Street to Sixth Street)
- MacArthur Drive (Valpico Road to Mount Diablo Avenue)
- Sixth Street (MacArthur Drive to Central Avenue)
- Tracy Boulevard (Linne Road to Valpico Road)
- Valpico Road (Tracy Boulevard to MacArthur Drive).
- MacArthur Drive (Mount Diablo Avenue to Sixth Street).

Surface Transportation Assistance Act (STAA) truck routes are assigned by Caltrans and/or the City, and include oversized trucks and require special geometric design considerations, and pavement design. The Surface Transportation Assistance Act (STAA) of 1982 authorized the establishment of a national network of highways designated for use by large trucks. On these highways, Federal width and length limits apply. The STAA allows large trucks to operate on the Interstate and certain primary routes called collectively the National Network (NN). These trucks, referred to as STAA trucks, are longer than California legal trucks. As a result, STAA trucks have a larger turning radius than most local roads can accommodate. The law allows for "reasonable access" to and from the NN for terminals, deliveries, trucks stops, repairs, and other reasons. The NN is recommended for through truck traffic (e.g. traffic that is passing through the area), and trucks are allowed to operate on truck-restricted roads if they have no other means of access to their destination.

Through the City of Tracy, I-205 is a STAA route. I-580 to the south of the City limits is also a designated STAA route. Both routes are designated as National Network STAA routes.

The City also approved the Cordes Ranch Specific Plan EIR, subsequent to the TMP adoption, and additional truck routes have been designated, which include the existing Old Schulte Road and the existing Mountain House Parkway. The City of Tracy TMP designates truck routes as indicated in Figure 2 of the TMP: City of Tracy Existing Truck Routes. The routes shown on the figure are consistent with those specified in Section 3.08.310 of the Tracy Municipal Code.

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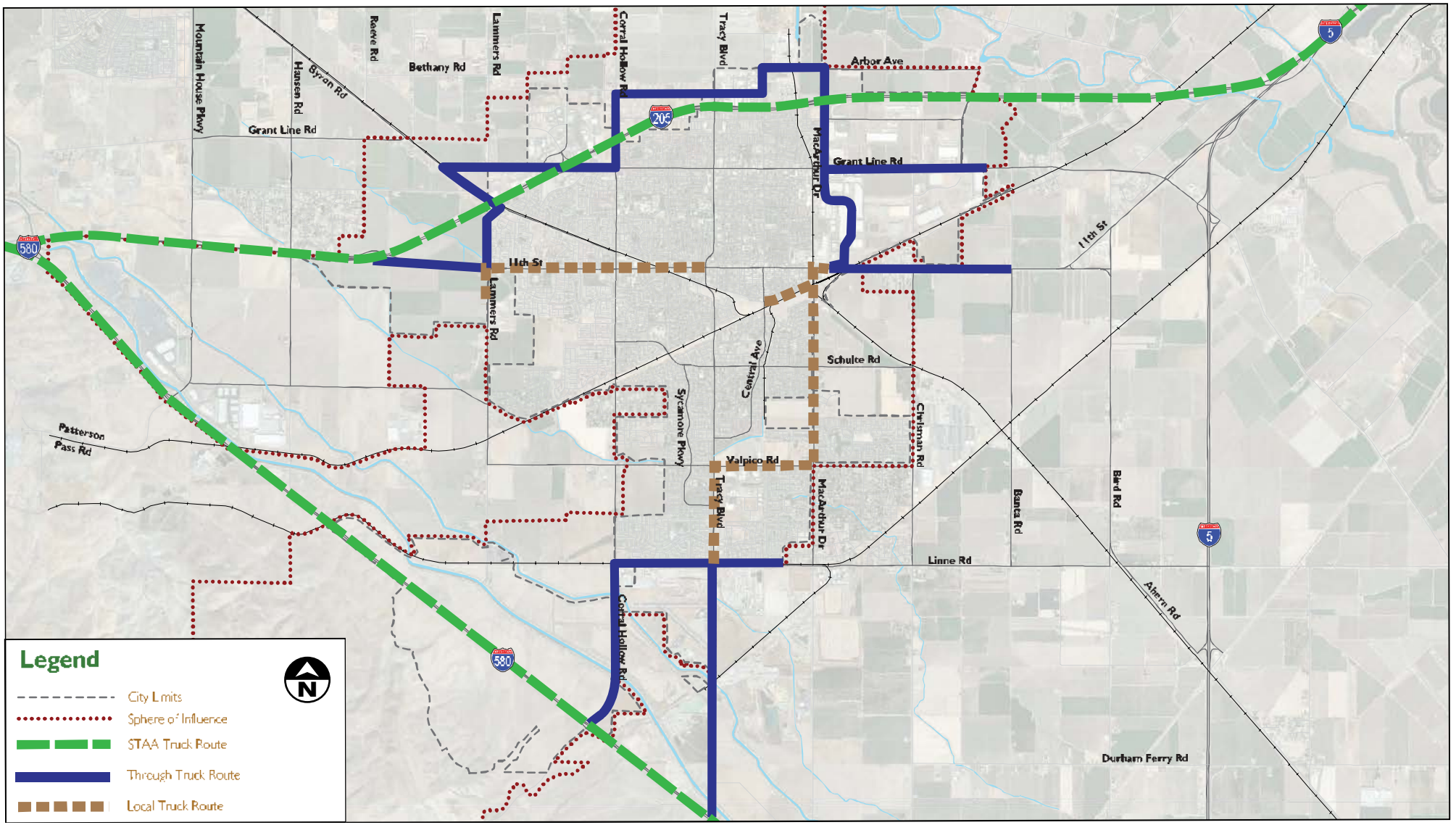

Source: Obtained from the 2012 Tracy TMP

FIGURE 4.13-2
Tracy TMP Existing Truck Routes Map

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ALAMEDA COUNTY

ALAMEDA COUNTY TRANSPORTATION COMMISSION

The Alameda County Transportation Commission (Alameda CTC) is intended to serve as a regulatory body comprised of transportation representation from around the County including all five (5) Alameda County Supervisors, two city of Oakland representatives, one City representative from each of the 13 other cities, and including AC Transit and BART. The Alameda CTC's mission is to plan, fund and implement transportation programs and projects throughout Alameda County.

ALAMEDA COUNTY CONGESTION MANAGEMENT PROGRAM

The Alameda CTC published the latest County Congestion Management Program in October 2013. The program describes the strategies to assess and monitor the performance of the County's multimodal transportation system, address congestion, improve the performance of a multimodal system, and strengthen the integration of transportation and land use planning. The program is required to incorporate five key elements: a designated CMP roadway network, level of service monitoring, a multimodal performance element, a land use analysis program, and a capital improvement program.

SETTLEMENT AGREEMENT AND JOINT POWERS AUTHORITY

Following the City's 1998 approval of the THSP, several parties filed litigation challenging the City's action. To resolve this litigation, a Settlement Agreement was reached between the City, the original applicant (Lakeside Tracy Associates), the City of Livermore, Alameda County, and the Sierra Club in December 1998. Pursuant to the Settlement Agreement, a Joint Powers Authority was formed by the three public agencies (cities of Tracy and Livermore and Alameda County) to, among other things, study and analyze regional traffic issues, identify and implement potential traffic congestion strategies, and govern the establishment, collection and expenditure of traffic fees. The Settlement Agreement established a fair and equitable arrangement by which to mitigate significant regional traffic impacts as a result of urban development in the East Alameda County Planning Area (which for purposes of the Settlement Agreement included the City of Livermore and its sphere of influence), Tracy, and Western San Joaquin County (which for purposes of the Agreement includes the undeveloped lands west of I-5).

The Settlement Agreement resulted in a fee of $1,500 per dwelling unit, with three separate $500 components, in 1998 dollars. In 2014 dollars, the fee per dwelling unit would be $1,932 per dwelling unit, with three separate $644 components. The terms of these components, as well as the purpose of these fees, is described below:

1. *$644 (in 2014 dollars) for regional transportation projects in San Joaquin County to improve I-205 or I-580*. If the City of Tracy were to subsequently adopt the San Joaquin Council of Government's (SJCOG) Regional Traffic Impact Fee (RTIF), the developer would receive a dollar for dollar credit, up to $644. The City of Tracy adopted the SJCOG fee (updated in 2005) in the amount of $2,500 per single-family dwelling unit and $1,500 per multi-family dwelling unit. The uses of the SJCOG fee include improvements to I-205 and implementing the CMP roadway system. . A dollar for dollar credit up to $644 will apply to the JPA fee if the applicant pays the SJCOG fees.

2. *$644 (in 2014 dollars) for regional transportation improvement projects within San Joaquin County for reducing the number of trips on I-205 or I-580 bound for Alameda County on I-580 or diverting or reducing trips on Corral Hollow/Tesla Road, Patterson Pass Road, and/or Grant Line and Old Altamont Pass Roads.* It is noted that an ideal use of these funds would be to improve facilities and services on the Altamont Commute Express (ACE). In the event that Lakeside Tracy Associates (LTA) or its successor-in-interest to the project undertakes any of the following trip reduction or Transportation Demand Management (TDM) Practices such as a commuter subscription bus service, carpool/vanpool subsidies, ride share matching, or other examples listed in the Settlement Agreement, it shall receive an automatic dollar for dollar credit for the costs thereof against the portion of this $644 fee (in 2014 dollars). The fee credit portion for TDM measures, up to $644 (2014 dollars) per residential unit, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

3. *$644 (2014 dollars) for transportation improvement projects or trip reduction projects within Alameda County*. The Settlement Agreement included a specific list of eligible projects:
   - I-580 HOV Lanes between Santa Rita Road and Greenville Road
   - State Route 84 Expressway
   - Isabel Route 84/I-580 Interchange
   - I-680 HOV Lane Improvements
   - Altamont Commuter Rail Operating Costs and Track Improvements
   - Funding Truck Climbing, truck bypass, or HOV lanes on I-580 through Altamont Pass
   - Rural Road Improvements (Tesla Road, Patterson Pass Road) in an amount not to exceed 20 percent of $644 (2014 dollars) fee component unit; rural road improvements shall not include improvements to increase carrying capacity of the roads.
   - BART parking and commuter parking projects

   The following projects have been partially or completely installed in Alameda County:
   - Expanded facilities (trains, stations, and tracks) for the Altamont Corridor Express
   - I-580 HOV lanes.
   - HOV lane improvements along I-680 north of I-580.
   - Improvements have been made to the Isabel-Route 84/I-580 Interchange.
   - BART Parking structures have been constructed in both East Dublin/Pleasanton and West Dublin/Pleasanton.

   The Alameda County ($644 in 2014 dollars) portion of the total fee is to be adjusted by a maximum of 2.5 percent per annum for cost of living increases as determined annually by the Engineering News Record (ENR) index for road construction costs.

   Potential projects in each of these three separate components were also identified in the Altamont Corridor Strategies 2001 study that, in addition to the fees described above, resulted from the Settlement Agreement:

- *San Joaquin County Freeway Improvements* – The top priority is the second phase improvements to the I-205/Grant Line Road interchange.
- *San Joaquin County Regional Improvements* – The top priority is the New Schulte Road extension between Corral Hollow Road and west of Lammers Road in the City of Tracy.
- *Alameda County Improvements* – The top priority is the provision of cash subsidies for the Altamont Commuter Express in Alameda County.

Additional projects that could be funded by the JPA fees include:

1. Expanding parking at the BART stations in Pleasanton/Dublin
2. Expanding the I-580 Express Bus service
3. Extending BART to Livermore
4. Expanding TDM measures per the Alameda County Transportation Commission goals and policies for reducing private vehicle travel
5. Implementing safety projects on Tesla Road, currently being planned by Alameda County

As the project builds out, JPA fees would be paid with each subsequent building permit application.

CITY OF LIVERMORE

CITY OF LIVERMORE GENERAL PLAN

The General Plan Circulation Element identifies the location and extent of existing and planned circulation and transportation facilities, consistent with the existing and planned land uses described in the Land Use Element. Relevant objectives and policies related to roadways and circulation are listed below.

Objective CIR-1.2 Minimize Adverse impacts of regional cut-through traffic

P1. The City shall recognize that increasing capacity on major streets leading to I-580 could increase regional cut-through traffic and shall maintain a balance between service local and regional needs.

P2. The City shall not base roadway system improvements solely on the local effects of regional cut-through traffic. Other issues including facility improvement costs and desirability shall be determinants to improving the intracity roadway networks.

Objective CIR-4.1 Maintain adequate level of service for all areas of the City.

P1. For purposes of development associated traffic studies, road improvement design, and capital improvement priorities, the upper limit of acceptable service at the signalized intersection shall be mid-level D (delay = 45 sec), except in the Downtown Area and near freeway interchanges.

P2. There shall be no level of service standard for the Downtown Area.

P3. The upper limit of acceptable level of service at selected intersections near freeway interchanges shall be LOS E. These intersections include:

- Intersection #L6 - Isabel Avenue/ I-580 EB ramps
- Intersection #L7 - Vasco Road / I-580 EB ramps

P4. The City accepts the need to balance competing objectives, including providing a system for safe, efficient and convenient movement of traffic; minimizing cut-through traffic and preventing or minimizing physical or environmental constraints, and therefore recognizes that certain intersections, located at freeway ramps and along east/west major streets carrying high percentages of regional cut-through traffic may exceed the established LOS. These intersections include:

- Intersection #L7 - Vasco Road / I-580 EB ramps
- Intersection #L3 - Concannon Boulevard/S. Livermore Avenue

Objective CIR-7.1 Coordinate Livermore's transportation policies and programs with other jurisdictions in the region.

P1. Support State and regional efforts to improve I-580 within the Tri-Valley with HOV lanes, auxiliary lanes, and ramp metering.

P2. Support State and regional efforts to improve State Route 84 (along Isabel Avenue) to expressway standards between I-580 and I-680.

P3. Cooperate and work with Alameda County in the planning of subregional arterial alignments. Also, cooperate and work with Contra Costa County in the planning of the Vasco Road alignment. (NLUGBI)

OVERVIEW OF CITY AND REGIONAL TRANSPORTATION FUNDING

CITY OF TRACY CITY WIDE TRAFFIC IMPACT FEE (TIF) PROGRAM AND FINANCE AND IMPLEMENTATION PLANS (FIP)

The adopted City of Tracy Traffic Impact Fee Program (TIF), (November 2013) presents probable cost estimates for the proposed Horizon Year (2035) roadway network improvements as presented in the TMP.. It includes the following facilities:

- Overpasses/Underpasses/Bridges/Culverts
- Intersections
- Roadway Segments
- Intelligent Transportation Systems
- Railroad Crossings

The TMP projects would be funded through the TIF by future developments and future grants as growth occurs in the City through General Plan Buildout. The TIF would be updated as the City General Plan is updated or major changes occur to the funding program, i.e. grant funding becomes available. If the City has not collected enough of the Citywide traffic impact fees to fund an improvement at the time an impact is caused, the Project Applicant would be required to fund the required improvement upfront and enter into a reimbursement agreement with the City for their portion of fair share payments that are attributed to other cumulative traffic growth. Improvements triggered by implementation of the proposed Project but not included in the TIF would be funded by the Project Applicant.

SAN JOAQUIN COG REGIONAL TRANSPORTATION IMPACT FEE (RTIF)

The City is a member agency of the San Joaquin Council of Governments (SJCOG), a joint powers agency consisting of the County of San Joaquin and the seven cities situated in San Joaquin County. Acting in concert,

the member agencies of SJCOG developed the regional transportation impact fee (RTIF) Program whereby the shortfall in funds needed to expand the capacity of the Regional Transportation Network could be made up in part by a RTIF Program Fee on future residential and non-residential development. The RTIF Program Fee would augment other funding sources and help ensure that needed improvements to the Regional Transportation Network are completed.

SAN JOAQUIN COUNTY TRAFFIC FEE PROGRAM

San Joaquin County has adopted a traffic mitigation fee program for the purpose of collecting fees to finance transportation facilities needed to accommodate new development within unincorporated San Joaquin County. The program includes a fee schedule for projects that occur in the unincorporated areas around Tracy. The following is the County traffic impact mitigation fee schedule, in dwelling unit equivalents (DUE) and by use type:

- Single Family (DUE) - $1,044.30
- Multi-Family (DUE) - $647.14
- Office (1KSF) - $1,555.93
- Retail Service (1KSF) - $3,916.68
- Warehouse (1KSF) - $615.60
- Service Commercial (1KSF) - $2,825.66
- Manufacturing (1KSF) - $783.81

The following Project study roadways are included in the County Traffic Fee Program:

- Eleventh Street from Chrisman Road to Lovely Road
- The intersection of Valpico Road and Corral Hollow Road.

ALAMEDA COUNTY AND THE CITY OF LIVERMORE JPA SETTLEMENT AGREEMENT FEES

- The Project would be required to pay the JPA fees as agreed to between the Cities of Livermore, Alameda County, the City of Tracy, Lakeside Tracy Associates ("LTA") and the Sierra Club. Payment of the JPA fees would supersede payment of any other fees to agencies within Alameda County, including the City of Livermore.

4.13.3 ANALYSIS METHODS

The analysis methods outlined in the Transportation Research Board's Highway Capacity Manual (HCM) (2010) were used in this study. The results of this analysis on operational performance of a roadway network are commonly described using a grading system called level of service, or LOS. LOS is a description of intersection operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The HCM methods for calculating LOS and significance criteria for signalized intersections, unsignalized intersections, and freeway segments are described below.

UNSIGNALIZED INTERSECTIONS

For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2010 HCM (Transportation Research Board, National Research Council) methodology for unsignalized intersections is utilized. For unsignalized intersections, operations are defined by the average control delay for the entire

intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. Table 4.13-1, *Level of Service Criteria for Unsignalized Intersections* summarizes the relationship between delay time and LOS for unsignalized intersections.

Table 4.13-1: Level of Service Criteria for Unsignalized Intersections

LOS	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	< 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: 2010 Highway Capacity Manual (Transportation Research Board)

SIGNALIZED INTERSECTIONS

The 2010 HCM methodology is also utilized for signalized intersections. With this methodology, operations are defined by the average control delay per vehicle (measured in seconds). For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. Table 4.13-2, *Level of Service Criteria for Signalized Intersections* summarizes the relationship between delay time and LOS for signalized intersections.

Table 4.13-2: Level of Service Criteria for Signalized Intersections

LOS	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual 2010.

FREEWAY SEGMENTS

The level of service for a freeway section is based on measures of density (passenger cars/mile/lane) and travel speed (miles per hour [MPH]). Freeway LOS is a qualitative description of traffic flow based on speed, travel time, delay, and freedom to maneuver. Table 4.13-3 *Level of Service Criteria for Freeway Segments* presents a summary of the relationship between LOS, density, and travel speed for freeway sections.

Table 4.13-3: Level of Service Criteria for Freeway Segments

LOS	Maximum Density (Passenger cars/mile/lane)	Maximum Speed (MPH)
A	11	70
B	18	70
C	26	68.2
D	35	61.5
E	45	53.3
F	> 45	< 53.3

Source: 2010 Highway Capacity Manual (Transportation Research Board).

TWO-LANE HIGHWAYS

On two-lane highways, LOS is measured as a function of percent time-spent-following and average travel speed. Percent time-spent-following is the percentage of time that a vehicle would spend following another vehicle. Percent time-spent-following represents the freedom to maneuver and the comfort and convenience of travel. The freedom to maneuver and the comfort and convenience of travel is compromised when a vehicle is forced to slow down and follow a slower moving vehicle. This typically occurs on two-lane highways where there are few opportunities to pass slower moving vehicles. Other factors that can further compromise the freedom to maneuver and the comfort and convenience of travel include curves, steep grades, and slow truck traffic. Average travel speed reflects vehicle mobility on a two-lane highway. Both measures impact the operational performance of two-lane highways that are primarily used for long-distance commute travel.

Generalized LOS tables indicating service volume thresholds based on area type, roadway facility type, and analysis time period have been produced based on extensive data collection. Table 4.13-4 *Level of Service Criteria for Two-Lane Highways* summarizes the LOS criteria for two-lane uninterrupted flow highways. The criteria presented are based on a combination of research and generalized assumptions on percent-time-following.

Table 4.13-4: Level of Service Criteria for Two-Lane Highways

LOS	Directional Capacity (vph)
A	120
B	250
C	410
D	650
E	1,060

Source: Table 4-9, Generalized Peak Hour Peak Directional Volumes (TRB's Highway Capacity Manual, 2010).

FREEWAY MERGE AND DIVERGE SEGMENTS

On freeways, all movements onto and off of the freeway are made at ramp junctions, which are designed to permit relatively high speed merging and diverging maneuvers while limiting the disruption to the main traffic stream. The geometric characteristics of ramp junctions vary. The length and type (parallel, taper) of acceleration or deceleration lane(s), the free flow speed (FFS) of both the ramp and the freeway in the vicinity of the ramp, proximity of other ramps, and other elements all affect merging and diverging operations.

Merge/diverge segment LOS is defined in terms of density for all cases of stable operations (LOS A-E). LOS F exists when the freeway demand exceeds the capacity of the upstream (diverges) or downstream (merges) freeway segment, or where the off-ramp demand exceeds the off-ramp capacity.

Table 4.13-5 summarizes the LOS criteria for freeway merge and diverge segments.

Table 4.13-5: Level of Service Criteria for Freeway Merge and Diverge Segments

LOS	Density (pc/mi/ln)	Comments
A	≤10	Unrestricted operations
B	>10-20	Merging and diverging maneuvers noticeable to drivers
C	>20-28	Influence area speeds begin to decline
D	>28-35	Influence area turbulence becomes intrusive
E	>35	Turbulence felt by virtually all drivers
F	Demand exceeds capacity	Ramp and freeway queues form

Source: Exhibit 13-2, LOS Criteria for Freeway Merge and Diverge Segments (2010 Highway Capacity Manual, Transportation Research Board).

ASSUMPTIONS

TRAFFIC CONDITIONS AND OPERATIONS

Morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) weekday peak periods were analyzed as the worst-case scenario for both freeway segments and local intersections, as general area traffic levels are highest during these weekday periods. The AM and PM peaks are the peak trip generator periods for the THSP. A Saturday analysis was considered to address potentially higher trip generation on Saturdays for the retail uses, compared to weekdays. However, when considering the trip generation analysis, traffic volumes on the surrounding roadways during a Saturday would be significantly less than during a weekday. In addition, the weekday PM peak hour would generate more traffic than a Saturday peak hour given the land use types for the THSP Area. This is due to the absence of major local (within and immediately adjacent to the Project site) Saturday retail trip generators. Therefore, a Saturday analysis is not justified for this Project. As a result, the highest one-hour weekday morning and evening volumes were used for this traffic analysis and present the highest peak-hour analysis.

FREEWAY, ROADWAY, & INTERSECTION STUDY LOCATIONS

Rational screening criteria were applied to determine which intersections and freeway elements to include in the traffic analysis. PM peak-hour trips generated by the Project site were used to screen potential study locations since the Project site would generate the most trips during the PM peak hour. The initial screening

was based on the THSP land uses and the following screening criteria: If the Project distributes generated traffic equaling or exceeding 5% of background traffic, it was selected as a study location. For Caltrans facilities, the following criteria were used to select freeway segments for analysis; this is a starting point in determining when a Traffic Impact Study (TIS) is needed:

When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis:
   a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").
   b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
   c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

The Project would add 2.42% of cumulative traffic (356 PM peak hour trips) at I-580/Isabel Avenue, 2.31% of cumulative traffic (487 PM peak hour trips) at I-5/SR 120 and 4.41% (181 PM peak hour trips) at I-580 / I-5. The I-580 freeway in Alameda County would operate at LOS F west of Isabel Avenue, I-5 would operate at LOS F at SR 120, and I-580 would operate at LOS C east of Route 132. Based on the low trip generation at these locations, additional analysis extending beyond these limits was not conducted, since daily variations in traffic volumes are higher than the addition of the project trips and the results become statistically inconsequential.

See Appendix H-2 for the calculation of project traffic onto the regional and local road network.

Below is a list of study intersections, roadway segments, and freeway segments.

Study Area Intersections (City of Tracy, San Joaquin County)

1. Corral Hollow Rd and I-580 EB Ramps
2. Corral Hollow Rd and I-580 WB Ramps
3. Corral Hollow Rd and Spine Rd*
4. Corral Hollow Rd and Linne Rd
5. Tracy Blvd and Linne Rd
6. Tracy Blvd and Valpico Rd
7. Corral Hollow Rd and Valpico Rd
8. Lammers Rd and Valpico Rd
9. Corral Hollow Rd and New Schulte Rd
10. Lammers Rd and Old Schulte Rd
11. Roundabout on Spine Rd (School and Village access)*
12. Lammers Rd and Eleventh St
13. Mountain House Pkwy and I-580 EB Ramps
14. Mountain House Pkwy and I-580 WB Ramps

15. Lammers Rd and I -580 EB Ramp
16. Lammers Rd and I-580 WB Ramp
17. Lammers Rd and Spine Rd*
18. Lammers Rd and Linne Rd
19. Corral Hollow Rd and N. Tracy Hills Rd*
20. Corral Hollow Rd and South Tracy Hills Rd*
21. Business Park Main Driveway*
22. Internal Intersection*
23. Internal Intersection*
24. Lammers Rd and Hansen Rd
25. Lammers Ext (Eleventh) and I-205 EB Ramps
26. Lammers Ext (Eleventh) and I-205 WB Ramps
27. Lammers Ext and Grant Line Rd
28. Corral Hollow Rd and Eleventh St
29. Tracy Blvd and W. Central Ave
30. Tracy Blvd and Eleventh St
31. Linne Rd and Chrisman Rd
32. Chrisman Rd and Eleventh St
33. Chrisman Rd and I-205 EB Ramps
34. Chrisman Rd and I-205 WB Ramps
35. Linne Rd and MacArthur Drive
36. Corral Hollow Rd and Tennis Ln
37. Mountain House Pkwy and Old Schulte Rd

*Denotes a project driveway

Study Area Intersections (City of Livermore, Alameda County)

L1. Greenville Road and Patterson Pass Road
L2. Greenville Road and Tesla Road
L3. Concannon Boulevard and Livermore Avenue
L4. Isabel Avenue and Concannon Boulevard
L5. Isabel Avenue and Vallecitos Road
L6. Isabel Avenue and I-580 EB Ramp
L7. Vasco Road and I-580 EB Ramps

Study Area Roadway Segments (City of Tracy, San Joaquin County)

1. Lammers Road
    a. North of Eleventh Street
    b. Eleventh Street to Old Schulte Road
    c. Old Schulte Road to Valpico Road
    d. South of Valpico Road
2. Corral Hollow Road
    a. North of Eleventh Street
    b. Eleventh Street to New Schulte Road
    c. New Schulte Road to Linne Road
    d. Linne Road to Spine Road
    e. South of Spine Road

3. Tracy Boulevard
    a. North of Eleventh Street
    b. Eleventh Street to Valpico Road
    c. Valpico Road to Linne Road
    d. South of Linne Road
4. MacArthur Drive
    a. North of Eleventh Street
    b. Eleventh Street to New Schulte Road
    c. New Schulte Road to Valpico Road
    d. Valpico Road to Linne Road
5. Chrisman Road
    a. North of Eleventh Street
    b. Eleventh Street to Linne Road
    c. South of Linne Road
6. Linne Road
    a. West of Tracy Boulevard
    b. East of Tracy Boulevard

Study Area Roadway Segments (City of Livermore, Alameda County)

L1. Altamont Pass Road (East of Greenville Road)
L2. Patterson Pass Road (East of Greenville Road)
L3. Tesla Road (East of Greenville Road)

Study Area Freeway Segments (City of Tracy, San Joaquin County)

1. I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road
2. I-580 - Mountain House Parkway/Patterson Pass Road to Lammers Road
3. I-580 – Lammers Road to Corral Hollow Road
4. I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)
5. I-580 – Route 132 to I-5
6. I-205 – I 205 Junction to Mountain House Parkway
7. I-205 – Mountain House Parkway to Eleventh Street
8. I-205 – Eleventh Street to Lammers Extension
9. I-205 – Lammers Extension to Grant Line Road
10. I-205 –Grant Line Road to Tracy Boulevard
11. I-205 – Tracy Boulevard to MacArthur Drive
12. I-205 – MacArthur Drive to Chrisman Road
13. I-205 – Chrisman Road to I-5 Junction
14. I-205 – I-5 Junction to State Route 120

Study Area Freeway Segments (City of Livermore, Alameda County)

L1. I-580 – I-205 Junction to Grant Line Road
L2. I-580 – Grant Line Road to Flynn Road
L3. I-580 – Flynn Road to Altamont Pass Road
L4. I-580 – Altamont Pass Road to Vasco Road
L5. I-580 – Vasco Road to First Street
L6. I-580 – First Street to Livermore Avenue
L7. I-580 – Livermore Avenue to State Route 84 (Isabel Avenue)

FIGURE 4.13-3
Study Intersections, Highway Segments, and Roadway Segments - Tracy

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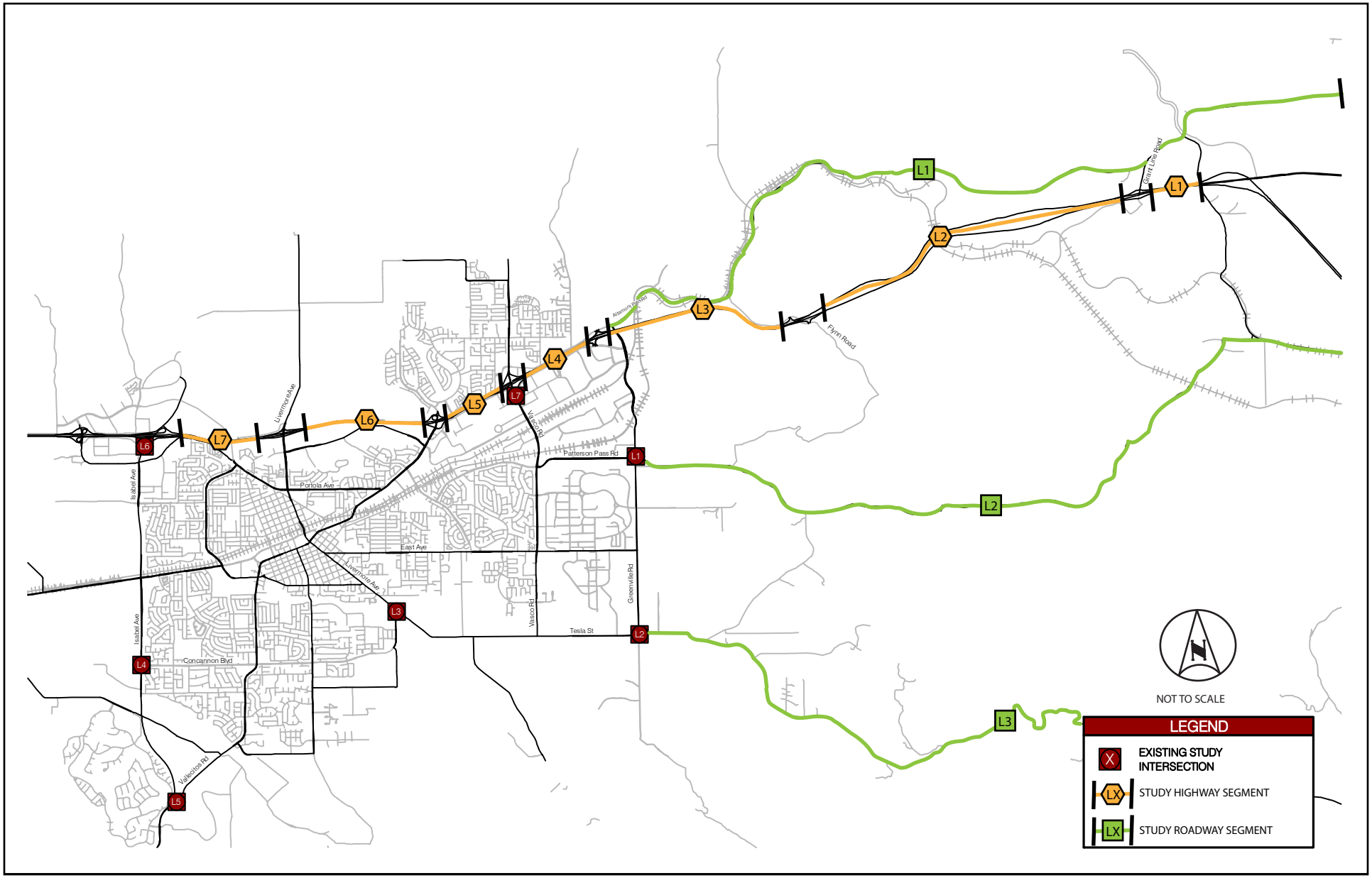

FIGURE 4.13-4

Study Intersections, Highway Segments, and Roadway Segments - Livermore

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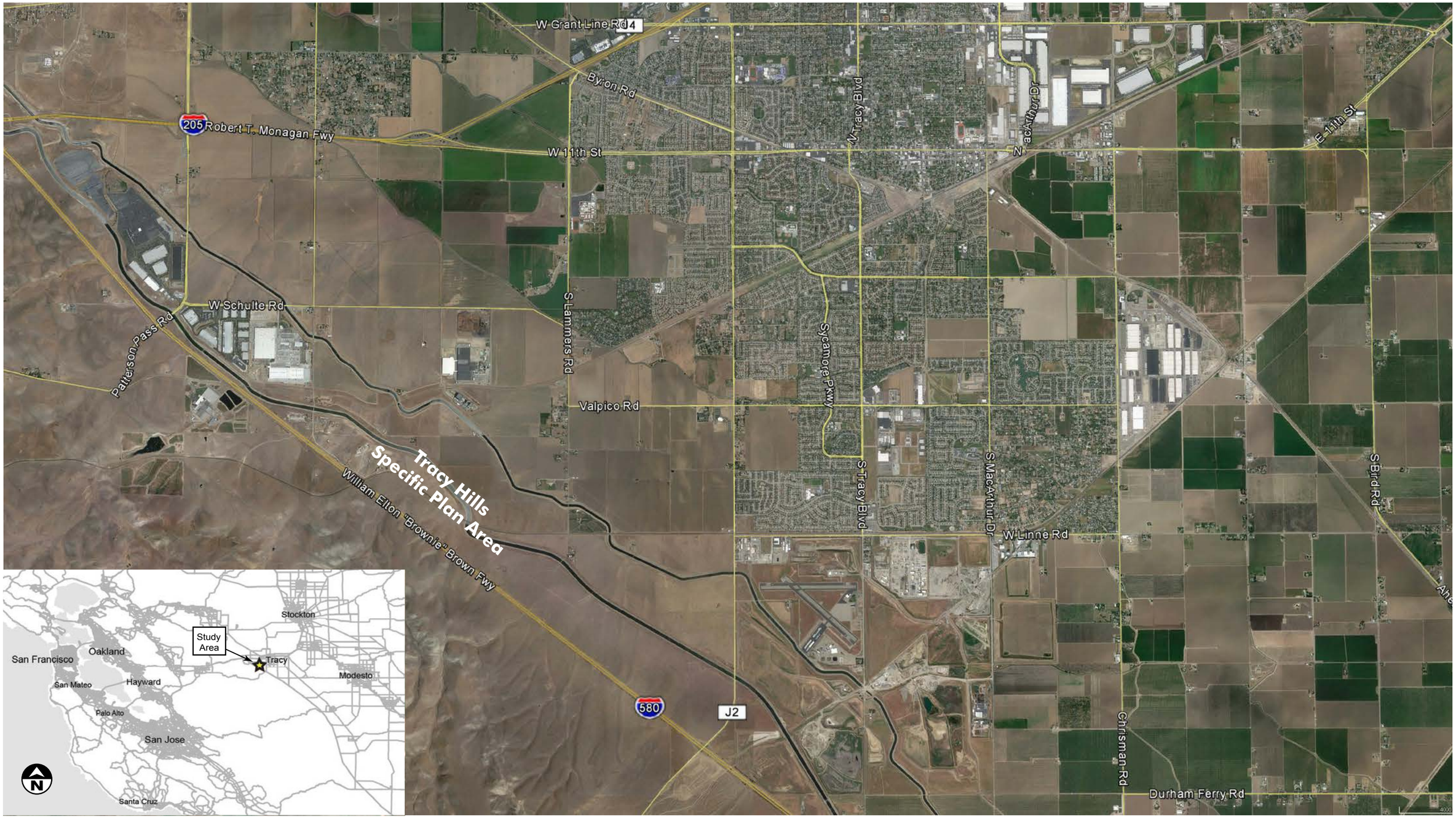

Source: Google Earth Pro 2015

FIGURE 4.13-5
Existing Roadway Network

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4.13.4 EXISTING CONDITIONS

This section describes the existing roadway network, traffic volumes and lane configurations, and existing intersection operations. Two- hour turning movement traffic counts were conducted during the AM and PM peak hours in May 2013, September 2013, and February 2014 on a Tuesday, Wednesday or Thursday. For the I-580 mainline and interchange ramps, counts were taken on a typical weekday from 7-9 AM. After observation of mainline volumes from the Caltrans PeMS database, the natural peak lies around 8 AM when schools are in session. Observation of summertime operations indicates a peak around 5 AM. As a result, it is assumed the peak freeway and intersection conditions are analyzed in this study.

Tables 4.13-6 through 4.13-12 show the results of the analysis for existing conditions, (i.e. intersection LOS and delay, roadway segment V/C, freeway segment LOS, and freeway merge/diverge LOS).

REGIONAL ROADWAYS

Freeways and major roads in the THSP Project Area include the following:

Interstate 580 provides the most direct regional access to the future City planning area via full access interchanges at Mountain House Parkway/Patterson Pass Road and Corral Hollow Road. I-580 also provides access west to the Bay Area (via the Altamont Pass), and connects to I-5 south of the City of Tracy. I-580 currently has four lanes (two lanes in each direction) along the segments adjacent to the City of Tracy with a posted speed limit of 70 miles per hour.

Interstate 205 provides direct access to the central portion of the City of Tracy. It extends between I-580 and I-5 and runs east-west through the northern portion of the City of Tracy. Interchanges are provided at West Eleventh Street, Grant Line Road, Tracy Boulevard, and MacArthur Drive. I-205 consists of six lanes (three lanes in each direction) and a posted speed limit of 70 miles per hour east of the City of Tracy and 65 miles per hour through the City of Tracy and to the west.

Interstate 5 provides access south to Los Angeles and north to Sacramento and Redding. It connects to I-205 northeast of the City of Tracy and to I-580 southeast of the THSP Project Site.

LOCAL ROADWAYS

SAN JOAQUIN COUNTY & THE CITY OF TRACY

Corral Hollow Road extends from the San Joaquin/Alameda County border south of I-580 to north of I-205 with a posted speed limit varying between 35 and 55 miles per hour. In the segment between Schulte Road and Grant Line Road, the roadway includes four lanes and a raised median. North of Grant Line Road and south of Parkside Drive, the roadway has two lanes with no median. Class-II bike lanes are provided on Corral Hollow Road between Schulte Road and Grant Line Road. A portion of this roadway also serves as a major truck route leading to nearby aggregate mining operations.

Lammers Road is a major roadway originating one mile south of Valpico Road on the western boundary of the existing developed area of the City of Tracy. The City recently constructed a six-lane facility between the south end of John Kimball High School and 11th Street. The remainder of the street to the south is a two-lane undivided facility. The posted speed limit within the City is 45 miles per hour. Lammers Road is designated

within the City of Tracy Roadway Master Plan (RMP) as an urban expressway and future freeway connection between I-205 and I-580. Lammers Road is not designated as a CMP route in the TMP.

Linne Road originates at Corral Hollow Road, northeast of the Project Area, and extends eastward serving agricultural and aggregate mining areas, and passes adjacent to the Tracy Municipal Airport. Linne Road is designated within the RMP as part of the expressway network designed to bypass the freeways. The posted speed limit on Linne Road is 45 miles per hour.

Old Schulte Road is a discontinuous roadway extending from Mountain House Parkway to Chrisman Road. For a short segment of the roadway (east of Mountain House Parkway and adjacent to the Safeway Warehouse Terminal), Schulte Road is a five-lane truck route. East of this segment, Schulte Road narrows to two travel lanes. Schulte Road terminates at the intersection with Lammers Road. The roadway commences again at Corral Hollow Road, approximately one-quarter mile north of its westerly segment. East of Corral Hollow Road, the roadway has been widened to four travel lanes until MacArthur Drive. Between MacArthur Drive and Chrisman Road, Schulte Road is two lanes. Old Schulte Road is identified within the RMP as a major arterial. The posted speed limit on Old Schulte Road is 45 miles per hour and 55 miles per hour west of Lammers Road.

Valpico Road originates at Lammers Road and continues east into the City of Tracy, where it changes from two to four lanes at Cagney Way. The RMP designates this roadway as a 4-lane major arterial. The posted speed limit on Valpico Road is 40 miles per hour.

Tracy Boulevard is a north-south 2-4 lane major arterial connecting from Linne Road and Eleventh Street and beyond in both north and south directions. It serves as a major route for the City's internal traffic.

MacArthur Drive is a north-south two lane minor to major arterial providing access to the City's eastern land-uses. It also connects from Linne Road to the south and Eleventh Street to the north and beyond in both directions.

Chrisman Road is a County road intersecting the City of Tracy at various points throughout its extent. It is within the City of Tracy between Valpico Road and south of W Schulte Road and north of the Eleventh Street intersection. It intersects Linne Road to the south and Eleventh Street to the north approximately three miles east of the THSP Project Area.

Mountain House Parkway/Patterson Pass Road is a two-lane regional road that extends from Livermore to I-580 where it becomes Mountain House Parkway. Patterson Pass Road leads to Lawrence Livermore National Laboratory in Alameda County and continues beyond I-205 to the north.

ALAMEDA COUNTY & CITY OF LIVERMORE

Concannon Boulevard is an east-west major street which runs from Livermore Avenue to Isabel Avenue (SR-84). West of Livermore Avenue, Concannon Boulevard is an undivided two-lane road with bicycle lanes until Arroyo Road, where it becomes a four-lane roadway with a landscape median and bicycles lanes. Concannon Boulevard serves residential areas in the southern portion of Livermore. The speed limit on Concannon Boulevard is 35 miles per hour.

First Street is an east-west major street within the City of Livermore. First Street is a four-lane divided roadway with bicycle lanes from Portal Avenue to I-580 and from Scott Street to Inman Street. First Street serves commercial areas within Livermore. The speed limit on First Street is 40 miles per hour. First Street is a Tier 1 CMP Roadway between Inman Street and I-580.

Greenville Road is a north-south major street that intersects Tesla Road to the south and Altamont Pass Road to the north within the City of Livermore. Greenville Road is mostly a two-lane undivided roadway with bicycle lanes, except for the section south of I-580 to railroad tracks where Grenville Road is a four-lane roadway with a landscaped median and bicycle lanes. The speed limit on Greenville Road is 45 miles per hour.

Isabel Avenue (SR-84) is a north-south principal arterial serving the western extents of Livermore along the County line. It connects to Vallecitos Road to the south and I-580 to the north where it becomes a local roadway north of the interstate. There are two to three lanes with a bicycle lane in each direction north of Jack London Boulevard and one to two lanes south of Jack London Boulevard. The speed limit on Isabel Avenue is 50 miles per hour. Isabel Avenue is a Tier 1 CMP Roadway.

Livermore Avenue is a north-south major street within the City of Livermore between I-580 and Tesla Road. North of Railroad Avenue, Livermore Avenue is a four-lane roadway with landscaped medians. South of Railroad Avenue, Livermore Avenue becomes a two-lane undivided roadway. There are bicycle lanes on Livermore Avenue between Las Positas Road and Portola Avenue and between Sixth Street and Arroyo Mocho Trail. The speed limit on Livermore Avenue is 40 miles per hour.

Patterson Pass Road is an east-west major street which begins at Mines Road and extends east toward San Joaquin County. Patterson Pass Road is a four-lane divided roadway with bicycle lanes within the City of Livermore and becomes a two-way undivided roadway east of Greenville Road. Patterson Pass is an alternative route for commuters avoiding I-580 heading west from Tracy Hills. Within the City of Livermore, the speed limit on Patterson Pass is 45 miles per hour.

Tesla Road is an east-west major street and rural roadway, which begins at Livermore Avenue and extends east towards San Joaquin County. Tesla Road is a two-lane undivided roadway with bicycle lanes. Many commuters from Tracy utilize Tesla Road as an alternative to I-580. Within the City of Livermore, the speed limit on Tesla Road is 50 miles per hour.

Vasco Road is a north-south major street within the City of Livermore. It intersects Tesla Road to the south and I-580 to the north. North of East Avenue, Vasco Road is a four-lane roadway with a landscaped median and becomes a two-way roadway south of East Avenue. The speed limit on Vasco Road is 45 miles per hour. Road is a Tier 2 CMP Roadway from I-580 to the Alameda County Line.

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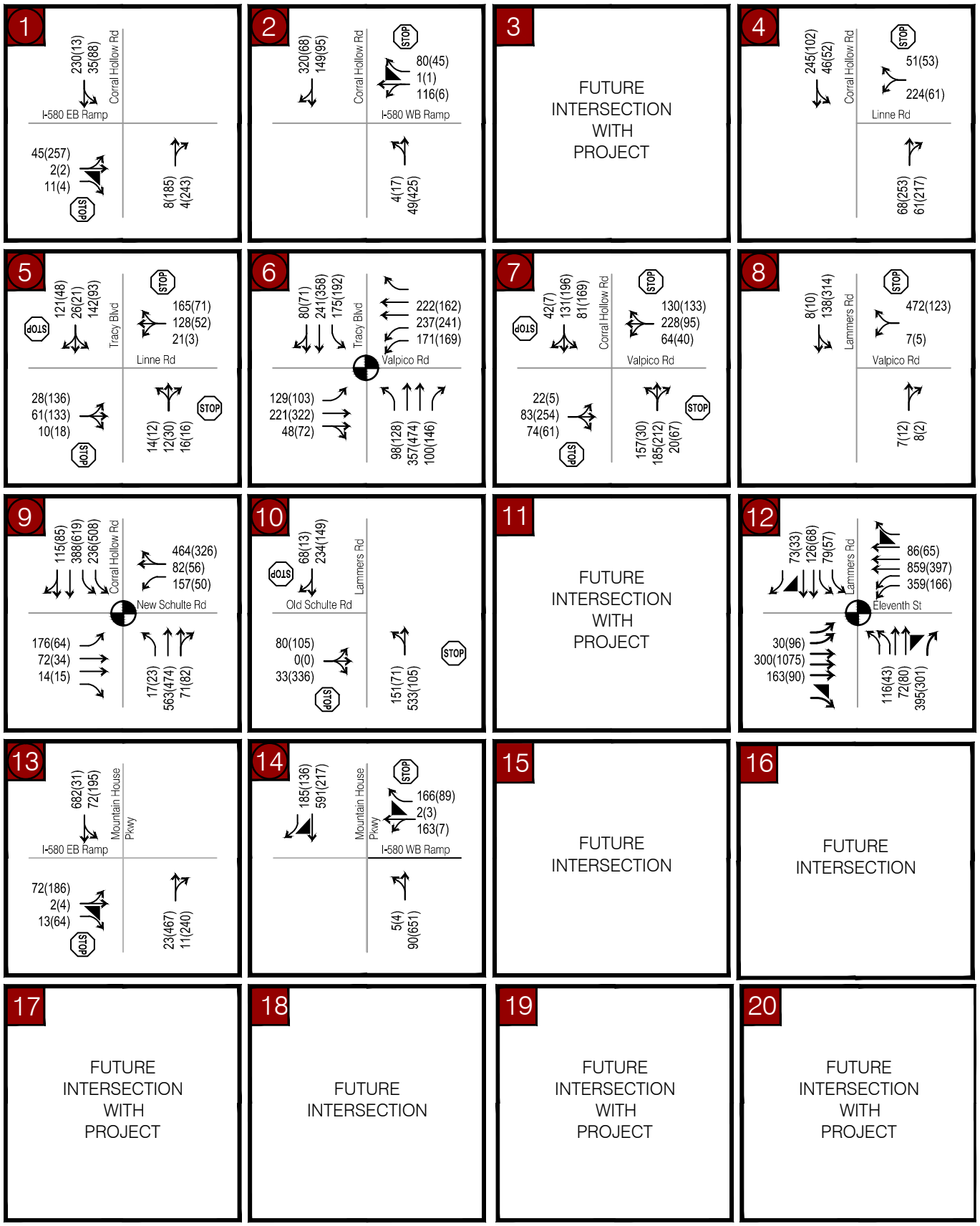

FIGURE 4.13-6

Existing Turning Movements & Geometry - Tracy

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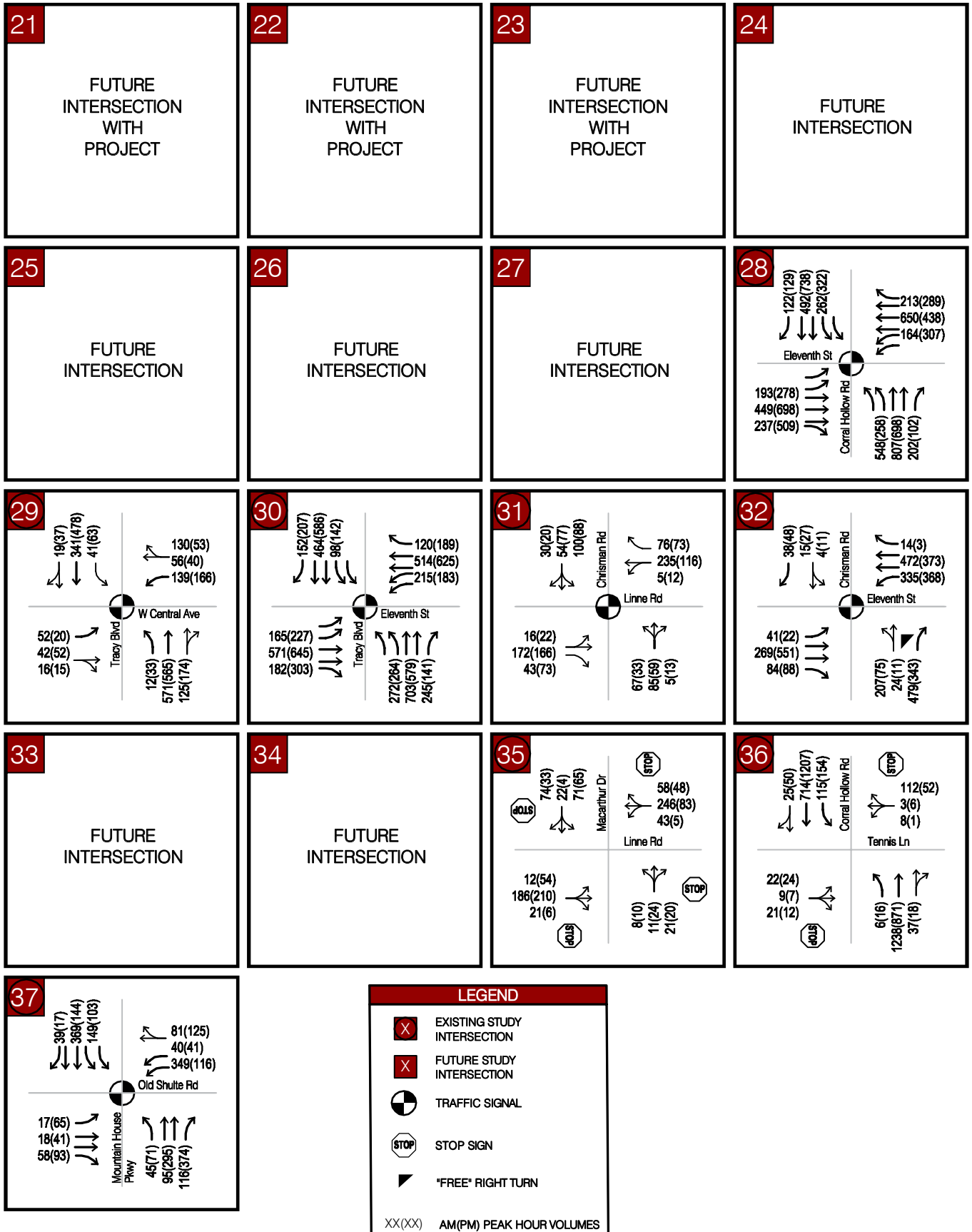

FIGURE 4.13-6

Existing Turning Movements & Geometry - Tracy

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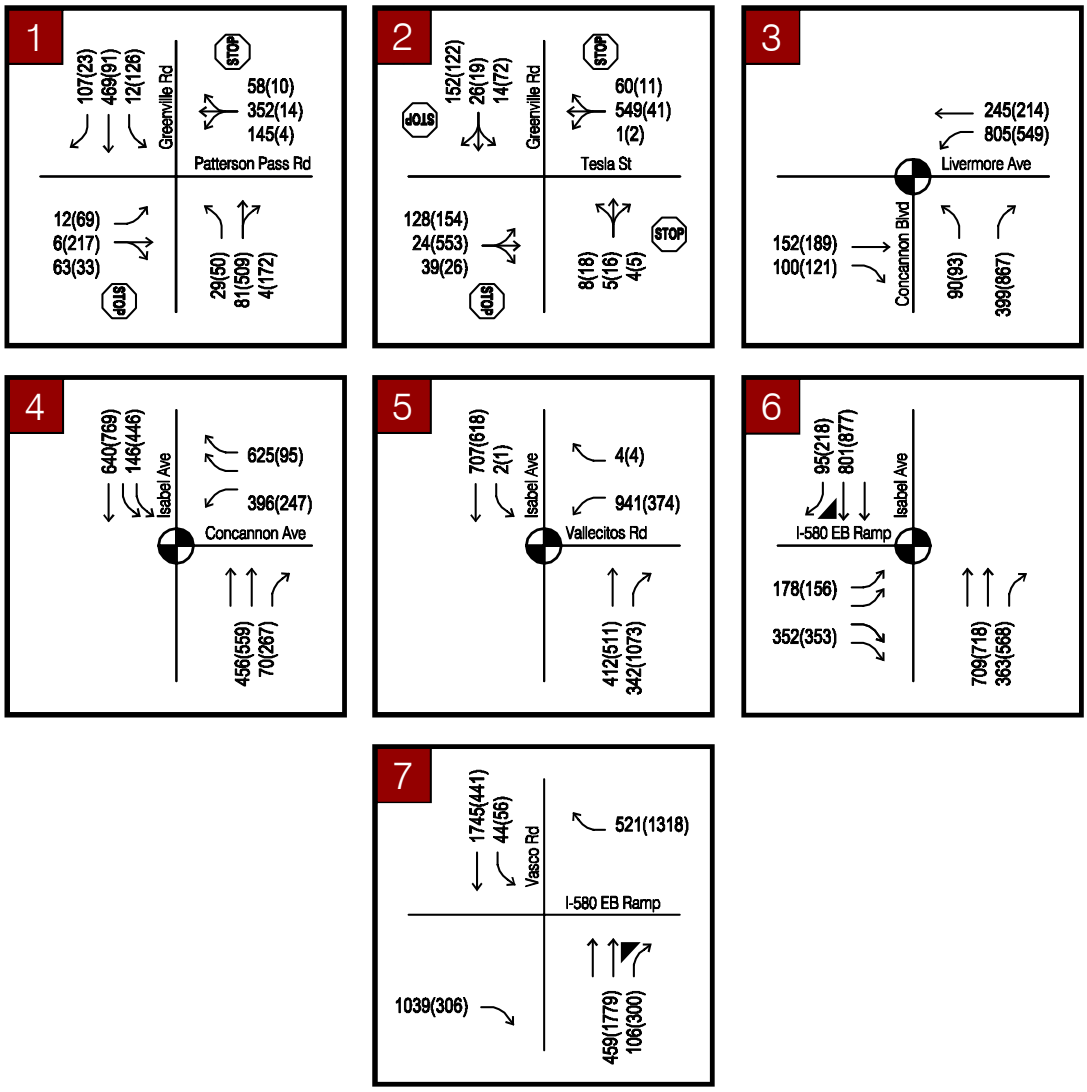

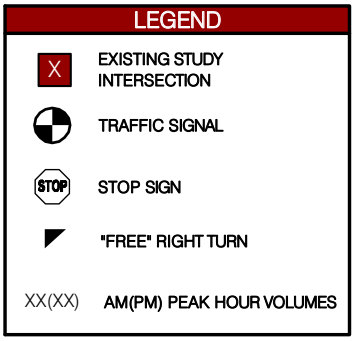

FIGURE 4.13-7

Existing Turning Movements & Geometry - Livermore

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EXISTING NETWORK OPERATIONS

Table 4.13-6: Existing Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	-	3.0	-	10.5
	Worst Approach				*B*	*13.0*	*D*	29.2
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	-	3.7	-	1.1
	Worst Approach				*B*	12.7	*B*	*12.0*
3	Future Intersection with Project	D	City	Signal	-	-	-	-
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	-	10.5	-	3.3
	Worst Approach				*D*	*25.7*	*C*	*15.7*
5	Tracy Blvd and Linne Rd	D	City	AWSC	B	14.6	B	10.3
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	25.9	C	24.7
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC	**F**	**52.0**	**F**	**55.8**
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	11.0	-	8.0
	Worst Approach				*B*	*12.8*	*A*	*9.6*
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**55.5**	C	29.3
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**37.8**	B	13.9
11	Future Intersection with Project	D	City	-	-	-	-	-
	Worst Approach				-	-	-	-
12	Lammers Rd and Eleventh St	D	City	Signal	C	21.8	C	19.6
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	-	1.3	-	4.7
	Worst Approach				A	6.6	*B*	13.0
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	-	2.2	-	1.7
	Worst Approach				A	7.6	*C*	17.8
15	Future Intersection in Cumulative Conditions	C/D	Caltrans	Signal	-	-	-	-
16	Future Intersection in Cumulative Conditions	C/D	Caltrans	Signal	-	-	-	-
17	Future Intersection in Cumulative Conditions	D	City	Signal	-	-	-	-
18	Future Intersection in Cumulative Conditions	D	City	Signal	-	-	-	-
19	Future Intersection with Project Buildout	D	City	Signal	-	-	-	-
20	Future Intersection with Project	D	City	Signal	-	-	-	-
21	Future Intersection with Project	D	City	Signal	-	-	-	-
22	Future Intersection with Project	D	City	SSSC	-	-	-	-
23	Future Intersection with Project	D	City	AWSC	-	-	-	-
24	Future Intersection in Cumulative Conditions	D	County	Signal	-	-	-	-
25	Future Intersection in Cumulative Conditions	D	County	Signal	-	-	-	-
26	Future Intersection in Cumulative Conditions	D	County	Signal	-	-	-	-
27	Future Intersection in Cumulative Conditions	D	County	Signal	-	-	-	-
28	Corral Hollow Rd and Eleventh St	D	City	Signal	C	27.7	C	30.6
29	Tracy Blvd and W. Central Ave	D	City	Signal	B	15.8	B	17.6
30	Tracy Blvd and Eleventh St	E	City	Signal	C	21.0	C	24.6
31	Linne Rd and Chrisman Rd	D	County	Signal	A	5.5	A	5.2

Table 4.13-6: Existing Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
32	Chrisman Rd and Eleventh St	D	City	Signal	B	11.9	B	11.4
33	Future Intersection in Cumulative Conditions	D	County	Signal	-	-	-	-
34	Future Intersection in Cumulative Conditions	D	City	Signal	-	-	-	-
35	Linne Rd and MacArthur Dr	D	County	AWSC	B	10.5	A	9.1
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	-	7.7	-	12.1
	Worst Approach				***F***	***184.9***	***F***	***OVRFL***
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	14.9	B	13.0

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD**
OVRFL = "OVERFLOW;" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]Currently, Intersection #7 is an AWSC. However, after recent discussions with the City the intersection would be signalized before the Project (Phase I) is implemented. See Appendix H-7.

Source: Kimley-Horn, 2014.

Table 4.13-7: Existing Intersection Delay & LOS - Livermore

	Intersection	Criteria (LOS & delay)	Control[1]	Existing (2014)			
				AM Peak		PM Peak	
				LOS	Delay	LOS	Delay
L1	Greenville Road & Patterson Pass Road	Mid-D (30 secs)	SSSC	**F**	**206.2**	**F**	**94.4**
	Worst Approach			***F***	***466.3***	***F***	***411.6***
L2	Greenville Road & Tesla Road	Mid-D (30 secs)	AWSC	**E**	**38.7**	**E**	**41.3**
L3	Concannon Boulevard & Livermore Avenue	Mid-D (45 secs)	Signal	C	34.3	C	26.8
L4	Isabel Avenue & Concannon Boulevard	Mid-D (45 secs)	Signal	C	23.8	C	26.5
L5	Isabel Avenue & Vallecitos Road	Mid-D (45 secs)	Signal	**E**	**74.1**	C	24.2
L6	Isabel Avenue & I-580 EB Ramp	E (80 secs)	Signal	B	13.3	B	11.8
L7	Vasco Rd & I-580 EB Ramps[2]	E (80 secs)	-	-	-	-	-

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD**
OVRFL = "OVERFLOW;" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]This intersection is uncontrolled and therefore the delay cannot be calculated using HCM methodology in Synchro. The SBL movement has to yield to NBT traffic and therefore the queues were determined. The max queue for the AM peak was one vehicle and the PM peak was four vehicles.

Source: Kimley-Horn, 2014.

Table 4.13-8: Existing Roadway Segment Volumes, Capacities, and V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM	PM	AM	PM
Lammers Road (Northbound)	N/O Eleventh St	891	188	241	0.2	0.3
	Eleventh St to Old Schulte Rd	891	598	317	0.7	0.4
	Old Schulte Rd to Valpico Rd	891	582	156	0.7	0.2
	S/O Valpico Rd	891	15	14	0.02	0.02
Lammers Road (Southbound)	N/O Eleventh St	891	278	158	0.3	0.2
	Eleventh St to Old Schulte Rd	891	475	243	0.5	0.3
	Old Schulte Rd to Valpico Rd	891	207	405	0.2	0.5
	S/O Valpico Rd	891	15	15	0.02	0.02
Corral Hollow Road (Northbound)	N/O Eleventh St	1485	1213	1265	0.8	0.85
	Eleventh St to New Schulte Rd	1485	1380	961	**0.93**	0.6
	New Schulte Rd to Linne Rd	891	385	443	0.4	0.5
	Linne Rd to Spine Rd	891	129	470	0.1	0.5
	S/O Spine Rd	891	129	470	0.1	0.5
Corral Hollow Road (Southbound)	N/O Eleventh St	1485	876	1189	0.6	0.8
	Eleventh St to New Schulte Rd	1485	816	1383	0.5	**0.93**
	New Schulte Rd to Linne Rd	891	425	419	0.5	0.5
	Linne Rd to Spine Rd	891	469	163	0.5	0.2
	S/O Spine Rd	891	469	163	0.5	0.2
Chrisman Road (Northbound)	N/O Eleventh St	891	79	36	0.1	0.0
	Eleventh St to Linne Rd	891	444	292	0.5	0.3
	S/O Linne Rd	891	157	105	0.2	0.1
Chrisman Road (Southbound)	N/O Eleventh St	891	57	86	0.1	0.1
	Eleventh St to Linne Rd	891	309	334	0.3	0.4
	S/O Linne Rd	891	102	162	0.1	0.2
MacArthur Drive (Northbound)	Linne Rd to Valpico Rd	891	112	97	0.1	0.1
	Valpico Rd to W Schulte Rd	891	271	242	0.3	0.3
	W Schulte Rd to Eleventh St	891	567	361	0.6	0.4
	N/O Eleventh St	1485	212	241	0.1	0.2
MacArthur Drive (Southbound)	Linne Rd to Valpico Rd	891	109	124	0.1	0.1
	Valpico Rd to W Schulte Rd	891	414	351	0.5	0.4
	W Schulte Rd to Eleventh St	891	478	370	0.5	0.4
	N/O Eleventh St	594	231	165	0.4	0.3
Tracy Boulevard (Northbound)	N/O Eleventh St	1485	988	995	0.7	0.7
	Eleventh St to Valpico Rd	1485	964	862	0.6	0.6
	Valpico Rd to Linne Rd	891	380	493	0.4	0.6
	S/O Linne Rd	891	42	58	0.05	0.1
Tracy Boulevard (Southbound)	N/O Eleventh St	1485	714	935	0.5	0.6
	Eleventh St to Valpico Rd	1485	679	847	0.5	0.6
	Valpico Rd to Linne Rd	891	375	381	0.4	0.4
	S/O Linne Rd	891	57	42	0.1	0.05

Table 4.13-8: Existing Roadway Segment Volumes, Capacities, and V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM	PM	AM	PM
Linne Road (Eastbound)	W/O Tracy Blvd	891	99	287	0.1	0.3
	E/O Tracy Blvd	891	219	242	0.2	0.3
Linne Road (Westbound)	W/O Tracy Blvd	891	263	112	0.3	0.1
	E/O Tracy Blvd	891	314	126	0.4	0.1

Notes:
Volumes derived from the 2013 intersection counts. Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-9: Existing Roadway Segment Volumes, Capacities, and V/C Ratios - Livermore

Street	Segment	Existing Capacity	Volume		V/C	
			AM	PM	AM	PM
Altamont Pass Road (Eastbound)	E/ O Greenville Rd	1,495	61	1,541	0.04	**1.03**
Altamont Pass Road (Westbound)	E/ O Greenville Rd	1,495	666	45	0.45	0.03
Patterson Pass Road (Eastbound)	E/ O Greenville Rd	1,495	22	515	0.01	0.34
Patterson Pass Road (Westbound)	E/ O Greenville Rd	1,495	555	28	0.37	0.02
Tesla Road (Eastbound)	E/ O Greenville Rd	1,495	42	630	0.03	0.42
Tesla Road (Westbound)	E/ O Greenville Rd	1,495	610	54	0.41	0.04

Note: The existing capacity was determined from the Highway Capacity Manual for a Class II Highway facility with rolling terrain.

Source: Kimley-Horn, 2014.

Table 4.13-10: Existing Freeway Segment Volumes & LOS - Tracy

No	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[(a)]	Density (pc/mi/ln)[(b)]	LOS	Volume (vph)[(a)]	Density (pc/mi/ln)[(b)]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road	EB	252	2.1	A	1,813	15.3	B
		WB	1,897	16.1	B	1,053	8.9	A
2	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
3	I-580 - Mountain House Parkway/Patterson Pass Road to Corral Hollow Road	EB	236	2.0	A	1,696	14.4	B
		WB	1,774	15.0	B	985	8.3	A
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	244	2.1	A	1,754	14.8	B
		WB	1,836	15.5	B	1,019	8.6	A
5	I-580: Rt. 132 to I-5	EB	244	2.1	A	1,771	14.9	B
		WB	1,959	16.5	B	1,145	9.6	A
6		EB	947	5.2	A	4,936	29.4	D

Table 4.13-10: Existing Freeway Segment Volumes & LOS - Tracy

No	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS
	I-205: I-205 Junction to Mountain House Parkway	WB	4,331	24.6	C	3,111	17.1	B
7	I-205: Mountain House Parkway to Eleventh St	EB	743	4.1	A	3,874	21.6	C
		WB	3,399	18.7	C	2,441	13.4	B
8	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
9	I-205: Eleventh St. to Grant Line Rd	EB	743	4.1	A	3,874	21.6	C
		WB	3,399	18.7	C	2,441	13.4	B
10	I-205: Grant Line to Tracy Blvd	EB	961	5.2	A	5,007	29.9	D
		WB	4,393	24.9	C	3,156	17.2	B
11	I-205: Tracy Blvd to MacArthur Dr	EB	988	5.4	A	5,149	31.2	D
		WB	4,517	25.9	C	3,245	17.7	B
12	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
13	I-205: MacArthur Dr to I-5	EB	879	4.8	A	4,582	26.3	D
		WB	4,020	22.4	C	2,888	15.8	B
14	I-205: I-5 to SR-120	EB	988	3.2	A	5,149	16.9	B
		WB	4,517	14.8	B	3,245	10.6	A

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
AADT obtained from Caltrans Traffic Data Branch (2012).
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane

Source: Kimley-Horn, 2014.

Table 4.13-11: Existing Freeway Segment Volumes & LOS - Livermore

No.	Study Segment	Direction	Lanes	AM Peak			PM Peak		
				Volume (vph)[a]	Density (pc/mi/ln) [b]	LOS	Volume (vph)[a]	Density (pc/mi/ln) [b]	LOS
L1	I-580 - I-205 Junction to Grant Line Rd.	EB	4	1,250	5.7	A	8,302	**58.9**	**F**
		WB	5	6,430	24.4	C	3,540	13.0	B
L2	I-580 - Grant Line Rd. to Flynn Rd.	EB	4	1,250	5.4	A	8,302	**51.0**	**F**
		WB	4	6,430	30.9	D	3,540	15.4	B
L3	I-580 - Flynn to Altamont Pass Rd.	EB	4	1,241	5.5	A	8,244	**53.6**	**F**
		WB	4	6,385	31.8	D	3,515	15.7	B
L4	I-580 - Altamont Pass Rd. to Vasco Rd.	EB	4	1,379	6.0	A	8,192	44.5	E
		WB	4	7,464	37.1	E	4,109	18.0	C
L5	I-580 - Vasco Rd. to First St.	EB	4	1,370	6.1	A	8,143	44.8	E
		WB	4	7,419	37.3	E	4,084	18.1	C
L6	I-580 - First St. to Livermore Ave.	EB	4	1,437	6.4	A	**8,537**	**50.1**	**F**
		WB	4	7,779	40.8	E	4,282	19.0	C
L7	I-580 - Livermore Ave. to SR-84 (Isabel Ave.)	EB	4	1,520	6.7	A	**9,031**	**58.4**	**F**
		WB	4	**8,229**	**45.9**	**F**	4,530	20.1	C

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
AADT obtained from Caltrans Traffic Data Branch (2012).
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane

Source: Kimley-Horn, 2014.

Table 4.13-12: Existing Freeway Merge / Diverge & LOS - Tracy

I-580 Interchange	Fwy Direc-tion	Ramp	Length of Accel/ Decel Lane (ft.)	AM				PM			
				Fwy Vol (vph)[a]	Ramp Vol. (vph)	Ramp Density (pc/mi/ln)[b]	LOS	Fwy Vol (vph)[a]	Ramp Volume (vph)	Ramp Density (pc/mi/ln)[b]	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	178	41	6.0	A	1,433	333	20.1	C
		Diverge (off-ramp)	200	236	58	4.9	A	1,696	263	19.7	B
	WB	Merge (on-ramp)	400	1,689	325	22.1	C	967	86	12.7	B
		Diverge (off-ramp)	200	1,886	197	21.7	C	1,019	52	12.8	B

Notes:
Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.
Analysis performed using HCS 2010 software.
Freeway volumes obtained from Caltrans Traffic Data Branch (2012) for existing conditions.
Existing ramp volumes obtained from existing turning movement counts conducted in May 2013.
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane

Source: Kimley-Horn, 2014.

EXISTING BICYCLE AND TRANSIT NETWORK

EXISTING BICYCLE NETWORK & TRANSIT SERVICES

The THSP would be developed on currently undeveloped land; thus no bicycle facilities are provided on the existing street network that would connect to the immediate Project site. The rural nature of the area's roadways generally requires that bicycles share the roadways with motor vehicles.

Within the City limits to the north of the Project, some Class I, II and III bikeway facilities exist as discussed below.

Class I facilities are paved bicycle paths that are physically separated from the vehicular travel lane. The longest continuous Class I Bike Path is located east of Corral Hollow Road and west of Tracy Boulevard and extends from West Eleventh Street to south of Valpico Road. A second Class I facility runs parallel to North MacArthur Drive and extends from East Eleventh Street to I-205. Lammers Road is not currently designated as a bicycle facility.

Class II facilities, which are striped bike lanes along the street, are generally found along the western portion of the existing urbanized area of the City. There are Class II bike lanes along portions of Corral Hollow Road and Tracy Boulevard.

Class III bicycle facilities are bike routes denoted by signs that are shared with vehicles along the roadway.

Class III bicycle facilities are located mainly in the Central Tracy area. A map of the existing City of Tracy bicycle network can be found in Figure 4.13-8, *Existing Bikeway Map* obtained from the City of Tracy TMP.

While bicycle facilities are located throughout the City, gaps in the existing bicycle network make it difficult to travel east-west or north-south through the City.

Existing pedestrian facilities such as sidewalks, crosswalks, and pedestrian signals are absent within the THSP Project Area. As the Project is implemented, sidewalks and other pedestrian facilities would be implemented along the roadways to connect the Project Area to the City.

The City's public transit system includes both bus and rail passenger components. The bus and rail system provides local and regional connectivity to residents of the City of Tracy. Since the THSP Project Area is currently primarily undeveloped, no bus or rail services are currently provided to the Project Area.

Local Fixed-Route Bus Service (TRACER)

TRACER is a City operated transit service. Fixed-route services run on a set route and time with fixed stops. TRACER offers five fixed bus routes, Routes A-E. Routes A, B, and C run Monday through Friday from approximately 6:30 AM to 7:40 PM and Saturday from 9:00 AM to 5:00 PM. Routes D and E run only on weekdays when school is in session. TRACER does not operate on Sundays and holidays.

Route A provides service to/from the Tracy Transit Station to West Valley Mall, and runs along East Street, MacArthur Drive, Grant Line Road, Tracy Boulevard, and Corral Hollow Road. It also provides services to other major destinations within the City, including Prime Outlets, the Civic Center, and West Valley Mall. It operates from 6:30 AM to 7:15 PM on weekdays, and from 9:15 AM to 4:28 PM on Saturday. This service is provided with approximately 90-minute headways on both weekdays and Saturday.

Route B also provides service to/from the Tracy Transit Station to West Valley Mall, and runs along Holly Drive, Eaton Avenue, Tracy Boulevard, Lowell Avenue, Corral Hollow Road, Grant Line Road, and Naglee Road. Major destinations served along this route include Sutter Tracy Community Hospital, the Civic Center, Wal-Mart, and West Valley Mall. It operates between 7:10 AM and 7:40 PM on weekdays, and between 9:20 AM and 5:30 PM on Saturday. This service is provided with approximately 60-minute headways during the AM peak hour and PM peak hour, and 90-minute headways during the day.

Route C provides service to/from the Tracy Transit Station to the south Tracy residential area, along 10th Street, Eleventh Street, Corral Hollow Road, Schulte Road, Tracy Boulevard, and Central Avenue. Major destinations served along this route include the Civic Center, the U.S. Post Office, Williams Middle School, and SaveMart. It operates between 6:30 AM and 7:10 PM on weekdays, and between 9:10 AM and 4:55 PM on Saturday. This service is provided with approximately 60-minute headways on both weekdays and Saturday.

Route D and Route E are commuter routes and provide service only on weekdays. These routes provide a clockwise and counterclockwise loop around the City limits and run along East Street, Holly Drive, Kavanagh Avenue, Tracy Boulevard, Lowell Avenue, Corral Hollow Road, Schulte Road, Sycamore Parkway, and Central Avenue. Major destinations served along these routes include the Civic Center, library, elementary, middle and

high schools in the City of Tracy, and the Tracy Sports Complex. It operates two services during the AM peak hour and four in the afternoon.

Regional Intercity Fixed-Route Bus Service

The San Joaquin Regional Transit District (SJRTD) operates one fixed-route bus line (Route 26) that connects the City to Stockton via Lathrop. Route 26 runs along Grant Line Road and East Street within Tracy. Major destinations served along this route include the Civic Center and Tracy Transit Station. It operates between 5:00 AM and 9:25 PM on weekdays with varying services between 30 and 90 minutes intervals during the AM peak hour and PM peak hour, and between 9:25 AM and 5:53 PM on Saturday/Sundays/holidays with only four trips during the day with varying time intervals.

County Hopper Service

The SJRTD County Hopper (Route 90) is a deviated fixed-route bus service connecting Stockton, Tracy, Lodi, Manteca, Ripon and Lathrop. The Hopper replaces SJRTD Countywide General Public Dial-A-Ride (DAR), Rural Elderly & Disabled DAR, and County Area Transit (CAT) fixed-route services during Hopper service hours in the areas covered by the Hopper service.

SJRTD Commuter Bus Service

The Commuter Bus Service is run by the SJRTD and provides several inter-regional bus services from the Nagle Road Park & Ride lot to the East Bay and South Bay, Monday through Friday, during commute hours. One route travels down Holly Drive, Central Avenue, Schulte Road, Tracy Boulevard, and Eleventh Street to Lawrence Livermore/Sundia Labs. Pick-up times vary between 4:00 AM and 6:00 AM and drop-off times vary between 4:00 PM and 6:00 PM.

Altamont Corridor Express

The Altamont Corridor Express (ACE) is a passenger rail service connecting Stockton to San Jose. ACE operates on weekdays, excluding holidays. The ACE station in the City of Tracy is located along Tracy Boulevard near Linne Road. Four southbound trains pass through the City of Tracy with the following headways at approximately 4:49 AM, 6:04 AM, 7:09 AM, 7:36 AM and four northbound trains returning through the City of Tracy with approximately one-hour headways, at 5:09 PM, 6:09 PM, and 7:09 PM and 7:38 PM. Over a period of seven months (January 1 through July 30, 2014) on average, 553 passengers boarded ACE trains at the Tracy station each weekday.[1]

ACE does not charge a fee for parking at the Tracy Station, though ACE closely monitors and ensures that lots are occupied by ACE patrons only. The surface lot at the Tracy station can accommodate 491 vehicles including handicapped stalls.[2] During a field survey conducted in July 2014 the surface lot was 73.5% occupied, as can be seen in Table 4.13-13.[3]

[1] Computed from "Daily Summary Report – Altamont Corridor Express." Herzog Transit Services, Inc. 30 July 2014.p
[2] Phone conversation with John Giovannoni, ACE Operations Manager, 30 July 2014.
[3] Site visit, Kimley-Horn, 31 July 2014.

Table 4.13-13: Parking Occupancy at ACE Tracy Station

Lot Type	Occupancy	Capacity	% Occupied
Surface lot, Tracy Boulevard	361	491	73.5%

Source: Kimley-Horn, 2014.

Figures 4.13-9a and 4.13-9b, *TMP Transit Service Map* and *TRACER Transit Service Map*, display the existing transit facilities and were obtained from the City of Tracy TMP and City of Tracy TRACER Bus Route System Map, respectively.

Park and Ride Facilities

Park and Ride facilities are areas where users of public transit or carpoolers may drive and park their vehicles, then use public transit or carpooling to commute. The vehicles are usually parked at the facility during the day and retrieved when the commuter returns. The closest Park and Ride facilities to the Project Area are located at the Altamont Corridor Express Train Station at the corner of Tracy Boulevard and Linne Boulevard. Additional Park and Ride facilities are located at the Tracy Transit Station at 6th Street and Central Avenue. Two more park and rides, adjacent to the I-205 are located at Naglee Road and at the Prime Outlets off the MacArthur Drive and East Pescadero Avenue intersection.

Bay Area Rapid Transit (BART)

BART is a rapid transit heavy rail/subway system that connects cities in the Tri-Valley, East Bay to San Francisco and to the northern areas of San Mateo County. The nearest BART stations to Tracy, West Dublin/Pleasanton Station and East Dublin/Pleasanton Station, are located about 30 miles west of Tracy and transport its riders to various locations in the East Bay and San Francisco. The BART line runs parallel to Interstate 580. The service runs from 4:13 AM, at 15 minute headways until 7:13 PM. The headways then increase to 20 minutes and service continues until 12:44 AM.

About 7,000 passengers board BART at the East Dublin/Pleasanton Station while 3,000 passengers board at the West Dublin/Pleasanton Station on an average weekday.[4] It is expected that the majority of passengers who commute from Tracy opt to board BART at the East Dublin/Pleasanton Station.

Parking at BART Stations

BART patrons pay a fee to use the parking garage facilities at both stations. The parking fee could either be a daily fee of $2.50 or patrons may opt to reserve a permit space on a single day, monthly, or longer-term basis. Each garage level is designated as either a fee or permit lot. The first three levels of the East Dublin/Pleasanton Station's garage open its permit spaces for fee use after 10:00 A.M. each day.[5] If the East Dublin/Pleasanton garage fills up, patrons may select to travel to the West Dublin/Pleasanton Garage instead. But the data below indicates that the locations are parked between 91% and 97% occupancy, respectively. Parking facilities at both BART stations do not meet current observed parking demand.

[4] "BART Fiscal Year Weekday Average Exits." BART, 2014.
[5] "Dublin/Pleasanton" webpage, BART. Accessed 7 August 2014.

The West Dublin/Pleasanton Station has one five-level garage on the Dublin side north of Interstate 580 that accommodates 722 vehicles, and one five-level garage on the Pleasanton side south of Interstate 580 that accommodates 468 spaces[6]. Table 4.13-14 shows that in total, 93% of the West Dublin/Pleasanton parking facilities was occupied during parking surveys conducted in July 2014 between 10:30AM and 11:00AM.[7]

Table 4.13-14: Parking Occupancy at West Dublin/Pleasanton BART Station

Lot Type	Occupancy	Supply	% Occupied
Dublin			
Dublin Garage	683	722	94.6%
Pleasanton			
Pleasanton Garage	426	468	91.0%
TOTAL	**1109**	**1190**	**93.2%**

Source: Kimley-Horn, 2014.

The East Dublin/Pleasanton Station has one four-level parking garage on the Dublin side. In addition, several surface lots are available for BART parking that either charge a daily fee or are reserved for only permit holders and carpoolers on both the Dublin and Pleasanton sides. Table 4.13-15 shows that the 2,886 spaces at this station were 97% occupied during the survey conducted in July 2014.

Table 4.13-15: Parking Occupancy at East Dublin/Pleasanton BART Station

Lot Type	Vacant Spaces Counted	Supply	% Occupied
Dublin		2886	97.3%
Fee surface lot	3		
Fee/permit garage	12		
Carpool/fee surface lots	15		
Pleasanton			
Permit surface lot	48		
Fee surface lot	0		
Fee surface lot	0		
Permit/carpool surface lot	0		
TOTAL	**78**	**2886**	**97.3%**

Source: Kimley-Horn, 2014.

[6] "West Dublin/Pleasanton" webpage, BART. Accessed 7 August 2014.
[7] Site visit, Kimley-Horn, 31 July 2014.

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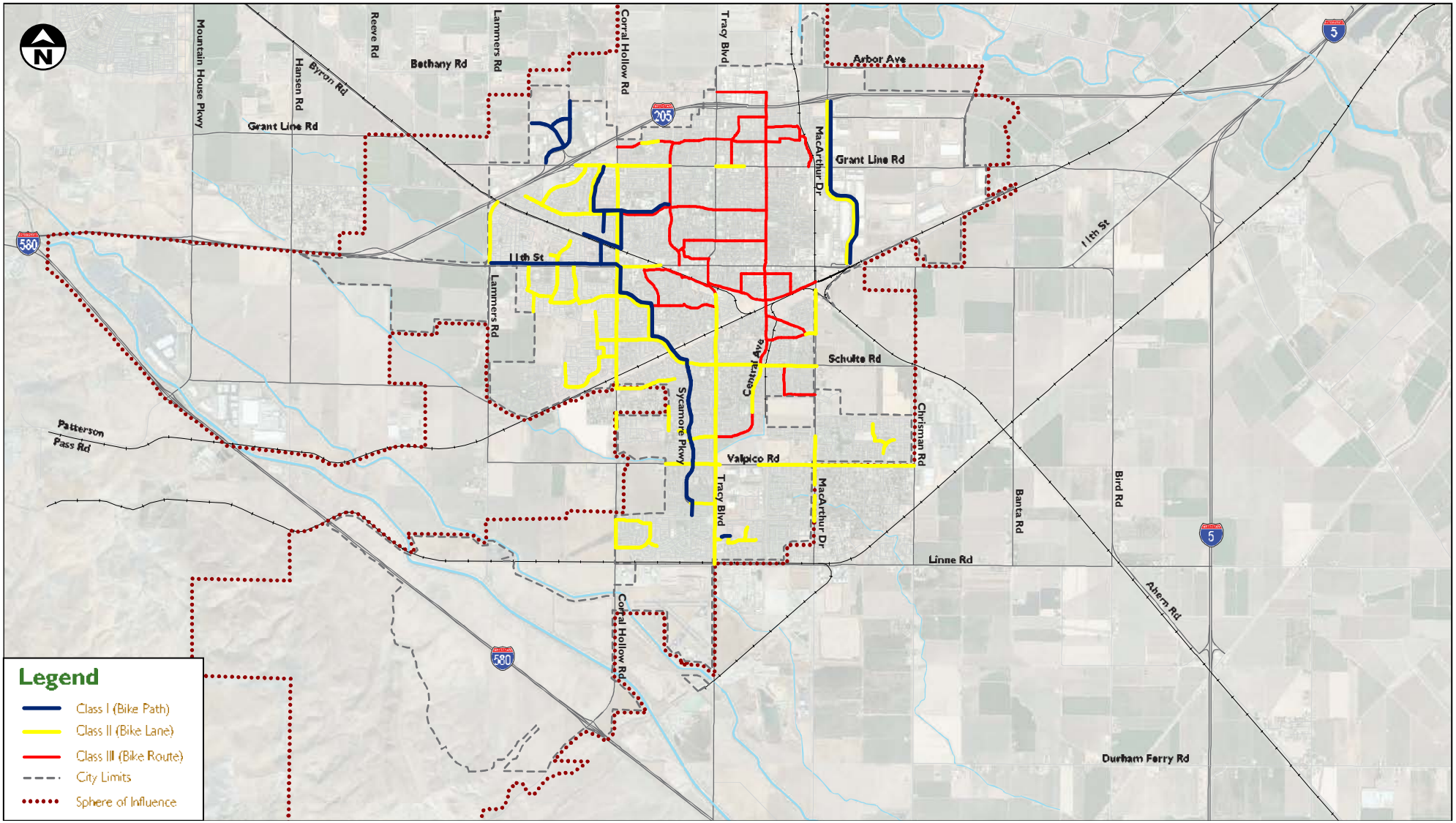

Source: Obtained from the 2012 Tracy TMP

FIGURE 4.13-8
Existing Bikeway Map

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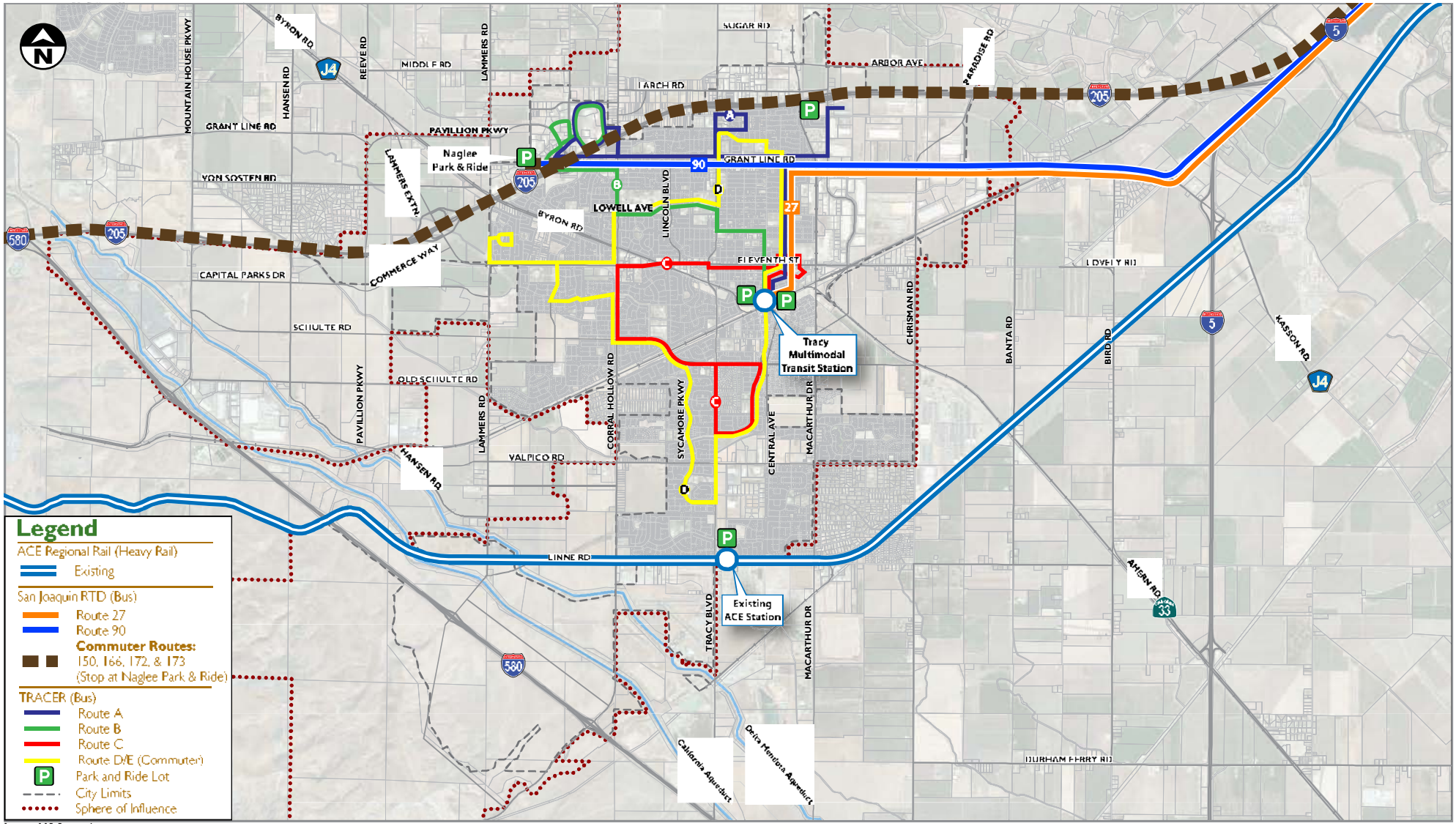

Source: Obtained from the 2012 Tracy TMP

FIGURE 4.13-9a
TMP Transit Service Map

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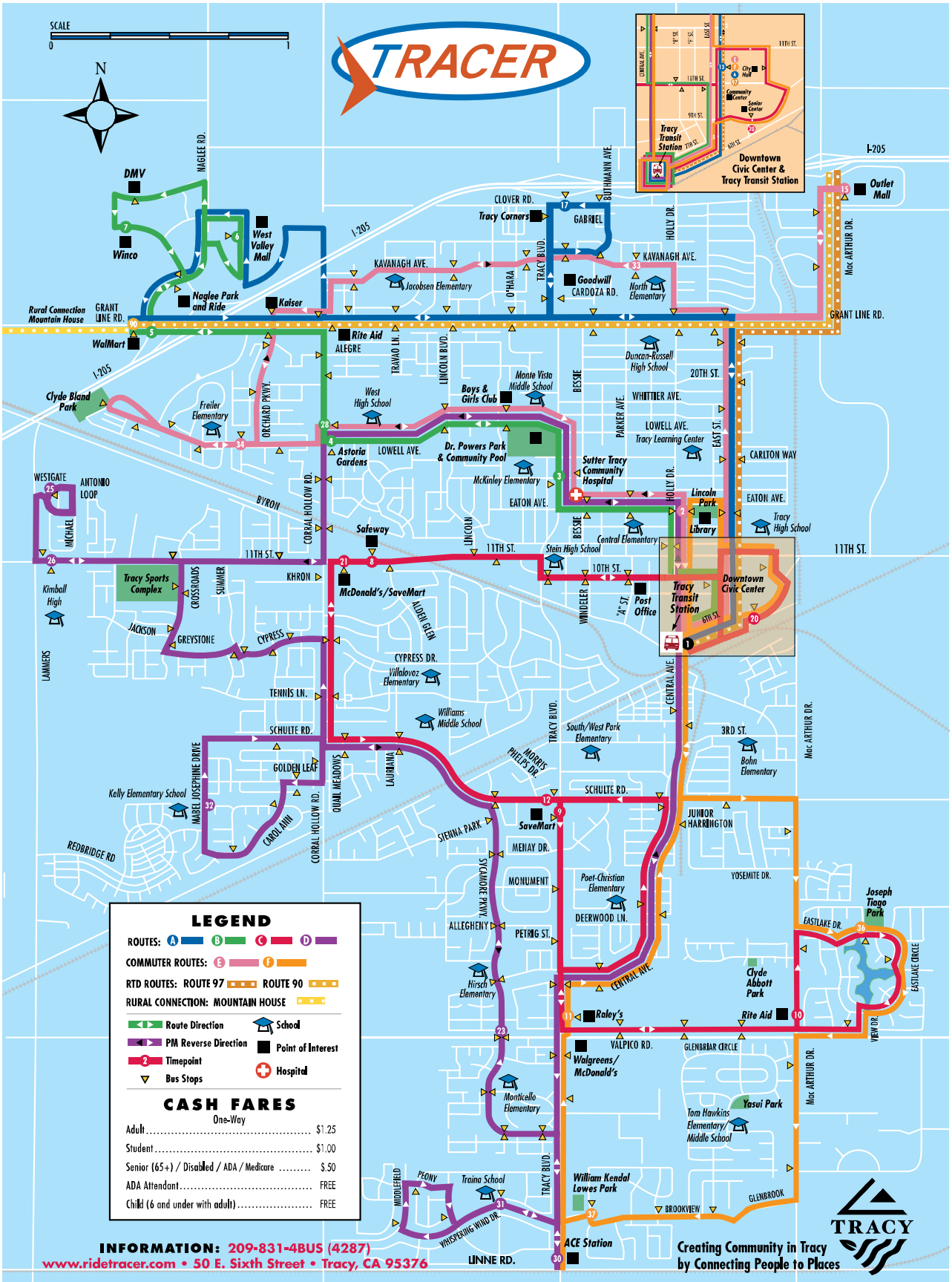

Source: Obtained from the TRACER Citywide Service System Map, August 2014

FIGURE 4.13-9b
TRACER Transit Service Map

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TRAFFIC FORECASTING

To be consistent with the SJCOG model and the Tracy TMP analysis, which developed a reasonable foreseeable roadway network scenario for 2035 conditions, the Project traffic was added to the model for the different development scenarios and analyzed. Existing, Cumulative in 2035 and Project Buildout scenarios were analyzed. The 2035 Tracy Travel Demand Model is consistent with the model used to prepare the TMP and is utilized for all major project traffic impact analyses. As new projects are approved, the model is updated and thus reflects the most recently approved and pending projects in the City. The model utilized in this analysis was updated in 2012/2013 for the Cordes Ranch Specific Plan EIR and presents the most recent comprehensive cumulative scenario for Tracy. The baseline model reflects Year 2010 conditions, and the future conditions model represents expected development throughout the City of Tracy Sphere of Influence, to the year 2035. Traffic forecasts were created using the following methodology:

- Existing Plus Project development by 2035, Existing Plus Project Buildout, and Existing Plus Phase 1a traffic volumes were developed by adding the projected trips to the existing 2013/14 traffic counts.
- Cumulative (2035) No Project peak hour traffic forecasts were obtained by removing the THSP land uses from the 2035 TMP model. Using the peak hour intersection turn movements from the baseline and future models, the "Difference Method" was applied, which calculates the growth between the baseline and future year for each intersection turning movement. The growth calculated using the difference method was added to existing volumes to obtain Cumulative (2035) No Project traffic forecasts.
- To obtain Cumulative (2035) Plus Project and Cumulative (2035) Plus Project Buildout forecasts, the Project trips described below in the Project Trip Generation, Distribution, and Assignment section were added to the background forecasts.

As a result of both buildout of the General Plan and implementation of the THSP, the jobs-to-housing balance within the City of Tracy would shift over time, resulting in changed travel patterns and more trips having origins and destinations within Tracy and within the THSP. The THSP Project is expected to be implemented over the life span of the General Plan. The change in THSP traffic volumes starting with Phase 1a through 2035 (General Plan buildout) and Project buildout substantiates this finding. Within the THSP Project Area, the ongoing development of a mix of land uses would also increases internal trips and modify travel patterns. The analysis accurately reflects this anticipated increase in development and rerouting of traffic, and it accurately reflects future conditions, as adopted in the City of Tracy Citywide Roadway and Transportation Master Plan. The shift in the jobs-to-housing ratio to accommodate more jobs in Tracy would result in more trips having origins and destinations within Tracy. In addition, the construction of Lammers Road and the Lammers Road interchange with I-580 would reroute traffic traveling north on Spine Road to Lammers Road, compared to these trips traveling to Corral Hollow Road. Note that Spine Road is not connected to Lammers Road for Phase 1a conditions. A more balanced jobs-to-housing ratio would result in more trips having origins and destinations within the City of Tracy. The rerouting of trips onto other roads is consistent with the City of Tracy General Plan and the THSP. This rerouting of traffic is clearly reflected in the analysis.

Within the THSP, as more employment-related land uses develop, internal Project trips would increase and less trips would leave the area, which also results in less regional trips onto the freeway system.

The City recently approved the Cordes Ranch Specific Plan which includes approximately 1,462 net acres of commercial, office, manufacturing, warehouse, and distribution uses. This increase in employment is forecasted to ultimately decrease traffic onto the regional road system.

The City of Tracy Transportation Master Plan forecasts 64,182 employed persons for year 2035, an increase of 40,078 (or 166.3 %) from 24,104 employed persons in 2006. Dwelling units are forecast to increase from 26,789 (51.4%) in 2006 to 40,506 residences in 2035. The Tracy Travel Demand Model indicates that the growth in Tracy (from existing conditions to year 2035) would result in the internal trip distribution increasing from the existing 48 percent to 49 percent in the AM peak hour and decrease from 64 percent to 49 percent in the PM peak hour as a percentage of total Tracy trips. Westbound trips on I-580 towards Alameda County and beyond, would decrease from 7 percent to 1 percent in the AM peak hour and stay at about 1 percent in the PM peak hour. Trips from Alameda County and beyond to Tracy would remain at about 1 percent during the AM peak hour and decrease from 3.5 percent to 1.3 percent in the PM peak hour.

Economic development data received from the City of Tracy indicates that between 2000 and 2008, the jobs-to-housing ratio remained consistent at approximately 1.19. Between 2008 and 2014, the jobs-to-housing ratio showed a gradual improvement, increasing to 1.46, an increase of 22.7 percent. This increase already results in more trips staying local to Tracy.

To be consistent with the Alameda CTC model and the JPA Settlement Agreement, Existing, Project Phase 1a and Project Buildout analysis conditions were analyzed. The Cumulative analysis year for the Alameda CTC model is 2040 and Project Buildout was assumed for this cumulative analysis scenario. The Alameda CTC model has external traffic analysis zones defined for the City of Tracy. These external zones are not as detailed as The City of Tracy TMP and SJCOG model, but do reflect trips from Tracy traveling to and from Alameda County for daily, AM and PM peak hour conditions. The proposed Project trips to Alameda County from the proposed Project were assigned to be consistent with the Alameda CTC model and City of Tracy TMP model. Slight adjustments were made to assign additional traffic to Patterson Pass Road and Corral Hollow Road/Tesla Road into Livermore. This assignment is consistent with current travel demand patterns and is anticipated to continue in the future. The assignment assumes operations at or close to capacity along Patterson Pass and Corral Hollow Road/Tesla Road into Livermore and Alameda County. This approach was discussed and agreed to with the City of Livermore Traffic Engineering staff. (See the meeting notes between City staff of both Livermore and Tracy and Kimley-Horn in Appendix H-7). Traffic forecasts were created using the following methodology:

- Existing Plus Phase 1a development in the near term and Existing Plus Project Buildout scenarios were developed by adding the projected trips to the existing 2014 traffic counts.
- Cumulative (2040) No Project peak hour traffic forecasts were obtained from the Alameda CTC model. The 1998 Tracy Hills project was not indicated in the Alameda CTC model and the project trips was added to the cumulative conditions traffic between Alameda County and Tracy. Using the peak hour intersection turn movements from the baseline and future models, the "Difference Method" was applied, which calculates the growth between the baseline and future year for each intersection turning movement. The growth calculated using the difference method was added to existing volumes to obtain Cumulative No Project traffic forecasts.

- To obtain Cumulative (2040) Plus Project Buildout forecasts, the Project trips described below in the Project Trip Generation, Distribution, and Assignment section were added to the background forecasts.

TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

Traffic forecasts were prepared using the City of Tracy General Plan Traffic Model, which was updated in 2010 to be consistent with the current SJCOG regional transportation model, and to reflect the most recent information on future projects and planned roadway improvements in the City of Tracy per the City's General Plan.

The THSP Project development assumptions are described below in Table 4.13-16:

Table 4.13-16: Tracy Hills Specific Plan Development Assumptions

Zoning District or Land Use	Adjusted Acres	Estimated Units or S.F.
Residential Estate	81.3	122
Low Density Residential	876.3	3,238
Medium Density Residential	270.4	2,014
High Density Residential	7.8	125
Mixed Use Business Park	182.5	1,589,069
General Highway Commercial	87.0	758,944
Light Industrial	308.6	3,360,654

Source: Tracy Hills Specific Plan as updated October, 2014

The City of Tracy 2011 General Plan Travel Demand Model was used to develop trip generation and distributions for the THSP Project. The Tracy Travel Demand Model tiers off the San Joaquin COG Travel Demand Model for regional roadway connections between and through the City and within San Joaquin County as well as travel to and from Alameda County and further west. Project-specific roadway improvements were added to the existing model to represent future Project access and internal circulation elements, and the land uses described in Table 4.13-16 were used to represent Project trip generators. The traffic analysis using the Tracy Travel Demand Model includes an overall higher trip generation compared to using ITE assumptions, and thus, presents a worst case scenario of traffic operations. This trip generation caters to Tracy conditions and presents more accurate results.

The Project 2035 external trip distribution is illustrated in Figure 4.13-10 and was obtained from data generated by the model. Trips are distributed to and from the City of Tracy, the County of San Joaquin, and points beyond such as Stockton to the east and the greater San Francisco Bay area to the west. Trips utilize Corral Hollow Road and Lammers Road to enter and exit the site; they also utilize County and City roadway facilities as well as Interstates 580 and 205 to distribute throughout the network. The model captures varying degrees of trips internally for each scenario depending on the land uses built within the Project, the surrounding roadway network, and the land uses accounted for throughout the City, County, and points beyond. Given the size of the Phase 1a proposed elementary school and the residential land uses within the Specific Plan Area, school trips have an assumed one-hundred percent internal capture rate.

The City of Tracy has collected data on the typical travel patterns of residents and businesses and has developed customized trip generation rates. These trip generation rates are more accurate compared to published ITE rates and are representative of the Tracy community. These customized trip generation rates have been used to develop the City TMP Horizon year (2035) and TMP Buildout Travel Demand Model (TDM); they are for used in the evaluation of potential impacts generated by all future development assumptions. Land use growth for the model is consistent with the City of Tracy General Plan. In addition, the Tracy Travel Demand Model tiers off the San Joaquin COG Travel Demand Model for regional roadway connections within San Joaquin County as well as travel to and from Alameda County and further west. The Tracy Travel Demand Model trip generation rates are overall higher when compared to ITE trip generation rates as shown in Table 3.6: Tracy Travel Demand Model Peak Hour Vehicle Trip Generation Rates vs ITE Peak Hour Trip Generation Rates, of the City of Tracy TMP. Using ITE rates would have underestimated the number of trips anticipated based on the mix of land uses in Phase 1. Phase 1 would generate approximately 1,542 trips in the AM peak hour and 2,299 trips in the PM peak hour based on the Tracy Travel Demand Model trip generation rates. Using ITE trip generation rates, Phase 1 would generate 1,088 trips in the AM peak hour and 1,524 trips in the PM peak hour.

Tables 4.13-17 and 4.13-18 show the Project trip generation anticipated in 2035 and in full buildout (post-2035), respectively. Table 4.13-18b indicates the comparison between ITE and the City of Tracy trip generation rates for the Project.

Table 4.13-17: Project 2035 Trip Generation

Trip Generation Rates	ITE Land Use Code/Reference	Units	Weekday AM				Weekday PM			
			Rate	IN	/	OUT	Rate	IN	/	OUT
Low/Mid Density Residential & Residential Estate	Model	No. of Dwelling Units	0.55	25%	/	75%	1.05	63%	/	37%
High Density Residential	Model	No. of Dwelling Units	0.31	20%	/	80%	0.59	65%	/	35%
Retail	Model	Employees	1.9	62%	/	38%	3.46	48%	/	52%
Office	Model	Employees	0.22	88%	/	12%	0.42	17%	/	83%
Other (Industrial/Warehousing)	Model	Employees	0.17	79%	/	21%	0.33	25%	/	75%
School	ITE (520 & 530)	Students	0.48	55%	/	45%	0.15	49%	/	51%
Land Use	**Units**		**Weekday AM Trips**				**Weekday PM Trips**			
			Total	**IN**	**/**	**OUT**	**Total**	**IN**	**/**	**OUT**
Low/Mid Density Residential & Residential Estate	4,486	No. of Dwelling Units	2,467	617	/	1,850	4,710	2,967	/	1,743
High Density Residential	125	No. of Dwelling Units	39	8	/	31	74	48	/	26
Retail	1,693	Employees	3,216	1,994	/	1,222	5,857	2,811	/	3,046
Office	1,525	Employees	336	296	/	40	641	109	/	532
Other (Industrial/Warehousing)	848	Employees	144	114	/	30	280	70	/	210
School	800	Students	384	211	/	173	120	59	/	61
		Total Trips	**6,586**	**3,239**	**/**	**3,347**	**11,682**	**6,065**	**/**	**5,617**

Source: Tracy Hills Specific Plan, 2014 and Fehr and Peers.

Table 4.13-18a: Project Buildout (Post 2035) Trip Generation

Trip Generation Rates	ITE Land Use Code/Reference	Units	Weekday AM				Weekday PM			
			Rate	IN	/	OUT	Rate	IN	/	OUT
Low/Mid Density Residential & Residential Real Estate	Model	No. of Dwelling Units	0.55	25%	/	75%	1.05	63%	/	37%
High Density Residential	Model	No. of Dwelling Units	0.31	20%	/	80%	0.59	65%	/	35%
Retail	Model	Employees	1.9	62%	/	38%	3.46	48%	/	52%
Office	Model	Employees	0.22	88%	/	12%	0.42	17%	/	83%
Other (Industrial/Warehousing)	Model	Employees	0.17	79%	/	21%	0.33	25%	/	75%
School	ITE (520 & 530)	Students	0.45	55%	/	45%	0.15	49%	/	51%

Land Use	Units		Weekday AM Trips				Weekday PM Trips			
			Total	IN	/	OUT	Total	IN	/	OUT
Low/Mid Density Residential & Residential Real Estate	5,374	No. of Dwelling Units	2,956	739	/	2,217	5,642	3,554	/	2,088
High Density Residential	125	No. of Dwelling Units	39	8	/	31	74	48	/	26
Retail	1,751	Employees	3,326	2,062	/	1,264	6,057	2,907	/	3,150
Office	1,872	Employees	412	363	/	49	786	134	/	652
Other (Industrial/Warehousing)	4,197	Employees	714	564	/	150	1,385	346	/	1,039
School	800	Students	384	211	/	173	120	59	/	61
		Total Trips	**7,831**	**3,947**	**/**	**3,884**	**14,064**	**7,049**	**/**	**7,015**

Source: Tracy Hills Specific Plan, 2014 and Fehr and Peers.

Table 4.13-18b: Project Buildout (Post 2035) Trip Generation

Tracy TMP Rates				ITE Rates				
Land Use Type	**Units**	**AM Model**	**PM Model**	**Associated ITE Land Use Type**	**Land Use Code**	**Units**	**AM Rate**	**PM Rate**
Single Family	Dwelling Units	0.55	1.05	Single Family Detached Housing	210	DUs	0.75	1.01
Multi-Family	Dwelling Units	0.31	0.59	Apartment	220	DUs	0.51	0.62
Retail	Employees	1.9	3.46	Shopping Center	820	1,000 Sq Ft GLA	1	3.73
Office	Employees	0.22	0.42	General Office Building	710	Employees	0.48	0.46
Other	Employees	0.17	0.33	Warehousing	150	1,000 Sq Ft	0.51	0.59
Elementary School (ITE LU Code 520)	Students	0.45	0.15	Elementary School	520	Students	0.45	0.15
High School (ITE LU Code 530)	Students	0.43	0.13	High School	530	Students	0.43	0.13

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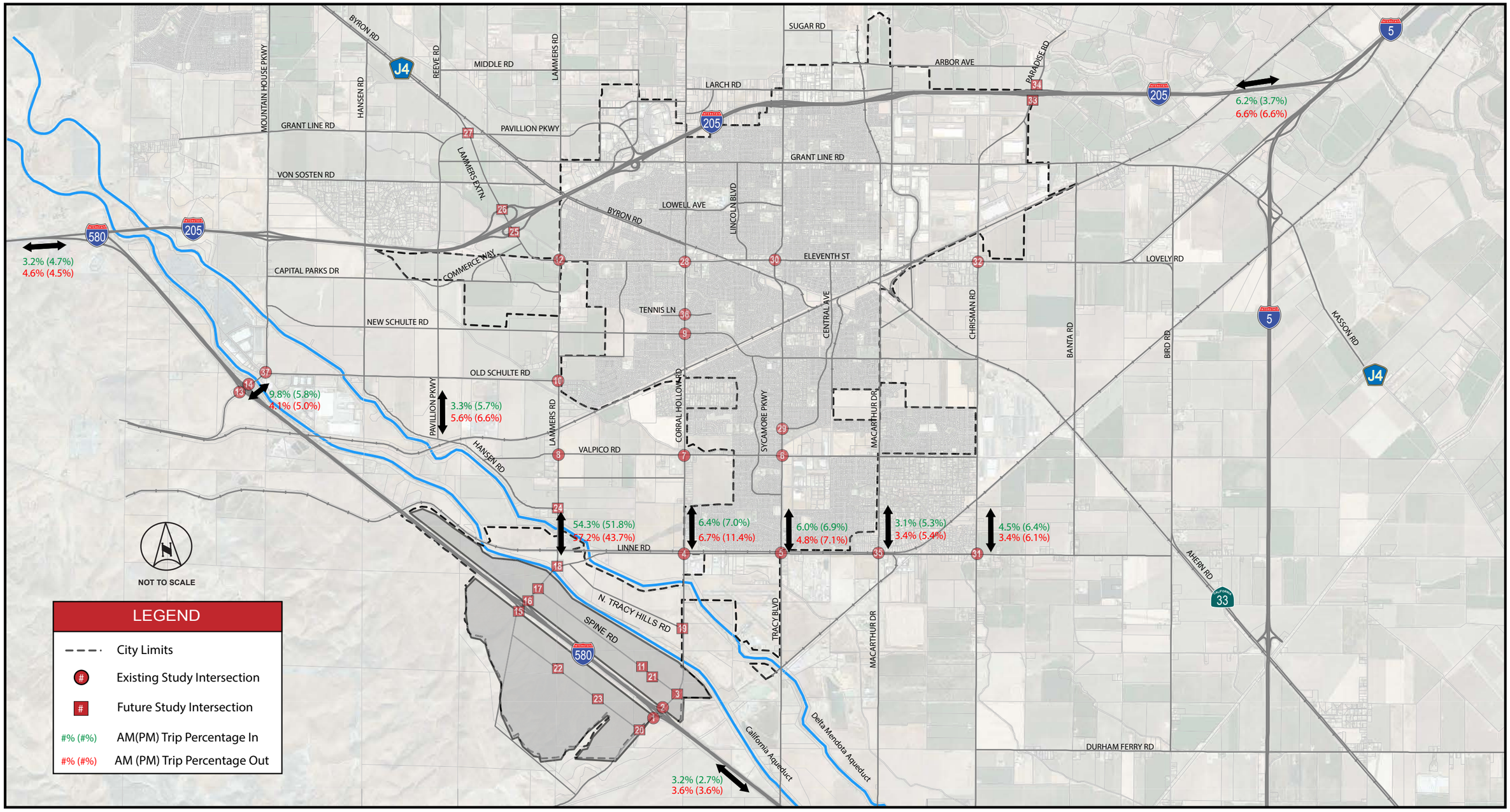

FIGURE 4.13-10
Project Buildout Trip Distribution

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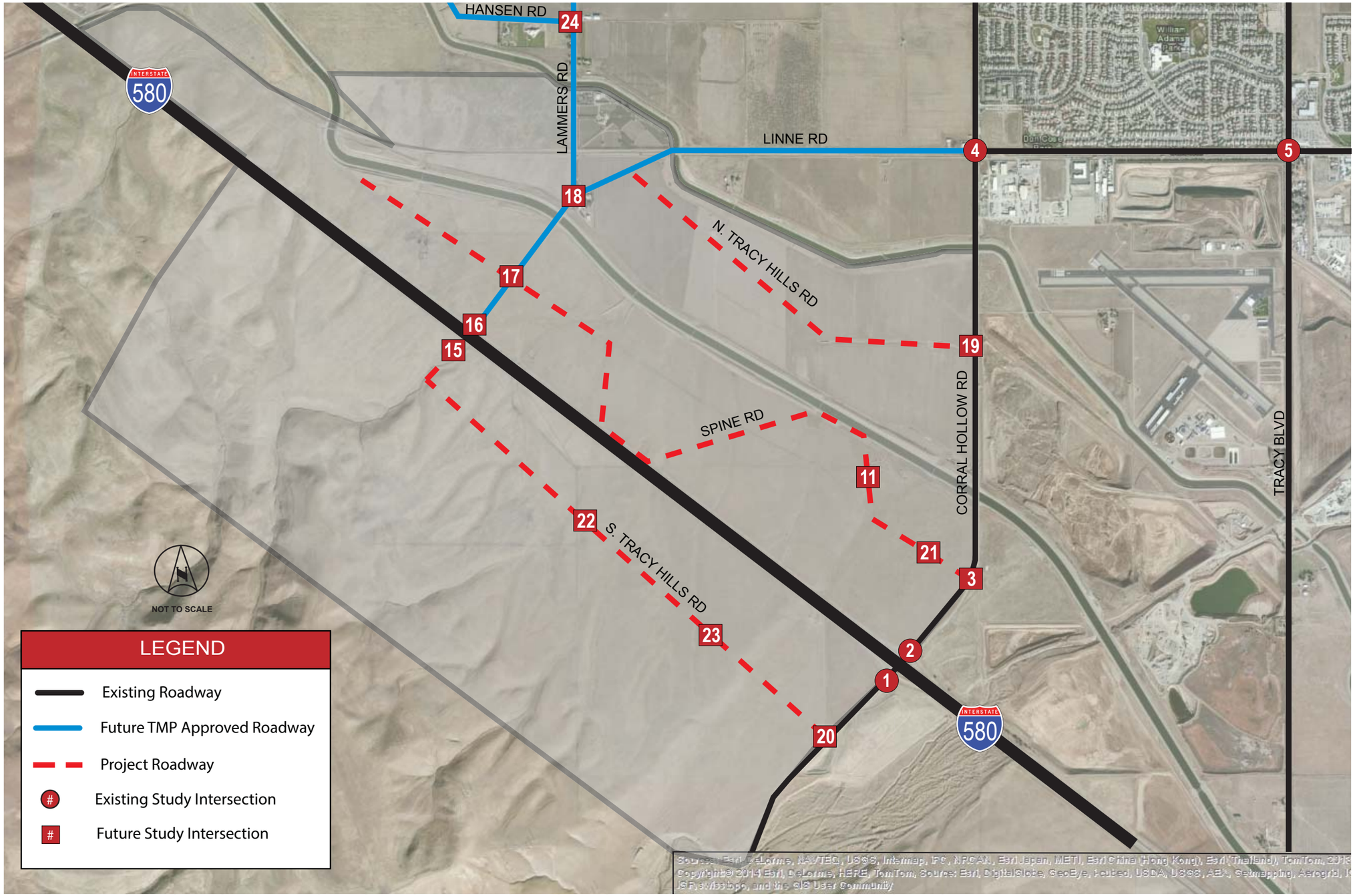

FIGURE 4.13-11
Tracy Hills Roadway Network

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4.13.5 ENVIRONMENTAL ANALYSIS

THRESHOLDS OF SIGNIFICANCE

Significance criteria are used to identify Project impacts. Currently, the City, SJCOG, the Alameda CTC, who is also the congestion management agency for Alameda County, the County, and Caltrans have LOS thresholds that are utilized for roadways under their respective jurisdictions. For the freeway segments Caltrans has adopted the SJCOG criteria. The following significance criteria were used for this Draft SEIR and are consistent with the thresholds from the 2011 General Plan Update, Caltrans thresholds, SJCOG criteria, SJ County criteria, and Appendix G of the CEQA Guidelines. Accordingly, the Project would have a significant traffic impact under the jurisdiction of each of the following agencies if any of the following would occur:

LEVEL OF SERVICE STANDARDS

CALTRANS

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on all State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.); however, Caltrans recognizes that it may not always be feasible. LOS D is the threshold established for the freeways through the City of Tracy.

SAN JOAQUIN COUNCIL OF GOVERNMENTS

The CMP system includes Interstate 580, Eleventh Street, Lammers Road, Corral Hollow Road, Linne Road, and Tracy Boulevard. LOS thresholds for local freeways are set at LOS D.

COUNTY OF SAN JOAQUIN

The County of San Joaquin has established LOS D as the minimum acceptable LOS for roadway and intersection operations.

CITY OF TRACY

The City has established LOS D, where feasible, as the minimum acceptable LOS for roadways and overall intersection operations (for roadways a v/c ratio of .80-.89 = LOS D). However, there are certain locations where this standard does not apply. The following provides a list and description of exceptions to the LOS D standard:

- LOS E or lower shall be allowed on streets and at intersections within ¼ mile of any freeway, to discourage inter-regional traffic from using City streets.
- In the Downtown and Bowtie area of the City of Tracy, LOS E shall be allowed in order to create a pedestrian-friendly urban design character and densities necessary to support transit, bicycling, and walking.
- The City may allow individual locations to fall below the City's LOS D standard at intersections where construction of improvements is not feasible, prohibitively expensive, significantly impact adjacent properties or the environment, or have a significant adverse impact on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience. Intersections may be permitted to fall below their adopted LOS standard on a temporary basis when the improvements necessary to preserve the LOS standard are in the process of construction or have been designed and funded but not yet constructed.

COUNTY OF ALAMEDA

The County of Alameda/Alameda County Transportation Commission has established LOS E as the minimum acceptable LOS for roadway and intersection operations. The 2012 Level of Service Monitoring Report states that an exception to this LOS E standard is made for roadways that operated at LOS F during the original surveys when the 1991 "baseline" conditions were established. These roadways are "grandfathered" in at LOS F.

CITY OF LIVERMORE

The City has established mid-level LOS D as the upper limit of acceptable LOS for signalized intersections.

SIGNIFICANCE CRITERIA

CALTRANS

- A freeway segment operating at LOS D or better degrades to an unacceptable LOS E or F.
- Addition of project trips is greater than five percent of freeway segment already operating at an unacceptable LOS E or F.

For intersections within the City's significance criteria, see "City of Tracy Signalized Intersections" below).

SAN JOAQUIN COUNTY

Signalized Intersections

- Intersections operating at LOS D or better degrade to an unacceptable LOS E or F.

Un-signalized Intersections

- Unsignalized intersections worst movement/approach operating at LOS D or better degrade to an unacceptable LOS E or F.
- Addition of one project trip that causes an intersection operating at an unacceptable LOS E or F.

Roadway Segments

- Roadway segments operating at LOS C or better degrade to an unacceptable LOS D, E, or F.

CITY OF TRACY

Signalized Intersections

- Signalized intersections operating at an acceptable level (LOS D or better if located more than ¼ mile from a freeway) degrade to an unacceptable LOS E or F.

Un-signalized Intersections

- Unsignalized intersections operating at LOS D or better degrade to an unacceptable LOS E or under (outside ¼ mile of a freeway), and LOS E or better degrade to an unacceptable LOS F (within ¼ mile of a freeway), and a traffic signal warrant is met.

CITY OF LIVERMORE

The following provides a list and description of exceptions to the LOS D standard:

Signalized Intersections

- The upper limit of acceptable service at signalized intersections shall be mid-level D, except in the Downtown Area and near freeway interchanges.

- There shall be no level of service standard for the Downtown Area as described in the General Plan Land Use Map.
- For selected intersections near freeway interchanges, the upper limit of acceptable level of service shall be LOS E.

CEQA

According to Appendix G of the CEQA Guidelines, the Project would have a significant impact on traffic if the Project would:

- 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?
- 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?
- 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?
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- 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 IMPACTS AND ANALYSIS

EXISTING PLUS PROJECT 2035 CONDITIONS

The Existing Plus Project 2035 conditions were analyzed by adding Project trips to the existing road network. The Specific Plan road network is assumed to be in place, but the regional road network is not. Thus, the Project would gain access to the City and regional road network from Corral Hollow Road. While the existing network is not intended to support the Project traffic in its entirety, this scenario can be useful in determining mitigation phasing in regards to longer term impacts.

Tables 4.13-19 through 4.13-24 show the analysis results for Existing Plus Project conditions (i.e., intersection delay and LOS, roadway segment V/C, freeway segment LOS, and ramp merge/diverge LOS).

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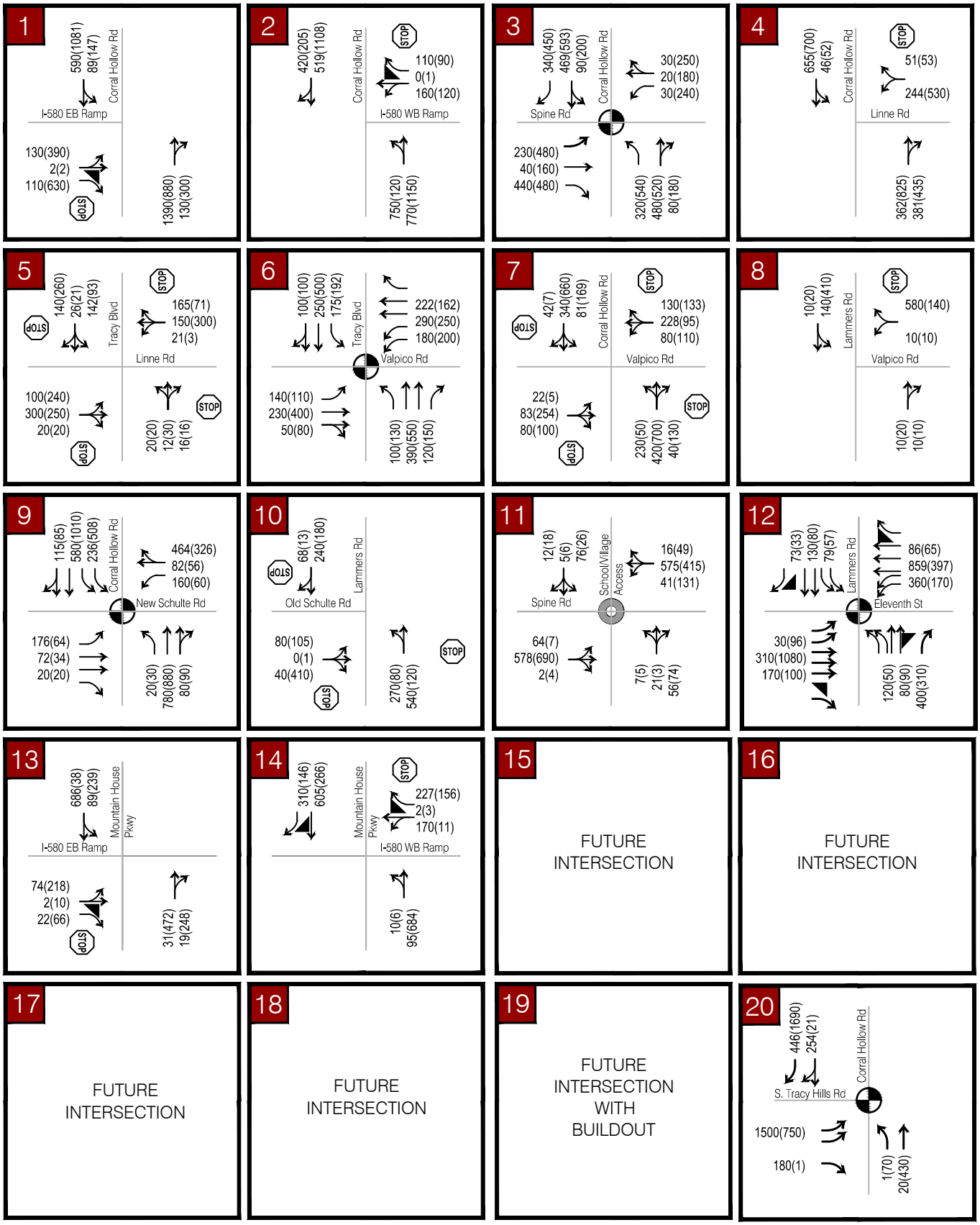

FIGURE 4.13-12

Existing + Project (2035) Turning Movements & Geometry - Tracy

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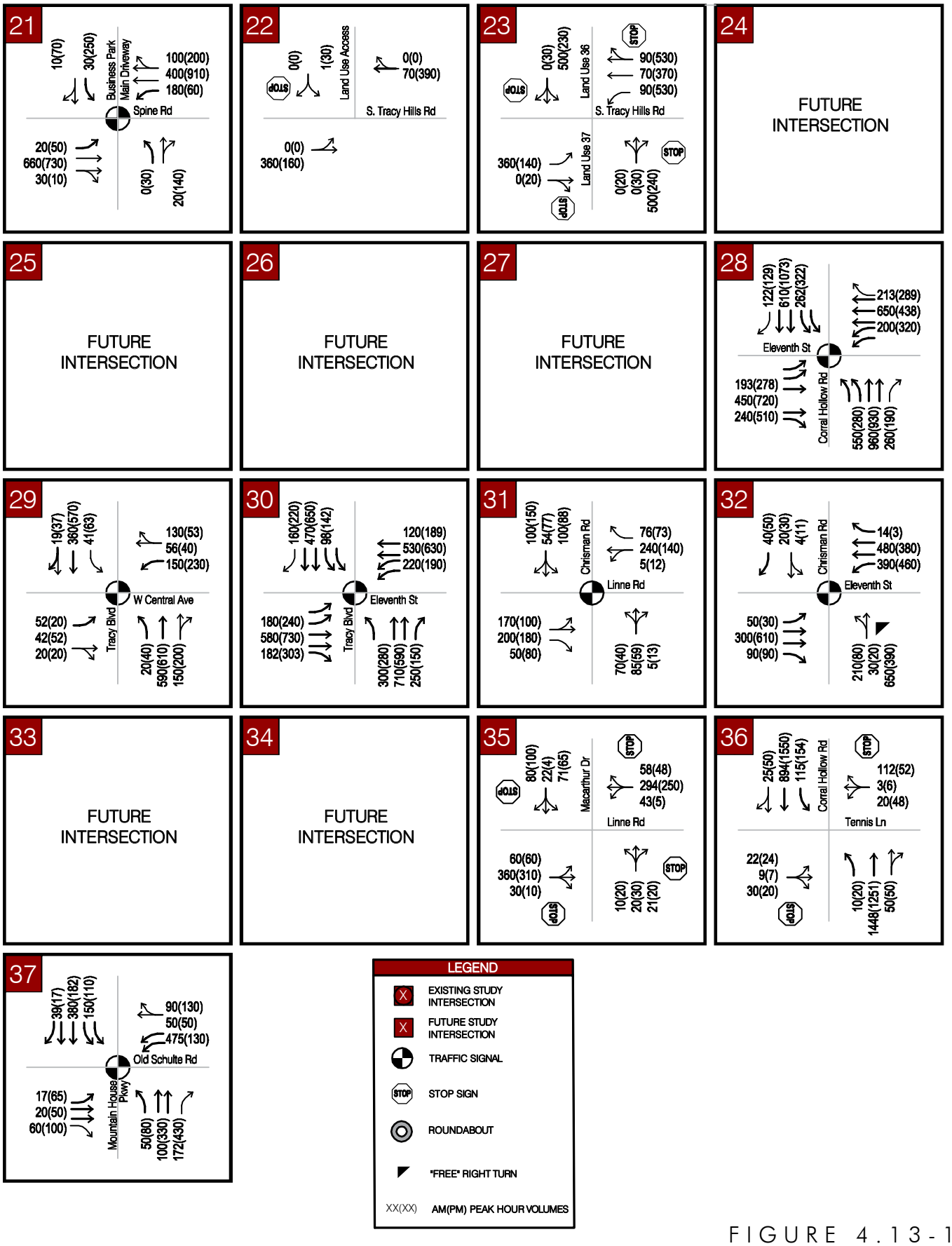

FIGURE 4.13-12

Existing + Project 2035 Turning Movements - Tracy

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Table 4.13-19: Existing Plus Project 2035 Intersection Delay & LOS Results - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) + Project (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	**-**	**OVRFL**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	**-**	**OVRFL**	**-**	**238.9**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
3	Corral Hollow Rd and Spine Rd	D	City	Signal	C	28.6	**F**	**OVRFL**
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	**-**	**226.6**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
5	Tracy Blvd and Linne Rd	D	City	AWSC	**D**	**32.8**	**F**	**56.0**
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	29.2	C	30.0
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC / Signal[3]	**F**	**68.9**	**F**	**78.3**
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	13.6	-	8.3
	Worst Approach				*C*	*16.1*	*B*	*11.3*
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**67.8**	D	40.5
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**39.5**	C	20.1
11	Roundabout on Spine Rd	D	City	Roundabout	B	12.6	B	13.7
	Worst V/C Ratio				*V/C*	*0.7*	*V/C*	*0.8*
12	Lammers Rd and Eleventh St	D	City	Signal	C	22.2	B	19.4
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	-	1.6	**-**	13.7
	Worst Approach				*A*	*7.6*	***F***	***51.8***
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	-	2.7	-	4.0
	Worst Approach				*A*	*9.3*	*D*	*27.8*
15	Lammers Rd and I -580 EB Ramp*	C/D	Caltrans	Signal	-	-	-	-
16	Lammers Rd and I-580 WB Ramp*	C/D	Caltrans	Signal	-	-	-	-
17	Lammers Rd and Spine Rd*	D	City	Signal	-	-	-	-
18	Lammers Rd and Linne Rd*	D	City	Signal	-	-	-	-
19	Corral Hollow Rd and N. Tracy Hills Rd	D	City	Signal	-	-	-	-
20	Corral Hollow Rd and S. Tracy Hills Rd	D	City	Signal	B	18.8	B	8.1
21	Business Park Main Driveway	D	City	Signal	A	3.7	A	9.6
22	Internal Intersection	D	City	SSSC	-	0.1	-	0.7
	Worst Approach				*B*	*11.2*	*B*	*12.7*
23	Internal Intersection	D	City	AWSC	**F**	**60.9**	**E**	**47.4**
24	Lammers Road/Hansen Road*	D	County	Signal	-	-	-	-
25	Lammers Ext (Eleventh) and I-205 EB Ramps*	D	County	Signal	-	-	-	-
26	Lammers Ext (Eleventh) and I-205 WB Ramps*	D	County	Signal	-	-	-	-
27	Lammers Ext and Grant Line Rd*	D	County	Signal	-	-	-	-
28	Corral Hollow Rd and Eleventh St	D	City	Signal	C	29.5	D	42.6
29	Tracy Blvd and W. Central Ave	D	City	Signal	B	16.6	B	18.2

Table 4.13-19: Existing Plus Project 2035 Intersection Delay & LOS Results - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) + Project (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
30	Tracy Blvd and Eleventh St	D	City	Signal	C	20.6	C	23.9
31	Linne Rd and Chrisman Rd	D	County	Signal	A	6.4	A	6.1
32	Chrisman Rd and Eleventh St	D	County	Signal	B	14.1	B	14.0
33	Chrisman Rd and I-205 EB Ramps*	D	City	Signal	-	-	-	-
34	Chrisman Rd and I-205 WB Ramps*	D	City	Signal	-	-	-	-
35	Linne Rd and MacArthur Drive	D	County	AWSC	C	15.1	B	12.2
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	-	**46.5**	**-**	**0.8**
	Worst Approach				***F***	***OVRFL***	***A***	***1.3***
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	13.5	B	14.3

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD**
OVRFL = "overflow;" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]Currently, Intersection #7 is an AWSC. However, the intersection would be signalized before the Project (Phase I) is implemented. See Appendix H-7.

Source: Kimley-Horn, 2014.

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) AM Peak LOS	Existing (2013) AM Peak Delay	Existing (2013) PM Peak LOS	Existing (2013) PM Peak Delay	Existing (2013) + Project (2035) AM Peak LOS	Existing (2013) + Project (2035) AM Peak Delay	Existing (2013) + Project (2035) PM Peak LOS	Existing (2013) + Project (2035) PM Peak Delay	Existing (2013) + Project (Mitigated) Tracy TMP Improvements Only AM Peak LOS	Existing (2013) + Project (Mitigated) Tracy TMP Improvements Only AM Peak Delay	Existing (2013) + Project (Mitigated) Tracy TMP Improvements Only PM Peak LOS	Existing (2013) + Project (Mitigated) Tracy TMP Improvements Only PM Peak Delay	Existing (2013) + Project (Mitigated) Beyond Tracy TMP Improvements AM Peak LOS	Existing (2013) + Project (Mitigated) Beyond Tracy TMP Improvements AM Peak Delay	Existing (2013) + Project (Mitigated) Beyond Tracy TMP Improvements PM Peak LOS	Existing (2013) + Project (Mitigated) Beyond Tracy TMP Improvements PM Peak Delay	TMP Improvement (Mitigation Action)	Beyond TMP Improvement (Mitigation Action)
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	-	3.0	-	10.5	-	**OVRFL**	-	**OVRFL**	A	6.6	D	37.5	-	-	-	-	Signalize intersection and convert to TMP geometry (i.e., On NB approach add one additional through lane and a NBR turn pocket, on SB approach add a SBL turn pocket, make EB approach EBL and EBT/R) OR build Lammers interchange.	None
	Worst Approach				*B*	*13.0*	*D*	*29.2*	***F***	***OVRFL***	***F***	***OVRFL***					-	-	-	-		
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	11	-	3.7	-	1.1	-	**OVRFL**	-	**238.9**	B	14.5	A	8.5	B	12.0	C	32.1	Signalize intersection and convert to TMP geometry (i.e., On NB approach add a NBL turn pocket, on SB approach add one additional through lane and a SBR turn pocket.)	Convert Corral Hollow overpass to 4 through lanes with a WB loop on-ramp OR build Lammers interchange
	Worst Approach				*B*	*12.7*	*B*	*12.0*	***F***	***OVRFL***	***F***	***OVRFL***										
3	Corral Hollow Rd and Spine Rd	D	City	Signal	-	-	-	-	C	28.6	**F**	**OVRFL**	C	31.6	C	28.2	-	-	-	-	Convert Corral Hollow to 4 through lanes AND add dual SBL turn lanes OR build Lammers interchange	None
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	-	10.5	-	3.3	-	**226.6**	-	**OVRFL**	A	2.4	A	2.8	-	-	-	-	Signalize intersection and convert to partial TMP geometry (i.e., make NB approach a NBR and NBT, make SB approach a SBL and SBT.) This signalization requires consideration of railroad improvements.	None
	Worst Approach				*D*	*25.7*	*C*	*15.7*	***F***	***OVRFL***	***F***	***OVRFL***					-	-	-	-		
5	Tracy Blvd and Linne Rd	D	City	AWSC	B	14.6	B	10.3	**D**	**32.8**	**F**	**56.0**	B	10.7	B	17.2	-	-	-	-	Signalize intersection and convert to partial TMP geometry (i.e., Make SB approach a SBT/L and SBR, make EB approach an EBL and EBT/R.) This signalization requires consideration of railroad crossing improvements.	None
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	25.9	C	24.7	C	29.2	C	30.0	-	-	-	-	-	-	-	-	None	None
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC / Signal[3]	**F**	**52.0**	**F**	**55.8**	**F**	**68.9**	**F**	**78.3**	B	14.2	C	27.1	-	-	-	-	Signalize intersection and convert to partial TMP geometry (i.e., make SB, EB, and WB approaches contain one left turn and one shared through/right turn lane, make NB approach NBL, NBT, NBR).	None
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	11.0	-	8.0	-	13.6	-	8.3	-	-	-	-	-	-	-	-	None	None
	Worst Approach				*B*	*12.8*	*A*	*9.6*	*C*	*16.1*	*B*	*11.3*	-	-	-	-	-	-	-	-		
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**55.5**	C	29.3	**E**	**67.8**	D	40.5	D	44.5	C	30.0	-	-	-	-	Convert to partial TMP geometry (i.e., Make WB approach WBR, WBT/R, and WBL).	None
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**37.8**	B	13.9	**E**	**39.5**	C	20.1	A	1.0	A	1.2	-	-	-	-	Signalize and convert to partial TMP geometry (i.e., add NBL and SBR lanes)	None
11	Roundabout on Spine Rd	D	City	Roundabout	-	-	-	-	B	12.6	B	13.7	-	-	-	-	-	-	-	-	None	None
	Worst v/c Ratio				-	-	-	-	*v/c*	*0.7*	*v/c*	*0.8*	-	-	-	-	-	-	-	-		
12	Lammers Rd and Eleventh St	D	City	Signal	C	21.8	C	19.6	C	22.2	B	19.4	-	-	-	-	-	-	-	-	None	None
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	-	1.3	-	4.7	-	1.6	-	**13.7**	A	5.8	B	8.5	-	-	-	-	Signalize as per TMP indication.	None
	Worst Approach				*A*	*6.6*	*B*	*13.0*	*A*	*7.6*	***F***	***51.8***					-	-	-	-		
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	-	2.2	-	1.7	-	2.7	-	4.0	A	7.8	A	3.3	-	-	-	-	Signalize as per TMP indication.	None
	Worst Approach				*A*	*7.6*	*C*	*17.8*	***A***	***9.3***	*D*	*27.8*					-	-	-	-		
15	Lammers Rd and I -580 EB Ramp*	C/D	Caltrans	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
16	Lammers Rd and I-580 WB Ramp*	C/D	Caltrans	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
17	Lammers Rd and Spine Rd*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
18	Lammers Rd and Linne Rd*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
19	Corral Hollow Rd and N. Tracy Hills Rd	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
20	Corral Hollow Rd and S. Tracy Hills Rd	D	City	Signal	-	-	-	-	B	18.8	B	8.1	-	-	-	-	-	-	-	-	None	None
21	Business Park Main Driveway	D	City	Signal	-	-	-	-	A	3.7	A	9.6	-	-	-	-	-	-	-	-	None	None
22	Internal Intersection	D	City	SSSC	-	-	-	-	-	0.1	-	0.7	-	-	-	-	-	-	-	-	None	None
	Worst Approach				-	-	-	-	*B*	*11.2*	*B*	*12.7*	-	-	-	-	-	-	-	-	None	None
23	Internal Intersection	D	City	AWSC	-	-	-	-	**F**	**60.9**	**E**	**47.4**	-	-	-	-	B	10.7	B	17.1	None	Signalize Intersection
24	Lammers Road/Hansen Road*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
25	Lammers Ext (Eleventh) and I-205 EB Ramps*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
26	Lammers Ext (Eleventh) and I-205 WB Ramps*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
27	Lammers Ext and Pavillion Pkwy*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
28	Corral Hollow Rd and Eleventh St	D	City	Signal	C	27.7	C	30.6	C	29.5	D	42.6	-	-	-	-	-	-	-	-	None	None
29	Tracy Blvd and W. Central Ave	D	City	Signal	B	15.8	B	17.6	B	16.6	B	18.2	-	-	-	-	-	-	-	-	None	None
30	Tracy Blvd and Eleventh St	D	City	Signal	C	21.0	C	24.6	C	20.6	C	23.9	-	-	-	-	-	-	-	-	None	None
31	Linne Rd and Chrisman Rd	D	County	Signal	A	5.5	A	5.2	A	6.4	A	6.1	-	-	-	-	-	-	-	-	None	None
32	Chrisman Rd and Eleventh St	D	County	Signal	B	11.9	B	11.4	B	14.1	B	14.0	-	-	-	-	-	-	-	-	None	None
33	Chrisman Rd and I-205 EB Ramps*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
34	Chrisman Rd and I-205 WB Ramps*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None	None
35	Linne Rd and MacArthur Drive	D	County	AWSC	B	10.5	A	9.1	C	15.1	B	12.2	-	-	-	-	-	-	-	-	None	None
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	**-**	7.7	-	12.1	-	46.5	-	**0.8**	-	-	-	-	Del	3.1	Del	4.7	None	Construct median on Corral Hollow and allow right turn out only on Tennis Ln.
	Worst Approach				***F***	***184.9***	***F***	***OVRFL***	***F***	***OVRFL***	***A***	***1.3***	-	-	-	-						
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	14.9	B	13.0	B	13.5	B	14.3	-	-	-	-	-	-	-	-	None	None

Note: Intersections that are operating below acceptable levels are shown in **BOLD**.

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

[2]Currently, Intersection #7 is an AWSC. However, after recent discussions with the City the intersection will be signalized before the Project (Phase I) is implemented. See the Appendix.

*Indicates a new roadway network element only present in Cumulative conditions.

Source: Kimley-Horn & Associates, Inc. (2014)

TABLE 4.13-20

Existing + Project 2035 Intersection Delay & LOS Mitigation - Tracy

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An initial evaluation of the traffic impact analysis indicates that the Project would require significant improvements to Corral Hollow Road and require the construction of Lammers Road as defined in the TMP to facilitate full development of the THSP. This is due to the unique location of the THSP Project Area, magnitude of the Project, and access to I-580 at the Corral Hollow Road interchange and the proposed Lammers Road interchange. Both these interchanges are included in the TMP and the City is currently collecting TIFs and seeking grant funding to implement the planned improvements. If, at the time interchange improvements are required to provide adequate capacity to mitigate the project impacts, the City does not have sufficient funds for implementation, the Project Applicant may be required to fund the improvements upfront and enter into a reimbursement agreement with the City or receive a TIF credit.

If the Lammers Road interchange and Lammers Road connection northwards are not constructed, and the Project Applicant has to mitigate the impacts on the existing road network, extensive capacity improvements, which would extend beyond the TMP roadway network, would have to be constructed, in part along Corral Hollow Road. Such extensive improvements would be inconsistent with the infrastructure plan defined in the TMP and distort traffic circulation. The development of the THSP and the onsite roads would require construction of Lammers Road from north of Linne Road to the I-580 interchange, in addition to the construction of Corral Hollow Road, also defined in the TMP. Both Lammers Road and Corral Hollow Road would provide primary access to the I-580 and the City road network.

A trigger analysis was performed to see to what extent the THSP can be developed with TMP identified improvements at the Corral Hollow interchange for 2035 conditions. The analysis indicates an approximate equivalent number of single family dwelling units of 2,536 that can be built, at which point, the operational degradation along Corral Hollow would merit the construction of Lammers Road and the I-580 interchange, or result in major improvements to the Corral Hollow interchange.

Detailed trigger analysis for every intersection and roadway segment is highly speculative for future phases, excluding Phase 1a, described later in this chapter. Therefore, future Tentative Map applications beyond Phase 1a would be required to submit site specific traffic assignments to determine the triggers warranting improvements as identified in the TMP and this Draft SEIR.

Table 4.13-21: Existing Plus Project 2035 Intersection Delay & LOS Trigger Analysis

	Intersection	LOS Criteria	Jurisdiction	TMP /Project Indicated Control	Worst peak hour Project trip generation/equivalent number of Single Family Dwelling Units which triggers Lammers Interchange				Existing (2013) + Project (Mitigated w/ Lammers Interchange)			
									AM Peak		PM Peak	
					Trips	SFD	LOS	Delay	LOS	Delay	LOS	Delay
2	Corral Hollow Rd and I-580 WB Ramps	C/D[2]	Caltrans	Signal	2,588 (AM Peak)	2,536	D	52.1	B	11.0	A	5.1

Note: Intersections that are operating below acceptable levels are shown in BOLD.
1 Each study intersection is controlled by a signal, all way stop control (AWSC), or side street stop control (SSSC).

Source: Kimley-Horn, 2014.

Table 4.13-22: Existing Plus Project 2035 Roadway Segment Volumes, Capacities, and V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM Project	PM Project	AM Project	PM Project
Lammers Road (Northbound)	N/O Eleventh St	891	196	251	0.2	0.3
	Eleventh St to Old Schulte Rd	891	610	338	0.7	0.4
	Old Schulte Rd to Valpico Rd	891	700	180	0.79	0.2
	S/O Valpico Rd	891	20	30	0.02	0.03
Lammers Road (Southbound)	N/O Eleventh St	891	282	170	0.3	0.2
	Eleventh St to Old Schulte Rd	891	484	272	0.5	0.3
	Old Schulte Rd to Valpico Rd	891	215	510	0.2	0.6
	S/O Valpico Rd	891	20	30	0.02	0.03
Corral Hollow Road (Northbound)	N/O Eleventh St	1,485	1,366	1,497	**0.9**	**1.0**
	Eleventh St to New Schulte Rd	1,485	1,595	1,335	**1.1**	**0.9**
	New Schulte Rd to Linne Rd	891	647	939	0.7	**1.1**
	Linne Rd to Spine Rd	891	742	1,255	0.8	**1.4**
	S/O Spine Rd	891	899	1,243	**1.0**	**1.4**
Corral Hollow Road (Southbound)	N/O Eleventh St	1,485	994	1,524	0.7	**1.0**
	Eleventh St to New Schulte Rd	1,485	991	1,753	0.7	**1.2**
	New Schulte Rd to Linne Rd	891	731	921	0.82	**1.0**
	Linne Rd to Spine Rd	891	899	1,237	**1.0**	**1.4**
	S/O Spine Rd	891	939	1,313	**1.1**	**1.5**
Eleventh Street (Eastbound)	W/O Lammers Rd	1,782	510	1,276	0.3	0.7
	Lammers to Corral Hollow	2,228	836	1,478	0.4	0.7
	E/O Corral Hollow	1,485	957	1252.5	0.6	0.84
Eleventh Street (Westbound)	W/O Lammers Rd	1,782	1,052	480	0.6	0.3
	Lammers to Corral Hollow	2,228	1,314	740	0.6	0.3
	E/O Corral Hollow	1,485	1,027	1,089	0.7	0.7
Chrisman Road (Northbound)	N/O Eleventh St	891	94	53	0.1	0.1
	Eleventh St to Linne Rd	891	611	361	0.7	0.4
	S/O Linne Rd	891	160	112	0.2	0.1
Chrisman Road (Southbound)	N/O Eleventh St	891	64	91	0.1	0.1
	Eleventh St to Linne Rd	891	377	448	0.4	0.5
	S/O Linne Rd	891	109	169	0.1	0.2
MacArthur Drive (Northbound)	Linne Rd to Valpico Rd	891	154	101	0.2	0.1
	Valpico Rd to New Schulte Rd	891	305	243	0.3	0.3
	New Schulte Rd to Eleventh St	891	599	362	0.7	0.4
	N/O Eleventh St	1,485	230	242	0.2	0.2
MacArthur Drive (Southbound)	Linne Rd to Valpico Rd	891	118	173	0.1	0.2
	Valpico Rd to W Schulte Rd	891	416	377	0.5	0.4

Table 4.13-22: Existing Plus Project 2035 Roadway Segment Volumes, Capacities, and V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM Project	PM Project	AM Project	PM Project
	W Schulte Rd to Eleventh St	891	479	395	0.5	0.4
	N/O Eleventh St	594	233	183	0.4	0.3
Tracy Boulevard (Northbound)	N/O Eleventh St	1,485	1,010	1,019	0.7	0.7
	Eleventh St to Valpico Rd	1,485	1,006	921	0.7	0.6
	Valpico Rd to Linne Rd	891	444	586	0.5	0.7
	S/O Linne Rd	891	48	66	0.1	0.1
Tracy Boulevard (Southbound)	N/O Eleventh St	1,485	728	1,012	0.5	0.7
	Eleventh St to Valpico Rd	1,485	699	968	0.5	0.7
	Valpico Rd to Linne Rd	891	394	577	0.4	0.6
	S/O Linne Rd	891	67	44	0.1	0.05
Linne Road (Eastbound)	W/O Tracy Blvd	891	420	510	0.5	0.6
	E/O Tracy Blvd	891	458	359	0.5	0.4
Linne Road (Westbound)	W/O Tracy Blvd	891	310	580	0.3	0.7
	E/O Tracy Blvd	891	336	374	0.4	0.4

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-23: Existing Plus Project 2035 Freeway Segment Volumes & LOS - Tracy

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road	EB	419	3.5	A	2,667	23.1	C
		WB	2,896	25.6	C	1,268	10.7	A
2	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
3	I-580 - Mountain House Parkway/Patterson Pass Road to Corral Hollow Road	EB	425	3.6	A	2,662	23.1	C
		WB	2,876	25.4	C	1,273	10.8	A
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	403	3.4	A	1,874	15.9	B
		WB	1,920	16.2	B	1,191	10.1	A
5	I-580: Rt. 132 to I-5	EB	403	3.4	A	1,891	15.9	B
		WB	2,043	17.2	B	1,317	11.1	B
6	I-205: I-205 Junction to Mountain House Parkway	EB	955	5.2	A	4,969	29.7	D
		WB	4,355	24.8	C	3,134	17.2	B
7	I-205: Mountain House Parkway to Eleventh St	EB	752	4.1	A	3,928	21.9	C
		WB	3,425	18.8	C	2,489	13.7	B
8	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
9	I-205: Eleventh St. to Grant Line Rd	EB	752	4.1	A	3,926	21.9	C
		WB	3,425	18.8	C	2,488	13.7	B
10	I-205: Grant Line Rd to Tracy Blvd	EB	983	5.4	A	5,089	30.6	D
		WB	4,429	25.2	C	3,220	17.6	B
11	I-205: Tracy Blvd to MacArthur Dr	EB	995	5.4	A	5,189	31.5	D

Table 4.13-23: Existing Plus Project 2035 Freeway Segment Volumes & LOS - Tracy

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
		WB	4,552	26.1	D	3,257	17.8	B
12	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
13	I-205: MacArthur Dr to I-5	EB	886	4.8	A	4,603	26.5	D
		WB	4,028	22.4	C	2,899	15.8	B
14	I-205: I-5 to SR-120	EB	1,177	3.9	A	5,252	17.2	B
		WB	4,643	15.2	B	3,475	11.4	B

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
AADT obtained from Caltrans Traffic Data Branch (2012).
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane
(c) Directional volumes in vehicles per hour (vph) obtained from the Tracy Hills model generated by Fehr & Peers, 2013.

Source: Kimley-Horn, 2014.

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I-580 Interchange	Freeway Direction	Ramp	Length of Accel/Decel Lane (ft)	Existing								Existing Plus Project (2035)								Existing Plus Project (2035) Mitigated				
				AM				PM				AM				PM					AM		PM	
				Freeway Volume (vph) [a]	Ramp Volume (vph)	Ramp Density (pc/mi/ln) [b]	LOS	Freeway Volume (vph) [a]	Ramp Volume (vph)	Ramp Density (pc/mi/ln) [b]	LOS	Freeway Volume (vph) [a]	Ramp Volume (vph)	Ramp Density (pc/mi/ln) [b]	LOS	Freeway Volume (vph) [a]	Ramp Volume (vph)	Ramp Density (pc/mi/ln) [b]	LOS	Recommended Mitigation	Ramp Density (pc/mi/ln) [b]	LOS	Ramp Density (pc/mi/ln) [b]	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	178	41	6.0	A	1,433	333	20.1	C	178	221	8.0	A	1,433	449	21.1	C	-	-	-	-	-
		Diverge (off-ramp)	200	236	58	4.9	A	1,696	263	19.7	B	420	242	6.7	A	2,455	1,022	27.5	C	-	-	-	-	-
	WB	Merge (on-ramp)	400	1,689	325	22.1	C	967	86	12.7	B	**1,689**	**1,171**	**31.3**	**D**	967	326	14.9	B	Create a WB loop on-ramp	23.2	C	13.9	B
		Diverge (off-ramp)	200	1,886	197	21.7	C	1,019	52	12.8	B	1,960	271	22.4	C	1,178	211	14.5	B	-	-	-	-	-

Notes:

*Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.

*Analysis performed using HCS 2010 software.

*Freeway volumes obtained from Caltrans Traffic Data Branch (2012) for existing conditions.

*Existing ramp volumes obtained from existing turning movement counts conducted in May 2013. Project trip ramp volumes obtained from the Fehr & Peers (2013) generated model for the corresponding scenario.

(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).

(b) pc/mi/ln = passenger cars per mile per lane

TABLE 4.13-24

Existing + Project 2035 Ramp Merge Diverge & LOS Mitigation - Tracy

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EXISTING PLUS BUILDOUT CONDITIONS

The Existing Plus Buildout scenario was developed by adding full buildout of the THSP to the existing network geometrics and existing counts. An initial evaluation of the traffic impact analysis indicates that the Project would require significant improvements to Corral Hollow Road and require the construction of Lammers Road as defined in the TMP to facilitate development of the buildout of the THSP. This is due to the unique location of the Project Area within the City and magnitude of Project development over a 30-year horizon. There are very few existing roadways that provide access and mobility to the THSP Project Area. Thus, construction of TMP roadways are required to facilitate acceptable travel routes to and from the THSP Project area. To mitigate the impacts on the existing road network, extensive capacity improvements, which would extend beyond the TMP roadway network, would have to be constructed. Such extensive improvements would be inconsistent with the infrastructure plan defined in the TMP and distort traffic circulation.

Thus, development of the THSP and the onsite roads would require construction of Lammers Road from north of Linne Road to the I-580 interchange, in addition to the construction of Corral Hollow Road, also defined in the TMP. Both Lammers Road and Corral Hollow Road would provide primary access to the I-580 and the City road network.

Tables 4.13-25 through 4.13-33 show the analysis results for Existing Plus Buildout conditions (i.e., intersection delay and LOS, roadway segment V/C, freeway segment LOS, and ramp merge/diverge LOS).

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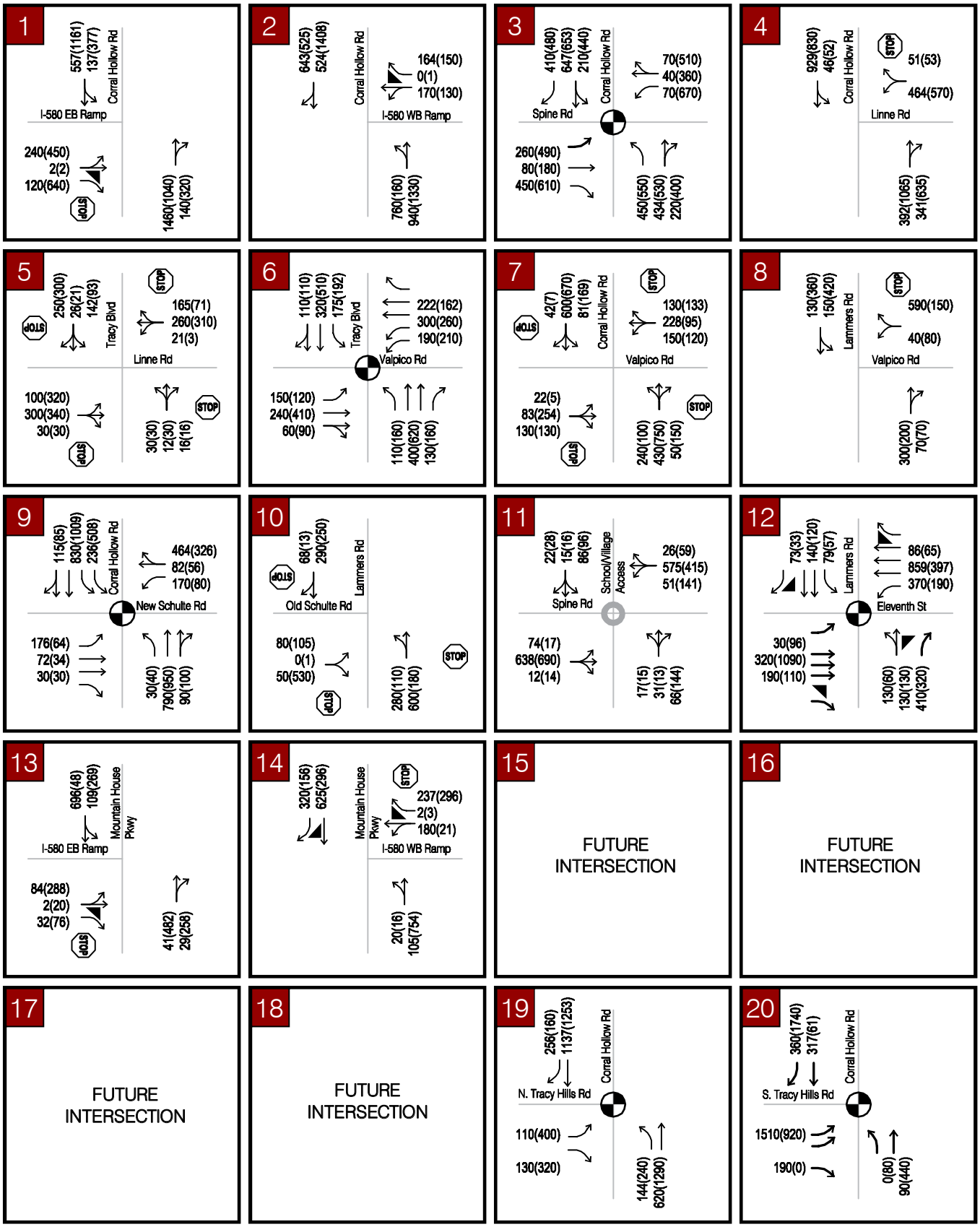

FIGURE 4.13-13

Existing + Buildout Turning Movements & Geometry - Tracy

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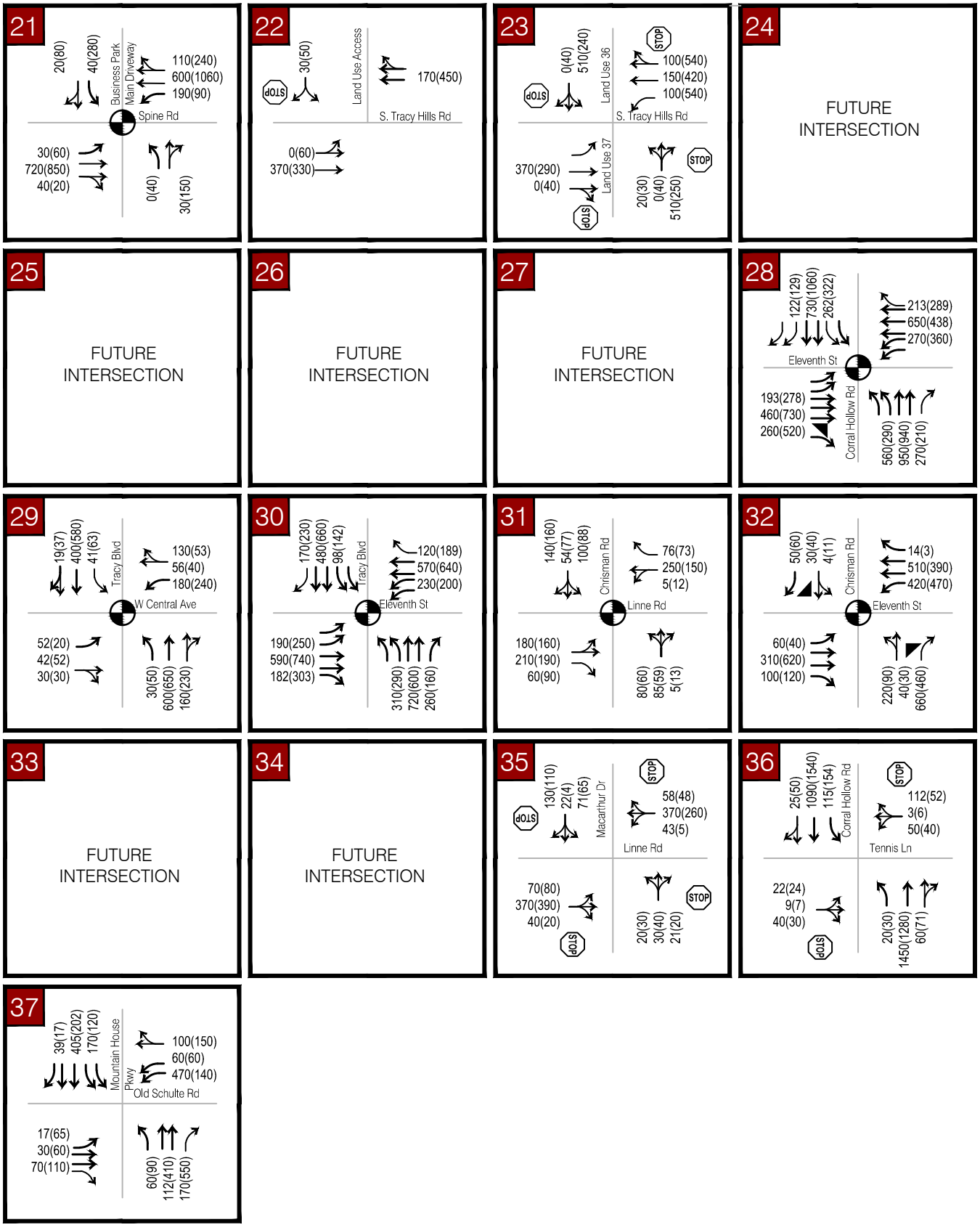

FIGURE 4.13-13

Existing + Buildout Turning Movements & Geometry - Tracy

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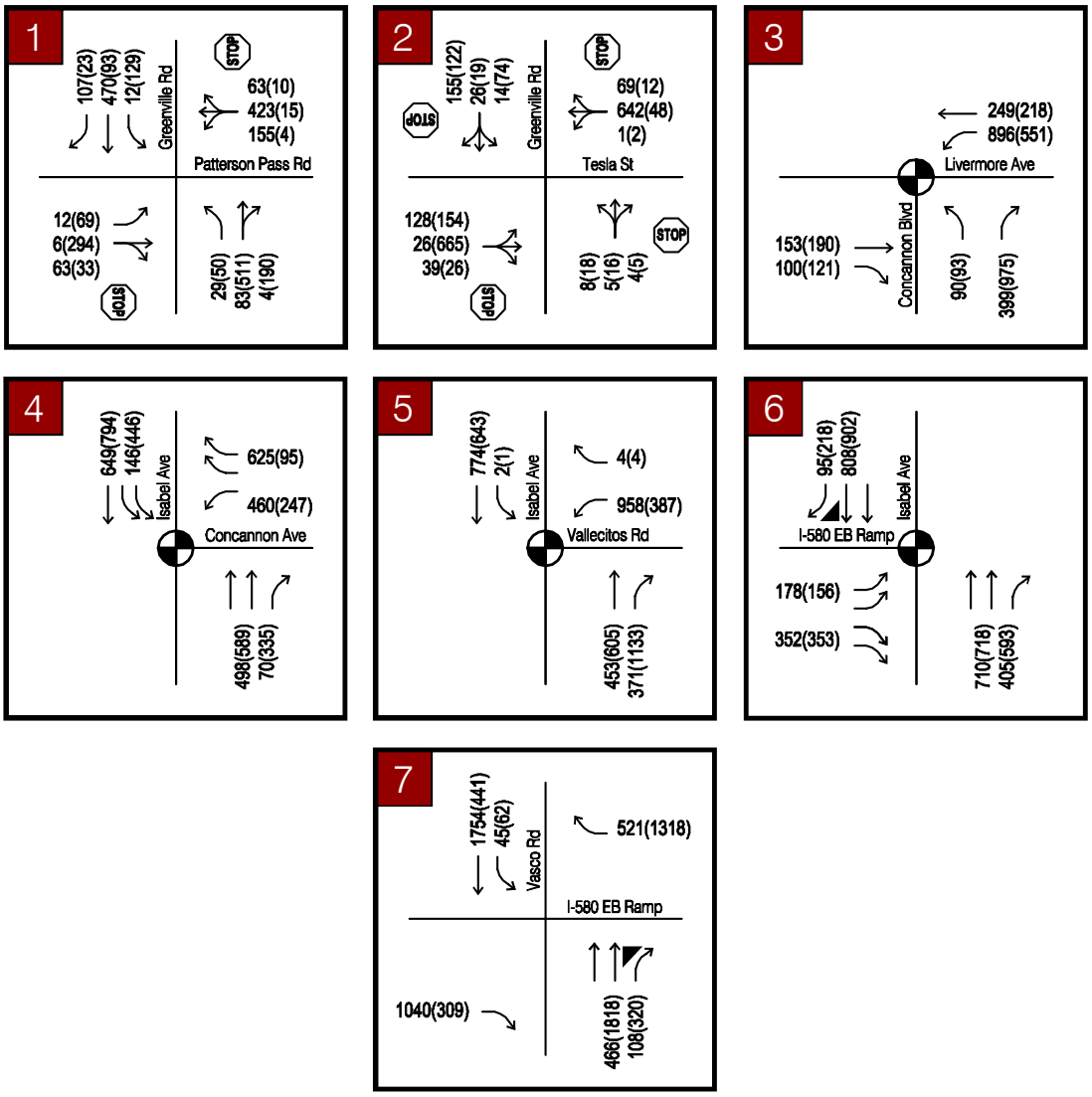

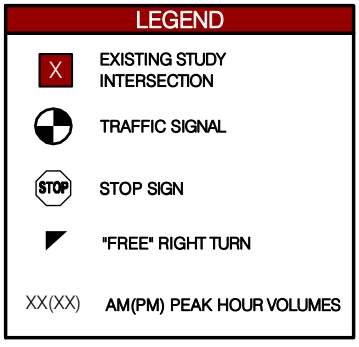

FIGURE 4.13-14

Existing + Buildout Turning Movements & Geometry - Livermore

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Table 4.13-25: Existing Plus Buildout Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) + Buildout			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	**-**	**OVRFL**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	**-**	**276.2**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
3	Corral Hollow Rd and Spine Rd	D	City	Signal	**F**	**248.2**	**F**	**704.6**
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	**-**	**1271**	**-**	**5223.9**
	Worst Approach				**F**	**OVRFL**	**F**	**OVRFL**
5	Tracy Blvd and Linne Rd	D	City	AWSC	**F**	**62.5**	**F**	**62.9**
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	30.9	C	34.0
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC / Signal[3]	**F**	**72.1**	**F**	**78.3**
8	Lammers Rd and Valpico Rd	D	County	SSSC	**-**	**107.7**	**-**	**224.5**
	Worst Approach				**F**	**230.4**	**F**	**OVRFL**
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**77.4**	D	44.6
10	Lammers Rd and Old Schulte Rd	D	City	AWSC	**E**	**40.6**	**E**	**40.1**
11	Roundabout on Spine Rd	D	City	Roundabout	C	15.5	C	17.7
	Worst V/C Ratio				-	0.763	-	0.84
12	Lammers Rd and Eleventh St	D	City	Signal	C	23.5	C	21.1
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	**-**	1.8	**-**	**146.4**
	Worst Approach				*A*	*8.3*	***F***	***OVRFL***
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	**-**	3.5	**-**	**53.7**
	Worst Approach				*B*	*11.7*	***F***	***243.3***
19	Corral Hollow Rd and N. Tracy Hills Rd	D	City	Signal	B	10.0	E	69.3
20	Corral Hollow Rd and S. Tracy Hills Rd	D	City	Signal	B	12	A	8.9
21	Business Park Main Driveway	D	City	Signal	A	3.7	B	11.9
22	Internal Intersection	D	City	SSSC	-	0.5	-	1.2
	Worst Approach				A	9.3	B	11.4
23	Internal Intersection	D	City	AWSC	**F**	**63.8**	**F**	**60.3**
28	Corral Hollow Rd and Eleventh St	D	City	Signal	C	31.3	D	43.7
29	Tracy Blvd and W. Central Ave	D	City	Signal	B	17.3	B	19.0
30	Tracy Blvd and Eleventh St	D	City	Signal	C	21.5	C	24.9
31	Linne Rd and Chrisman Rd	D	County	Signal	A	7	A	6.6
32	Chrisman Rd and Eleventh St	D	City	Signal	B	15.6	B	15.4
35	Linne Rd and MacArthur Drive	D	County	AWSC	C	21.1	C	16.0
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	**-**	**281.9**	**-**	**0.8**
	Worst Approach				**F**	**OVRFL**	**-**	**OVRFL**
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	13.9	B	19.2

Notes:
Intersections that are operating below acceptable levels are shown in BOLD.
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]Currently, Intersection #7 is an AWSC. However, after recent discussions with the City the intersection would be signalized before the Project (Phase I) is implemented. See Appendix H-7.

Source: Kimley-Horn, 2014.

Table 4.13-26: Existing Plus Buildout Intersection Delay & LOS - Livermore

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2014) + Buildout					
					AM Peak			PM Peak		
					LOS	Delay	Var	LOS	Delay	Var
L1	Greenville Road & Patterson Pass Road	Mid-D (30 secs)	City	SSSC	**F**	**289.3**	**83.1**	**F**	**185.9**	**91.5**
	Worst Approach				***F***	***606.6***	***140.3***	***F***	***706.9***	***295.3***
L2	Greenville Road & Tesla Road	Mid-D (30 secs)	County	AWSC	**E**	**40.2**	**1.5**	**E**	**42.5**	**1.2**
L3	Concannon Boulevard & Livermore Avenue	Mid-D (45 secs)	City	Signal	**D**	**51.9**	**17.6**	C	35.0	8.2
L4	Isabel Avenue & Concannon Boulevard	Mid-D (45 secs)	City	Signal	C	28.5	4.7	C	26.2	-0.3
L5	Isabel Avenue & Vallecitos Road	Mid-D (45 secs)	City	Signal	**F**	**86.7**	**12.6**	C	33.8	9.6
L6	Isabel Avenue & I-580 EB Ramp	E (80 secs)	City	Signal	B	13.3	0.0	B	11.8	0.0
L7	Vasco Rd & I-580 EB Ramps[2]	E (80 secs)	City	-	-	-	-	-	-	**-**

Notes:
Intersections that are operating below acceptable levels are shown in BOLD.
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]This intersection is uncontrolled and therefore the delay cannot be calculated using HCM methodology in Synchro. The SBL movement has to yield to NBT traffic and therefore the queues were determined. The max queue in the Existing + Buildout scenario for the AM peak was one vehicle and the PM peak was four vehicles.

Source: Kimley-Horn, 2014.

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) AM Peak LOS	Existing (2013) AM Peak Delay	Existing (2013) PM Peak LOS	Existing (2013) PM Peak Delay	Existing (2013) + Buildout AM Peak LOS	Existing (2013) + Buildout AM Peak Delay	Existing (2013) + Buildout PM Peak LOS	Existing (2013) + Buildout PM Peak Delay	Existing (2013) + Buildout (Mitigated) Tracy TMP Improvements Only AM Peak LOS	Existing (2013) + Buildout (Mitigated) Tracy TMP Improvements Only AM Peak Delay	Existing (2013) + Buildout (Mitigated) Tracy TMP Improvements Only PM Peak LOS	Existing (2013) + Buildout (Mitigated) Tracy TMP Improvements Only PM Peak Delay	Existing (2013) + Buildout (Mitigated) Beyond Tracy TMP Improvements AM Peak LOS	Existing (2013) + Buildout (Mitigated) Beyond Tracy TMP Improvements AM Peak Delay	Existing (2013) + Buildout (Mitigated) Beyond Tracy TMP Improvements PM Peak LOS	Existing (2013) + Buildout (Mitigated) Beyond Tracy TMP Improvements PM Peak Delay	TMP Improvement (Mitigation Action)	Beyond TMP Improvement (Mitigation Action)
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	-	3.0	-	10.5	-	**OVRFL**	-	**OVRFL**	C	20.2	**E**	**70.8**	D	41.5	D	46.2	Signalize intersection and convert to TMP geometry (i.e., On NB approach add one additional through lane and a NBR turn pocket, on SB approach add a SBL turn pocket, make EB approach EBT/R and EBL).	Make EB approach EBL, EBL/T, and dual EBR. Add one additonal SBT lane OR Build Lammers Interchange
	Worst Approach				*B*	*13.0*	***D***	***29.2***	***F***	***OVRFL***	***F***	***OVRFL***										
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	-	3.7	-	1.1	-	**276.2**	-	**OVRFL**	**E**	**63.2**	B	15.5	B	16.9	C	21.6	Signalize intersection and convert to TMP geometry (i.e., On NB approach add a NBL turn pocket, on SB approach add one additional through lane and a SBR turn pocket.)	Convert Corral Hollow overpass to 4 through lanes with a WB loop on-ramp OR build Lammers interchange
	Worst Approach				*B*	*12.7*	*B*	*12.0*	***F***	***OVRFL***	***F***	***OVRFL***										
3	Corral Hollow Rd and Spine Rd	D	City	Signal	-	-	-	-	**F**	**248.2**	**F**	**704.6**	C	28.8	D	49.6	-	-	-	-	Convert Corral Hollow to 4 through lanes AND add dual SBL and NBL turn lanes OR build Lammers interchange	None.
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	-	10.5	-	3.3	-	**1271**	-	**5223.9**	A	2.3	A	3.5	-	-	-	-	Signalize intersection and convert to partial TMP geometry (i.e., make NB approach a NBR and NBT, make SB approach a SBL and SBT.) This signalization requires consideration railroad crossing improvements.	None.
	Worst Approach				*D*	*25.7*	*C*	*15.7*	**F**	**OVRFL**	**F**	**OVRFL**	-	-	-	-	-	-	-	-		
5	Tracy Blvd and Linne Rd	D	City	AWSC	B	14.6	B	10.3	**F**	**62.5**	**F**	**62.9**	B	16.7	C	25.0	-	-	-	-	Signalize intersection and convert to partial TMP geometry (i.e., Make SB approach a SBT/L and SBR, make EB approach an EBL and EBT/R.) This signalization requires consideration railroad crossing improvements.	None.
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	25.9	C	24.7	C	30.9	C	34	-	-	-	-	-	-	-	-	None.	None.
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC / Signal[2]	**F**	**52.0**	**F**	**55.8**	**F**	**72.1**	**F**	**78.3**	C	24.8	D	40.9	-	-	-	-	Signalize intersection and convert to partial TMP geometry (i.e., make all approaches contain one left turn and one shared through/right turn lane).	None.
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	11.0	-	8.0	-	**107.7**	-	**224.5**	-	107.7	-	224.5	-	-	-	-	Signalize Intersection per TMP.	None.
	Worst Approach				*B*	*12.8*	*A*	*9.6*	**F**	**230.4**	**F**	**OVRFL**	A	1.1	A	1.6	-	-	-	-		
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**55.5**	C	29.3	**E**	**77.4**	D	44.6	D	46.8	C	30.2	-	-	-	-	Convert to partial TMP geometry (i.e., Make WB approach WBR, WBT/R, and WBL).	None.
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**37.8**	B	13.9	**E**	**40.6**	**E**	**40.1**	A	1.0	A	1.1	-	-	-	-	Signalize and convert to partial TMP geometry (i.e., add NBL and SBR lanes)	None.
11	Roundabout on Spine Rd	D	City	Roundabout	-	-	-	-	C	15.5	C	17.7	-	-	-	-	-	-	-	-	None.	None.
	Worst v/c Ratio				-	-	-	-	-	0.76	-	0.84	-	-	-	-	-	-	-	-		
12	Lammers Rd and Eleventh St	D	City	Signal	C	21.8	C	19.6	C	23.5	C	21.1	-	-	-	-	-	-	-	-	None.	None.
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	-	1.3	-	4.7	-	1.8	-	**146.4**	A	7.9	B	11.1	-	-	-	-	Signalize as per TMP indication.	None.
	Worst Approach				*A*	*6.6*	*B*	*13.0*	*A*	*8.3*	***F***	***OVRFL***					-	-	-	-		
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	-	2.2	-	1.7	-	3.5	-	**53.7**	A	9.2	A	3.9	-	-	-	-	Signalize as per TMP indication.	None
	Worst Approach				*A*	*7.6*	*C*	*17.8*	*B*	*11.7*	***F***	***243.3***					-	-	-	-		
15	Lammers Rd and I -580 EB Ramp*	C/D	Caltrans	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
16	Lammers Rd and I-580 WB Ramp*	C/D	Caltrans	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
17	Lammers Rd and Spine Rd*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
18	Lammers Rd and Linne Rd*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
19	Corral Hollow Rd and N. Tracy Hills Rd	D	City	Signal	-	-	-	-	B	10	**E**	**69.3**	A	9.6	C	34.2	-	-	-	-	Signalize and convert Corral Hollow to 4 through lanes.	None.
20	Corral Hollow Rd and S. Tracy Hills Rd	D	City	Signal	-	-	-	-	B	12	A	8.9	-	-	-	-	-	-	-	-	None.	None.
21	Business Park Main Driveway	D	City	Signal	-	-	-	-	A	3.7	B	11.9	-	-	-	-	-	-	-	-	None.	None.
22	Internal Intersection	D	City	SSSC	-	-	-	-	-	0.5	-	1.2	-	-	-	-	-	-	-	-	None.	None.
	Worst Approach								A	9.3	B	11.4	-	-	-	-	-	-	-	-		
23	Internal Intersection	D	City	AWSC	-	-	-	-	**F**	**63.8**	**F**	**60.3**	-	-	-	-	B	18.1	C	20.8	None.	Signalize intersection
24	Lammers Road/Hansen Road*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
25	Lammers Ext (Eleventh) and I-205 EB Ramps*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
26	Lammers Ext (Eleventh) and I-205 WB Ramps*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
27	Lammers Ext and Pavillion Pkwy*	D	County	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
28	Corral Hollow Rd and Eleventh St	D	City	Signal	C	27.7	C	30.6	C	31.3	D	43.7	-	-	-	-	-	-	-	-	None.	None.
29	Tracy Blvd and W. Central Ave	D	City	Signal	B	15.8	B	17.6	B	17.3	B	19	-	-	-	-	-	-	-	-	None.	None.
30	Tracy Blvd and Eleventh St	D	City	Signal	C	21.0	C	24.6	C	21.5	C	24.9	-	-	-	-	-	-	-	-	None.	None.
31	Linne Rd and Chrisman Rd	D	County	Signal	A	5.5	A	5.2	A	7	A	6.6	-	-	-	-	-	-	-	-	None.	None.
32	Chrisman Rd and Eleventh St	D	County	Signal	B	11.9	B	11.4	B	15.6	B	15.4	-	-	-	-	-	-	-	-	None.	None.
33	Chrisman Rd and I-205 EB Ramps*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
34	Chrisman Rd and I-205 WB Ramps*	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None.	None.
35	Linne Rd and MacArthur Drive	D	County	AWSC	B	10.5	A	9.1	C	21.1	C	16	-	-	-	-	-	-	-	-	None.	None.
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	-	7.7	-	12.1	-	**281.9**	-	**0.8**	-	-	-	-	Del	3.9	Del	5.2	None.	Construct median on Corral Hollow and allow right turn out only on Tennis Ln.
	Worst Approach				*F*	*184.9*	*F*	*OVRFL*	**F**	**OVRFL**	-	**OVRFL**	-	-	-	-						
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	14.9	B	13.0	B	13.9	B	19.2	-	-	-	-	-	-	-	-	None.	None.

Note: Intersections that are operating below acceptable levels are shown in **BOLD**

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

[2]Currently, Intersection #7 is an AWSC. However, after recent discussions with the City the intersection will be signalized before the Project (Phase I) is implemented. See the Appendix.

Source: Kimley-Horn & Associates, Inc. (2014)

TABLE 4.13-27

Existing + Buildout Intersection Delay & LOS Mitigations - Tracy

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	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2014) AM Peak LOS	Existing (2014) AM Peak Delay	Existing (2014) PM Peak LOS	Existing (2014) PM Peak Delay	Improvement Control[1]	Existing (2014) + Buildout + Improvements AM Peak LOS	AM Peak Delay	AM Peak Var	PM Peak LOS	PM Peak Delay	PM Peak Var
L1	Greenville Road & Patterson Pass Road	Mid-D (45 secs)	City	SSSC	**F**	**206.2**	**F**	**94.4**	Signal	C	29.4	-176.8	D	44.5	-49.9
	Worst Approach				***F***	***466.3***	***F***	***411.6***		-	-	-	-	-	-
L2	Greenville Road & Tesla Road	Mid-D (45 secs)	County	AWSC	**E**	**38.7**	**E**	**41.3**	Signal	C	31.6	-7.1	B	13.1	-28.2
L3	Concannon Boulevard & Livermore Avenue	Mid-D (45 secs)	City	Signal	C	34.3	C	26.8	Signal	D	40.9	6.6	C	22.9	-3.9
L4	Isabel Avenue & Concannon Boulevard	Mid-D (45 secs)	City	Signal	C	23.8	C	26.5	Signal	C	23.0	-0.8	C	24.6	-1.9
L5	Isabel Avenue & Vallecitos Road	Mid-D (45 secs)	City	Signal	**E**	**74.1**	C	24.2	Signal	B	18.1	-56	B	15.1	-9.1
L6	Isabel Avenue & I-580 EB Ramp	E (80 secs)	City	Signal	B	13.3	B	11.8	Signal	A	8.6	-4.7	B	12.6	0.8
L7	Vasco Rd & I-580 EB Ramps[2]	E (80 secs)	City	-	-	-	-	-	Signal	B	12.7	-	B	13.7	-

Notes: Intersections that are operating below acceptable levels are shown in**BOLD**.

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

[2]This intersection is uncontrolled in the existing condition and therefore the delay cannot be calculated using HCM methodology in Synchro. The SBL movement has to yield to NBT traffic. With the improvements, the intersection becomes signalized.

TABLE 4.13-28

Existing + Buildout Intersection Delay & LOS Mitigations - Livermore

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Table 4.13-29: Existing Plus Buildout Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM Buildout	PM Buildout	AM Buildout	PM Buildout
Lammers Road (Northbound)	N/O Eleventh St	891	246	291	0.3	0.3
	Eleventh St to Old Schulte Rd	891	675	398	0.76	0.4
	Old Schulte Rd to Valpico Rd	891	785	320	0.88	0.4
	S/O Valpico Rd	891	370	270	0.4	0.3
Lammers Road (Southbound)	N/O Eleventh St	891	292	210	0.3	0.2
	Eleventh St to Old Schulte Rd	891	529	342	0.6	0.4
	Old Schulte Rd to Valpico Rd	891	310	780	0.3	0.88
	S/O Valpico Rd	891	170	440	0.2	0.5
Corral Hollow Road (Northbound)	N/O Eleventh St	1,485	1,356	1,507	**0.91**	**1.0**
	Eleventh St to New Schulte Rd	1,485	1,605	1,390	**1.1**	**0.94**
	New Schulte Rd to Linne Rd	891	677	1,104	0.8	**1.2**
	Linne Rd to Spine Rd	891	749	1,615	0.8	**1.8**
	S/O Spine Rd	891	1,267	1,573	**1.4**	**1.8**
Corral Hollow Road (Southbound)	N/O Eleventh St	1,485	1,114	1,511	0.8	**1.0**
	Eleventh St to New Schulte Rd	1,485	1,221	1,771	0.8	**1.2**
	New Schulte Rd to Linne Rd	891	1,003	1,001	**1.1**	**1.1**
	Linne Rd to Spine Rd	891	1,330	1,487	**1.5**	**1.7**
	S/O Spine Rd	891	1,167	1,933	**1.3**	**2.2**
Eleventh Street (Eastbound)	W/O Lammers Rd	1,782	540	1,296	0.3	0.7
	Lammers to Corral Hollow	2,228	861	1,498	0.4	0.7
	E/O Corral Hollow	1,485	977	1,278	0.7	0.86
Eleventh Street (Westbound)	W/O Lammers Rd	1,782	1,062	490	0.6	0.3
	Lammers to Corral Hollow	2,228	1,324	755	0.6	0.3
	E/O Corral Hollow	1,485	1,092	1,124	0.7	0.76
Chrisman Road (Northbound)	N/O Eleventh St	891	114	73	0.1	0.1
	Eleventh St to Linne Rd	891	631	436	0.7	0.5
	S/O Linne Rd	891	170	132	0.2	0.1
Chrisman Road (Southbound)	N/O Eleventh St	891	84	111	0.1	0.1
	Eleventh St to Linne Rd	891	422	478	0.5	0.5
	S/O Linne Rd	891	119	179	0.1	0.2

Table 4.13-29: Existing Plus Buildout Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM Buildout	PM Buildout	AM Buildout	PM Buildout
MacArthur Drive (Northbound)	Linne Rd to Valpico Rd	891	173	124	0.2	0.1
	Valpico Rd to W Schulte Rd	891	311	250	0.3	0.3
	W Schulte Rd to Eleventh St	891	602	367	0.7	0.4
	N/O Eleventh St	1,485	236	247	0.2	0.2
MacArthur Drive (Southbound)	Linne Rd to Valpico Rd	891	146	179	0.2	0.2
	Valpico Rd to W Schulte Rd	891	421	374	0.5	0.4
	W Schulte Rd to Eleventh St	891	481	393	0.5	0.4
	N/O Eleventh St	1,485	235	183	0.2	0.1
Tracy Boulevard (Northbound)	N/O Eleventh St	1,485	1,030	1,039	0.7	0.7
	Eleventh St to Valpico Rd	1,485	1,031	976	0.7	0.7
	Valpico Rd to Linne Rd	891	459	681	0.5	0.76
	S/O Linne Rd	891	58	76	0.1	0.1
Tracy Boulevard (Southbound)	N/O Eleventh St	1,485	748	1,032	0.5	0.7
	Eleventh St to Valpico Rd	1,485	749	988	0.5	0.7
	Valpico Rd to Linne Rd	891	494	612	0.6	0.7
	S/O Linne Rd	891	77	54	0.1	0.1
Linne Road (Eastbound)	W/O Tracy Blvd	891	430	690	0.5	0.77
	E/O Tracy Blvd	891	458	449	0.5	0.5
Linne Road (Westbound)	W/O Tracy Blvd	891	540	640	0.6	0.7
	E/O Tracy Blvd	891	446	384	0.5	0.4

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-30: Existing Plus Buildout Roadway Segment Volumes, Capacities & V/C Ratios - Livermore

Street	Segment	Existing Capacity	Volume		V/C	
			AM Buildout	PM Buildout	AM Buildout	PM Buildout
Altamont Pass Road (Eastbound)	E/ O Greenville Rd	1,495	62	1,590	0.04	**1.06**
Altamont Pass Road (Westbound)	E/ O Greenville Rd	1,495	685	48	0.46	0.03
Patterson Pass Road (Eastbound)	E/ O Greenville Rd	1,495	22	613	0.01	0.41
Patterson Pass Road (Westbound)	E/ O Greenville Rd	1,495	641	29	0.43	0.02
Tesla Road (Eastbound)	E/ O Greenville Rd	1,495	44	744	0.03	0.50
Tesla Road (Westbound)	E/ O Greenville Rd	1,495	712	62	0.48	0.04

Note:
The existing capacity was determined from the Highway Capacity Manual for a Class II Highway facility with rolling terrain.

Source: Kimley-Horn, 2014.

Table 4.13-31: Existing Plus Buildout Freeway Segment Volumes & LOS - Tracy

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road	EB	530	4.5	A	2,636	22.8	C
		WB	2,882	25.5	C	1,454	12.3	B
2	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
3	I-580 - Mountain House Parkway/Patterson Pass Road to Corral Hollow Road	EB	554	4.7	A	2,566	22.1	C
		WB	2,710	23.6	C	1,584	13.4	B
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	371	3.1	A	2,047	17.3	B
		WB	2,006	17.0	B	1,180	10.0	A
5	I-580: Rt. 132 to I-5	EB	363	3.1	A	1,979	16.7	B
		WB	2,111	17.9	B	1,268	10.7	A
6	I-205: I-205 Junction to Mountain House Parkway	EB	974	5.3	A	4,968	29.7	D
		WB	4,354	24.8	C	3,132	17.2	B
7	I-205: Mountain House Parkway to Eleventh St	EB	773	4.2	A	4,012	22.4	C
		WB	3,422	18.8	C	2,518	13.8	B
8	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
9	I-205: Eleventh St. to Grant Line Rd	EB	751	4.1	A	3,976	22.2	C
		WB	3,425	18.8	C	2,505	13.7	B
10	I-205: Grant Line Rd to Tracy Blvd	EB	1,020	5.6	A	5,116	30.9	D
		WB	4,428	25.2	C	3,240	17.7	B
11	I-205: Tracy Blvd to MacArthur Dr	EB	1,033	5.6	A	5,207	31.7	D
		WB	4,550	26.1	D	3,273	13.0	B
12	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
13	I-205: MacArthur Dr to I-5	EB	922	5.0	A	4,621	26.6	D
		WB	4,029	22.4	C	2,913	15.9	B
14	I-205: I-5 to SR-120	EB	1,149	6.3	A	5,354	33.2	D
		WB	4,717	27.4	D	3,421	18.7	C

Source: Kimley-Horn, 2014.

Table 4.13-32: Existing Plus Buildout Freeway Segment Volumes & LOS - Livermore

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
L1	I-580 - I-205 Junction to Grant Line Rd.	EB	1,408	6.4	A	**8,631**	**66.7**	**F**
		WB	6,582	25.1	C	3,660	13.4	B
L2	I-580 - Grant Line Rd. to Flynn Rd.	EB	1,408	6.1	A	**8,631**	**56.6**	**F**
		WB	6,584	32.1	D	3,660	15.9	B
L3	I-580 - Flynn to Altamont Pass Rd.	EB	1,399	6.2	A	**8,571**	**60.0**	**F**
		WB	6,539	33.1	D	3,635	16.2	B
L4	I-580 - Altamont Pass Rd. to Vasco Rd.	EB	1,530	6.7	A	**8,504**	**48.4**	**F**
		WB	7,623	38.5	E	4,228	18.6	C
L5	I-580 - Vasco Rd. to First St.	EB	1,510	6.7	A	**8,432**	**48.6**	**F**
		WB	7,582	38.8	E	4,200	18.6	C
L6	I-580 - First St. to Livermore Ave.	EB	1,560	6.9	A	**8,803**	**54.3**	**F**
		WB	7,917	42.2	E	4,378	19.4	C
L7	I-580 - Livermore Ave. to SR-84 (Isabel Ave.)	EB	1,642	7.3	A	**9,291**	**63.8**	**F**
		WB	**8,380**	**47.9**	**F**	4,626	20.5	C

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in bold.
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
AADT obtained from Caltrans Traffic Data Branch (2012).
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane
(c) Directional volumes in vehicles per hour (vph) obtained from the Tracy Hills model generated by Fehr & Peers, 2013.

Source: Kimley-Horn, 2014.

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I-580 Interchange	Freeway Direction	Ramp	Length of Accel/Decel Lane (ft)	Existing								Existing Plus Buildout								Existing Plus Buildout Mitigated					
				AM				PM				AM				PM					AM			PM	
				Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Recommended Mitigation	Ramp Density (pc/mi/ln) (b)	LOS	Ramp Density (pc/mi/ln) (b)	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	178	41	6.0	A	1,433	333	20.1	C	178	279	8.6	A	1,433	699	23.3	C	-	-	-	-	-
		Diverge (off-ramp)	200	236	58	4.9	A	1,696	263	19.7	B	540	362	8.0	A	**2,525**	**1,092**	**28.2**	**D**	Add an additional 500' deceleration lane	1.7	A	7.3	A
	WB	Merge (on-ramp)	400	1,689	325	22.1	C	967	86	12.7	B	**1,689**	**1,404**	**33.8**	**D**	967	686	18.1	B	Create a WB loop on-ramp	25.6	C	16.8	B
		Diverge (off-ramp)	200	1,886	197	21.7	C	1,019	52	12.8	B	2,024	335	23.1	C	1,248	281	15.2	B	-	-	-	-	-

Notes:

*Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.

*Analysis performed using HCS 2010 software.

*Freeway volumes obtained from Caltrans Traffic Data Branch (2012) for existing conditions.

*Existing ramp volumes obtained from existing turning movement counts conducted in May 2013. Project trip ramp volumes obtained from the Fehr & Peers (2013) generated model for the corresponding scenario.

(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).

(b) pc/mi/ln = passenger cars per mile per lane

TABLE 4.13-33

Existing + Buildout Ramp Merge Diverge LOS & Mitigation - Tracy

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PROJECT ACCESS AND CIRCULATION

Access and circulation to, from, and within the THSP Project Area would be obtained via four main entrances along Corral Hollow Road and Lammers Road. Access locations to the eastern edge of the Project site are at the intersections of Corral Hollow Road / Spine Road, Corral Hollow Road / N. Tracy Hills Road (for the Project Buildout scenario only), and Corral Hollow Road / S. Tracy Hills Road. Along the western edge of the Project site, access locations are provided at Lammers Road / Spine Road as well as a share of buildout traffic utilizing the western extent of Linne Road as indicated in the Tracy TMP.

Internally, three main roads serve Project traffic, that is, S. Tracy Hills Road, Spine Road, and N. Tracy Hills Road (for Project Buildout only). Within the Project Area, a pattern of different street types, each with a different classification and function, would serve the transportation needs of the community. Street types include collector streets, community streets, neighborhood streets, Village Center streets, land use driveways, and lanes.

PROJECT PARKING

Once vesting tentative maps and site plans are submitted for review on individual lots within the Specific Plan Area, parking would be provided based on City standards.

PROJECT LEVEL TRANSIT SYSTEMS

Commuter access to and from the Project would be provided via the ACE Regional Rail service with the closest existing station and a commuter park-and-ride facility at the intersection of Linne Road and Tracy Boulevard. A future park-and-ride facility is proposed in the Tracy TMP on the western half of the THSP Project Area near the intersection of Lammers Road / Spine Road. The THSP indicates bus routes and bus stop locations would be defined per the local transit agency and City standards, with the submission of each Vested Tentative Map application. The TMP identifies all arterials in the THSP plan area as transit routes and the Project would, at a minimum, allocate facilities to these routes for transit service. Additional routes may be designated for transit facilities when the VTM applications are submitted through discussion with the City Engineer and the local transit agencies.

BART Parking and Ridership from THSP

The Alameda CTC's 2040 travel demand model includes a transit assignment to both the East Dublin/Pleasanton Station and the West Dublin Station. A select zone analysis was performed for Project only trips to the East Dublin/Pleasanton Station. This assignment was used to determine the proportionate share of Project trips that are bound for the BART stations in Dublin/Pleasanton (all Project BART trips are assumed to terminate at the East Station since it is closer in proximity to the Project). Based on the Alameda CTC travel demand model, approximately 4% of daily trips originating from the City of Tracy traveling into Alameda County, are attributed to commuters bound for the BART station. This proportion of THSP transit trips to BART results in 119 daily trips assigned to the East Dublin/Pleasanton BART Station. During the peak hours the proportional share is 14.8% of the westbound traffic during the AM peak and 18.6% of the eastbound traffic during the PM peak. During the AM peak period, 23 trips from the Project would be destined for the Pleasanton Station. During the PM peak period, 61 trips are made from the Pleasanton BART station back to Tracy Hills. All these trips are assigned along I-580. Existing parking demand at the BART stations is close to capacity. If passengers cannot find parking spaces, they would either drive to work or locate parking elsewhere in the vicinity of the stations. Patrons also change their commute times to arrive earlier in the morning to ensure a parking space.

The number of THSP trips to Alameda County relative to the number of Tracy Hills trips bound for the Dublin/Pleasanton BART stations are shown below.

Table 4.13-34: Tracy Hills Transit Trips to BART Stations

Time Period	Direction	Tracy Hills (I-580) Total Project Trips (to/from Alameda County)	Project Trips to BART	% BART Trips
Daily	WB	2,993	119	3.97%
	EB	3,050	121	3.96%
AM Peak	WB	154	23	14.8%
	EB	158	0	0%
PM Peak	WB	120	0	0%
	EB	327	61	18.6%

Source: ACTC Travel Demand Model, and Kimley-Horn, 2014.

ACE Parking and Ridership from THSP

The City of Tracy travel demand model does not have a transit assignment to the ACE station on Tracy Boulevard. To derive the number of transit-purpose trips from the Project, the ratio between the number of passengers boarding and the total number of housing units is used instead. Six months of 2014 ACE data indicates average daily boardings of 573 passengers in Tracy. Per the U.S. Census Bureau (2014), there are 27,908 housing units in the urbanized area of Tracy. Thus, approximately 2.05% of Tracy residents board the ACE each weekday. Implementation of the THSP would result in ultimate development of 5,499 residential units and using the same ratio, it is estimated that 114 passengers from the THSP area would board the ACE each day. There are currently 130 vacant parking spaces at the Tracy ACE station. The additional parking demand of approximately 114 vehicles generated by implementation of the proposed Project would be accommodated on the Project site.

PROJECT LEVEL BICYCLE AND PEDESTRIAN FACILITIES

Bicycle Facilities

Pursuant to Section 4.2 of the THSP, bicycle routes would be defined, per the City standards, with the submission of each Vested Tentative Map application. The City TMP shows at a minimum the required bicycle facilities on the street cross sections and the regional trail network. These standards may be updated from time to time. The relevant standards and bicycle roadway network at the time of VTM application, would apply to the proposed Project. The TMP identifies all major roadways in the THSP plan area as bicycle routes. The VTM bike network will connect to the City network.

The TMP and the TIF include the provision of interim pedestrian and bicycle facilities between the Project and the City-wide pedestrian and bicycle network, located just north of Linne Road on Corral Hollow Road. The Project would be required to install a Class I facility to connect the Project to the City bicycle network along Corral Hollow Road when Corral Hollow Road is widened. This improvement will require the construction of pedestrian bridges across the Delta Mendota Canal and the California Aqueduct.

Pedestrian Facilities

Section 4.2 of the THSP indicates that pedestrian routes would be defined per the City standards, with the submission of each Vested Tentative Map application. The City TMP shows at a minimum the required pedestrian facilities on the street cross sections and the regional trail network. These standards may be updated from time to time. The relevant standards and pedestrian and trail network would apply to the Project at the time of VTM application. The TMP identifies all major roadways in the THSP plan area as pedestrian routes with sidewalks and/or trails. A Class I trail along Corral Hollow Road will connect the Project to the City pedestrian system.

CONSTRUCTION TRAFFIC AND HAZARDS

The THSP would be phased over time. Phase 1a is planned to be constructed first with access off the Spine Road and Corral Hollow Road intersection. Subsequent phases may overlap and develop towards the west and south of I-580. Market demand would determine the rate of development as the buildout is to be phased over the span of 30 or more years.

The number of trips generated by Project construction activities is estimated to be less than the total trips generated during the peak hours for the THSP Project. Thus, the mitigations identified in the peak hour analysis would alleviate traffic imposed by construction activities.

CUMULATIVE IMPACT ANALYSIS

ASSUMED CUMULATIVE ROADWAY NETWORK

CUMULATIVE ROADWAY SEGMENT IMPROVEMENTS

The Tracy TMP indicates several improvements on the City of Tracy roadway network to include, but not limited to, the extension of Lammers Road south of Linne Road and north of Eleventh Street to the interchanges with I-580 and I-205. In addition, it includes the expansion of Linne Road to four lanes and Lammers Road to six lanes. Corral Hollow Road, Linne Road and Tracy Boulevard would be widened in the Project vicinity. Both Lammers Road and Corral Hollow Road would have improved access to I-580.

The City of Livermore General Plan includes several improvements to the City of Livermore roadway network, which include, but are not limited to, the widening of Isabel Avenue (SR-84) to four lanes between Stanley Boulevard and Vallecitos Road and to six lanes north of Stanley Boulevard; the widening of Greenville Road to four lanes between National Drive and Patterson Pass Road; and the widening of Vasco Road to eight lanes between Los Positas Road to I-580.

Tables 4.13-35 through 4.13-43 show the analysis results for Cumulative No Project (2035) conditions (i.e., intersection delay and LOS, roadway segment V/C, freeway segment LOS, and ramp merge/diverge LOS).

CUMULATIVE INTERSECTION IMPROVEMENTS

City of Tracy

The Tracy TMP includes several improvements to City of Tracy intersections, primarily signalizing and incorporating additional turn pockets and through lanes where projected traffic is forecasted to increase

substantially. New signals are projected at the Corral Hollow and Mountain House Ramps with Interstate 580 (Intersections #1, #2, #13, and #14), at intersections along Linne Road (Intersections #4, #5, #18, #31, and #35), intersections along Corral Hollow Road (Intersections #3, #4, #7, #9, #19, #20, #28, and #36) and intersections along Lammers Road (Intersections #8, #10, #12, #15, #16, #17, #18, #24, #25, #26, and #27). Three new interchange locations are also included in the Tracy TMP which impacts our study intersections at Lammers Road / I-580 (Intersections #15 and #16), Lammers Road Ext / I-205 (Intersections #25 and #26), and Chrisman Rd / I-205 (Intersections #33 and #34). Caltrans Highway Project Study Reports (PSR) were compiled for the future Lammers Road Ext / I-205 and future Chrisman Road / I-205 interchanges. The traffic analysis in these reports include ramp diverge/merge, weaving, and ramp metering. Consequently, no further analysis at the Lammers Extension interchange with I-205 and the Chrisman Road interchange with I-205 beyond interchange intersection and freeway mainline segment analysis were conducted for the cumulative scenarios.

Additionally, during the Tentative Map Review process, geometric requirements for STAA truck maneuvers would be evaluated and designed accordingly. STAA routes are designated on Caltrans facilities and in the City of Tracy TMP.

City of Livermore

The City of Livermore General Plan indicates several intersection improvements in the City of Livermore. The intersection of Greenville Road and Patterson Pass Road (Intersection #L1) would be signalized. The intersection of Greenville Road and Tesla Street (Intersection #L2) would also be signalized with the addition of left-turn pockets for each approach. The westbound approach at the intersection of Isabel Avenue and Vallecitos Road (Intersection #L5) would be restriped to be a left-turn lane and a shared left-right turn lane. Lastly, the Vasco Road and I-580 eastbound interchange (Intersection #L7) would be reconstructed to include a southbound loop on-ramp for vehicles heading southbound and entering I-580 eastbound vehicles, while the southbound left turn would be removed, and dual left-turn lanes, a shared left-right lane, and dual right-turn lanes for the eastbound approach, while the westbound right turn movement would be removed. The Vasco Road and I-580 eastbound interchange would also be signalized. The City of Livermore is collecting TIFs for these planned improvements, which include the JPA fees. The City of Livermore would either construct the improvements when sufficient funds are collected or when a future development project triggers the improvement as mitigation. Per the JPA Agreement, payment of the fees by the Project is proportionate fair share contribution towards these planned improvements.

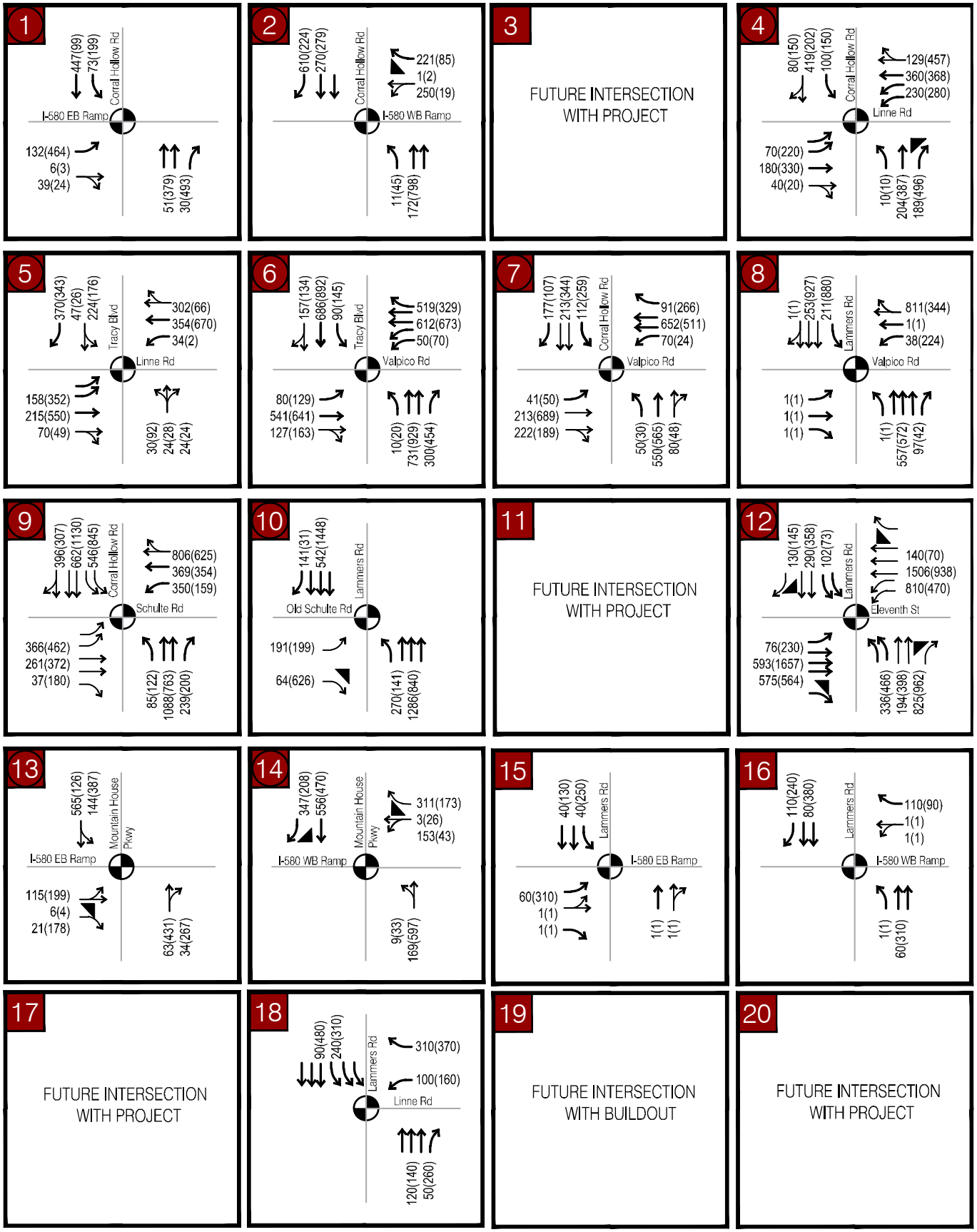

FIGURE 4.13-15

Cumulative (2035) Turning Movements & Geometry - Tracy

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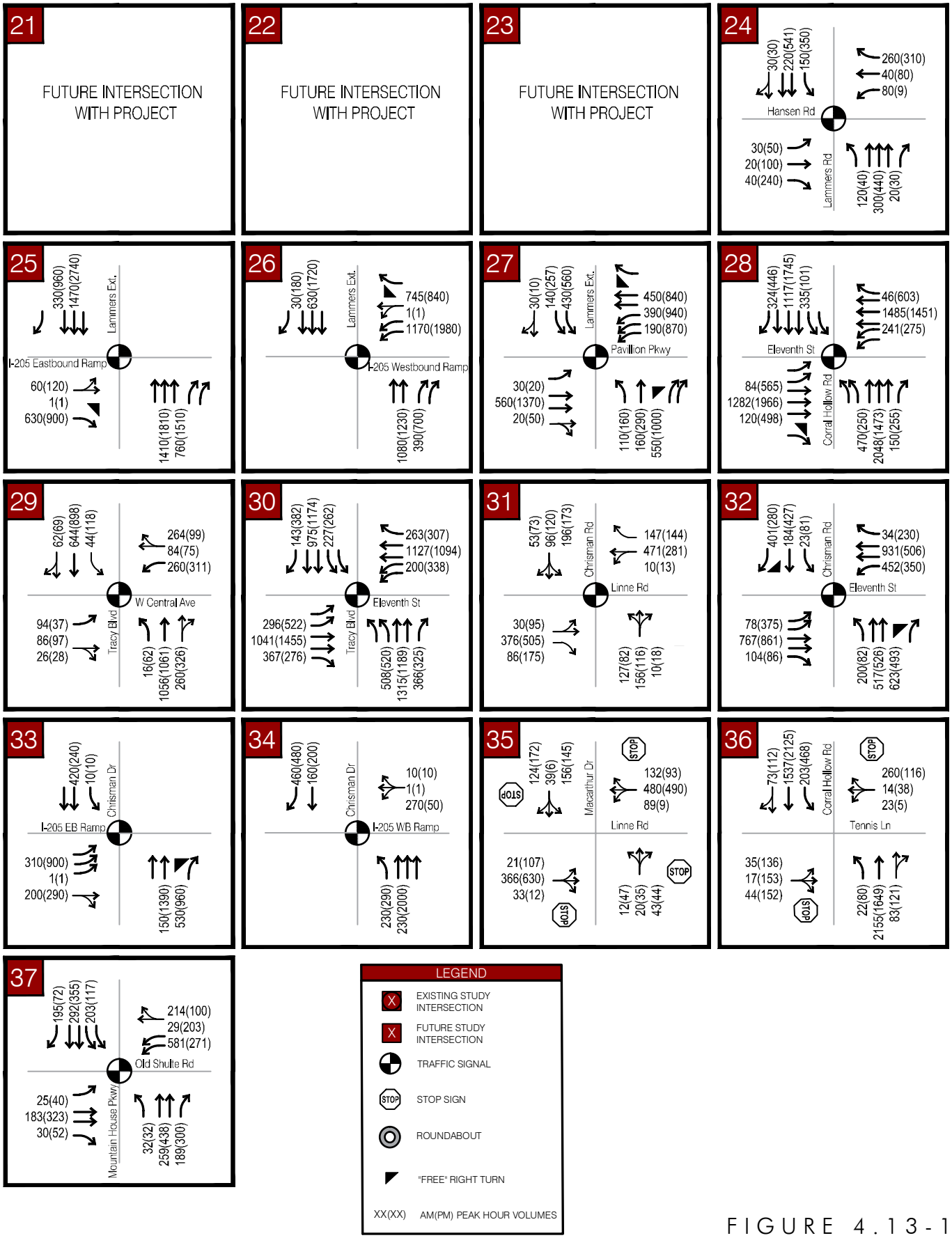

FIGURE 4.13-15

Cumulative (2035) Turning Movements & Geometry - Tracy

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CUMULATIVE 2035 NO PROJECT OPERATIONS (SAN JOAQUIN COUNTY/TRACY)

Table 4.13-35: Cumulative 2035 No Project Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	Signal	A	6.7	C	27.5
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	Signal	B	12.4	A	3.7
3	Future Intersection with Project	D	City	Signal	-	-	-	-
4	Corral Hollow Rd and Linne Rd	D	County	Signal	A	7.5	A	8.4
5	Tracy Blvd and Linne Rd	D	City	Signal	B	17.2	C	20.2
6	Tracy Blvd and Valpico Rd	D	City	Signal	B	17.1	B	18.1
7	Corral Hollow Rd and Valpico Rd	D	County	Signal	B	11.1	B	11.8
8	Lammers Rd and Valpico Rd	D	County	Signal	C	22.5	B	12.5
9	Corral Hollow Rd and Schulte Rd	D	City	Signal	C	26.3	D	43.7
10	Lammers Rd and Old Schulte Rd	D	County	Signal	A	7.7	A	8.8
11	Future Intersection with Project	D	City	Roundabout	-	-	-	-
	Worst Approach				-	-	-	-
12	Lammers Rd and Eleventh St	D	City	Signal	A	7.1	A	10.0
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	Signal	A	7.6	A	8.0
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	Signal	A	7.2	A	5.1
15	Lammers Rd and I-580 EB Ramps	C/D	Caltrans	Signal	B	17.2	B	11.3
16	Lammers Rd and I-580 WB Ramps	C/D	Caltrans	Signal	B	11.6	A	6.0
17	Future Intersection with Project	D	City	Signal	-	-	-	-
18	Lammers Rd and Linne Rd	D	City	Signal	A	9.8	B	12.3
19	Future Intersection with Project Buildout	D	City	Signal	-	-	-	-
20	Future Intersection with Project	D	City	Signal	-	-	-	-
21	Future Intersection with Project	D	City	Signal	-	-	-	-
22	Future Intersection with Project	D	City	SSSC	-	-	-	-
23	Future Intersection with Project	D	City	AWSC	-	-	-	-
24	Lammers Rd/Hansen Rd	D	County	Signal	C	20.1	C	28.2
25	Lammers Ext (Eleventh) and I-205 EB Ramps	C/D	Caltrans	Signal	A	2.7	A	4.2
26	Lammers Ext (Eleventh) and I-205 WB Ramps	C/D	Caltrans	Signal	B	16.3	C	25.6
27	Lammers Ext and Grant Line Rd	D	County	Signal	B	18.4	D	44.1
28	Corral Hollow Rd and Eleventh St	D	City	Signal	B	15.3	B	17.1
29	Tracy Blvd and W. Central Ave	D	City	Signal	C	28.8	C	34.7
30	Tracy Blvd and Eleventh St	E	City	Signal	B	15.7	B	17.7
31	Linne Rd and Chrisman Rd	D	County	Signal	A	7.7	A	7.6
32	Chrisman Rd and Eleventh St	D	County	Signal	C	30.5	D	35.1
33	Chrisman Rd and I-205 EB Ramps	C/D	Caltrans	Signal	A	6.9	B	14.4
34	Chrisman Rd and I-205 WB Ramps	C/D	Caltrans	Signal	B	18.9	A	4.9
35	Linne Rd and MacArthur Drive	D	County	AWSC	**E**	**41.1**	**F**	**55.2**

Table 4.13-35: Cumulative 2035 No Project Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	**-**	**OVRFL**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	18.9	B	16.8

Notes:
Intersections that are operating below acceptable levels are shown in BOLD
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

Source: Kimley-Horn, 2014.

Table 4.13-36: Cumulative 2035 No Project Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Cumulative	PM Cumulative	AM Cumulative	PM Cumulative
Lammers Road (Northbound)	N/O Eleventh St	1,485	410	698	0.3	0.5
	Eleventh St to Old Schulte Rd	2,673	1,416	1,433	0.5	0.5
	Old Schulte Rd to Valpico Rd	2,673	1,462	949	0.5	0.4
	Valpico Rd to Linne Rd	2,673	254	327	0.1	0.1
	Linne Rd to Spine Rd	2,673	170	400	0.1	0.1
	S/O Spine Rd	2,673	170	400	0.1	0.1
Lammers Road (Southbound)	N/O Eleventh St	1,485	522	576	0.4	0.4
	Eleventh St to Old Schulte Rd	2,673	1,179	1,436	0.4	0.5
	Old Schulte Rd to Valpico Rd	2,673	535	1,941	0.2	0.7
	Valpico Rd to Linne Rd	2,673	241	883	0.1	0.3
	Linne Rd to Spine Rd	2,673	190	640	0.1	0.2
	S/O Spine Rd	2,673	190	620	0.1	0.2
Lammers Road Ext/Eleventh St. (Northbound/Westbound)	N/O I-205 Fwy	2,228	1,825	1,970	0.82	0.88
	I-205 Fwy to Lammers Rd	2,970	2,036	2,595	0.7	0.87
	Lammers Rd to Corral Hollow Rd	2,673	2,368	1,813	0.89	0.7
	E/O Corral Hollow Rd	2,228	1,772	2,329	0.80	**1.0**
Lammers Road Ext/Eleventh St. (Southbound/Eastbound)	N/O I-205 Fwy	2,228	660	1,900	0.3	0.85
	I-205 Fwy to Lammers Rd	2,970	1,672	3,046	0.6	**1.0**
	Lammers Rd to Corral Hollow Rd	2,673	1,503	2,861	0.6	**1.1**
	E/O Corral Hollow Rd	2,228	1,767	2,322	0.79	**1.0**
Corral Hollow Road (Northbound)	N/O Eleventh St	2,228	2,178	2,641	**1.0**	**1.2**
	Eleventh St to New Schulte Rd	2,228	2,464	1,914	**1.1**	0.86
	New Schulte Rd to Linne Rd	1,485	908	1,075	0.6	0.7
	Linne Rd to Spine Rd	1,485	398	888	0.3	0.6

Table 4.13-36: Cumulative 2035 No Project Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Cumulative	PM Cumulative	AM Cumulative	PM Cumulative
	S/O Spine Rd	1,485	689	503	0.5	0.3
Corral Hollow Road (Southbound)	N/O Eleventh St	2,228	1,776	2,292	0.80	**1.0**
	Eleventh St to New Schulte Rd	2,228	1,541	2,400	0.7	**1.1**
	New Schulte Rd to Linne Rd	1,485	824	986	0.6	0.7
	Linne Rd to Spine Rd	1,485	689	503	0.5	0.3
	S/O Spine Rd	1,485	689	503	0.5	0.3
Chrisman Road (Northbound)	N/O I-205 Fwy	2,673	240	2,010	0.1	0.75
	I-205 Fwy to Eleventh	2,673	655	1,741	0.2	0.7
	Eleventh to Valpico Rd	1,782	1,340	1,101	0.75	0.6
	S/O Valpico	891	333	355	0.4	0.4
Chrisman Road (Southbound)	N/O I-205 Fwy	2,673	620	620	0.2	0.2
	I-205 Fwy to Eleventh	2,673	614	659	0.2	0.2
	Eleventh to Valpico Rd	1,782	740	863	0.4	0.5
	S/O Valpico	891	345	366	0.4	0.4
MacArthur Drive (Northbound)	Linne Rd to Valpico Rd	742	123	244	0.2	0.3
	Valpico Rd to W Schulte Rd	1,485	452	802	0.3	0.5
	W Schulte Rd to Eleventh St	1,485	663	752	0.4	0.5
	N/O Eleventh St	1,485	649	966	0.4	0.7
MacArthur Drive (Southbound)	Linne Rd to Valpico Rd	891	139	246	0.2	0.3
	Valpico Rd to W Schulte Rd	1,485	361	694	0.2	0.5
	W Schulte Rd to Eleventh St	1,485	496	787	0.3	0.5
	N/O Eleventh St	1,485	393	893	0.3	0.6
Tracy Boulevard (Northbound)	N/O Eleventh St	1,485	1,874	2,018	**1.3**	**1.4**
	Eleventh St to Valpico Rd	1,485	1,760	1,711	**1.2**	**1.2**
	Valpico Rd to Linne Rd	1,485	763	925	0.5	0.6
	S/O Linne Rd	891	78	144	0.1	0.2
Tracy Boulevard (Southbound)	N/O Eleventh St	1,485	1,345	1,818	**0.91**	**1.2**
	Eleventh St to Valpico Rd	1,485	1,238	1,480	0.83	**1.0**
	Valpico Rd to Linne Rd	1,485	752	835	0.5	0.6
	S/O Linne Rd	891	151	77	0.2	0.1
Linne Road (Eastbound)	W/O Corral Hollow Rd	1,782	290	570	0.2	0.3
	Corral Hollow Rd to Tracy Blvd	2,673	456	964	0.2	0.4
	Tracy Blvd to MacArthur Dr	1,782	442	750	0.2	0.4
	MacArthur Dr to Chrisman Rd	1,782	529	797	0.3	0.4
	E/O Chrisman Rd	891	582	696	0.7	0.78
Linne Road (Westbound)	W/O Corral Hollow Rd	1,782	450	528	0.3	0.3

Table 4.13-36: Cumulative 2035 No Project Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Cumulative	PM Cumulative	AM Cumulative	PM Cumulative
	Corral Hollow Rd to Tracy Blvd	2,673	737	1,105	0.3	0.4
	Tracy Blvd to MacArthur Dr	1,782	653	724	0.4	0.4
	MacArthur Dr to Chrisman Rd	1,782	676	514	0.4	0.3
	E/O Chrisman Rd	891	628	438	0.7	0.5

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-37: Cumulative 2035 No Project Freeway Segment Volumes & LOS - Tracy

No.	Study Segment	Direction	Lanes	AM Peak			PM Peak		
				Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road [c]	EB	2	252	2.1	A	1,972	16.7	B
		WB	2	921	7.8	A	1,318	11.2	B
2	I-580 - Mountain House Parkway/Patterson Pass Road to Lammers Road	EB	2	115	1.0	A	2,118	17.9	B
		WB	2	1,094	9.3	A	1,262	10.7	A
3	Lammers Road to Corral Hollow Road	EB	2	101	0.9	A	2,103	17.8	B
		WB	2	960	8.1	A	1,163	9.8	A
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	2	117	1.0	A	2,537	21.8	C
		WB	2	1,545	13.1	B	1,245	10.5	A
5	I-580: Rt. 132 to I-5	EB	2	117	1.0	A	2,554	21.9	C
		WB	2	1,668	14.1	B	1,371	11.5	B
6	I-205: I-205 Junction to Mountain House Parkway	EB	2	2,007	16.5	B	**5,254**	**96.8**	**F**
		WB	2	1,637	13.5	B	**5,584**	**141.0**	**F**
7	I-205: Mountain House Parkway to Eleventh St	EB	2	2,789	23.6	C	**5,728**	**175.1**	**F**
		WB	2	2,010	16.5	B	**6,440**	**-**	**F**
8	I-205: Eleventh St to Lammers Extension	EB	3	3,132	17.2	B	**7,057**	**62.2**	**F**
		WB	3	3,741	20.7	C	**6,840**	**56.6**	**F**
9	I-205: Lammers Extension to Grant Line Rd	EB	3	3,678	20.3	C	**8,401**	**144.1**	**F**
		WB	3	**5,573**	**35.8**	**E**	**8,465**	**153.3**	**F**

Table 4.13-37: Cumulative 2035 No Project Freeway Segment Volumes & LOS - Tracy

No.	Study Segment	Direction	Lanes	AM Peak			PM Peak		
				Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS
10	I-205: Grant Line Rd to Tracy Blvd	EB	3	4,343	24.6	C	**10,429**	**-**	**F**
		WB	3	**7,482**	**75.2**	**F**	**9,373**	**868.1**	**F**
11	I-205: Tracy Blvd to MacArthur Dr.	EB	3	4,739	27.6	D	**10,810**	**-**	**F**
		WB	3	**8,210**	**118.7**	**F**	**9,583**	**-**	**F**
12	I-205: MacArthur Dr to Chrisman Rd.	EB	3	4,105	22.9	C	**9,854**	**-**	**F**
		WB	3	**7,430**	**73.2**	**F**	**8,549**	**160.3**	**F**
13	I-205: Chrisman Rd. to I-5 Junction	EB	3	4,476	25.5	C	**10,378**	**-**	**F**
		WB	3	**7,032**	**60.7**	**F**	**7,840**	**92.1**	**F**
14	I-205: I-5 Junction to SR-120	EB	5	4,606	15.1	B	**11,511**	**57.5**	**F**
		WB	5	7,916	27.7	D	9,046	34.0	D

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
(a) Directional volumes in vehicles per hour (vph) were calculated using the Tracy Hills TIA models generated by Fehr & Peers (2013) and data from the Caltrans Traffic Data Branch (2012).
(b) pc/mi/ln = passenger cars per mile per lane
(c) For segments where generated model volumes indicated a substantial decrease in Project trips beyond existing Caltrans data, existing volumes and LOS were assumed for conservative analysis. (i.e., no growth)

Source: Kimley-Horn, 2014.

Table 4.13-38: Cumulative No Project Ramp Merge / Diverge & LOS - Tracy

I-580 Inter-change	Freeway Direc-tion	Ramp	Length of Accel /Decel Lane (ft.)	AM Peak				PM Peak			
				Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) [a]	LOS	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) [a]	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	38	109	5.5	A	1,567	695	24.5	C
		Diverge (off-ramp)	200	215	177	4.6	A	2,058	491	23.4	C
	WB	Merge (on-ramp)	400	1,073	622	19.6	B	1,139	271	16.0	B
		Diverge (off-ramp)	200	1,545	472	18.2	B	1,245	106	15.1	B
Lammers Road	EB	Merge (on-ramp)	250	174	41	6.0	A	1,806	252	22.8	C
		Diverge (off-ramp)	200	236	62	4.9	A	2,118	312	24.0	C
	WB	Merge (on-ramp)	400	1,583	112	18.8	B	1,318	246	17.4	B
		Diverge (off-ramp)	200	1,695	112	19.7	B	1,410	92	16.8	B

Notes:
Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.
Analysis performed using HCS 2010 software.
Freeway volumes obtained from the Fehr & Peers generated model for cumulative scenarios.
Cumulative ramp volumes obtained from the Fehr & Peers (2013) generated model for the corresponding scenario.
(a) pc/mi/ln = passenger cars per mile per lane

Source: Kimley-Horn, 2014.

CUMULATIVE PLUS PROJECT 2035 OPERATIONS (SAN JOAQUIN COUNTY/TRACY)

The Cumulative Plus Project (2035) scenario was formed by adding Project 2035 traffic onto the Tracy TMP horizon year network geometrics and background traffic.

The City of Livermore uses the Alameda CTC travel demand model, which has a cumulative design year of 2040. Thus, no analysis is conducted for 2035 conditions for these jurisdictions.

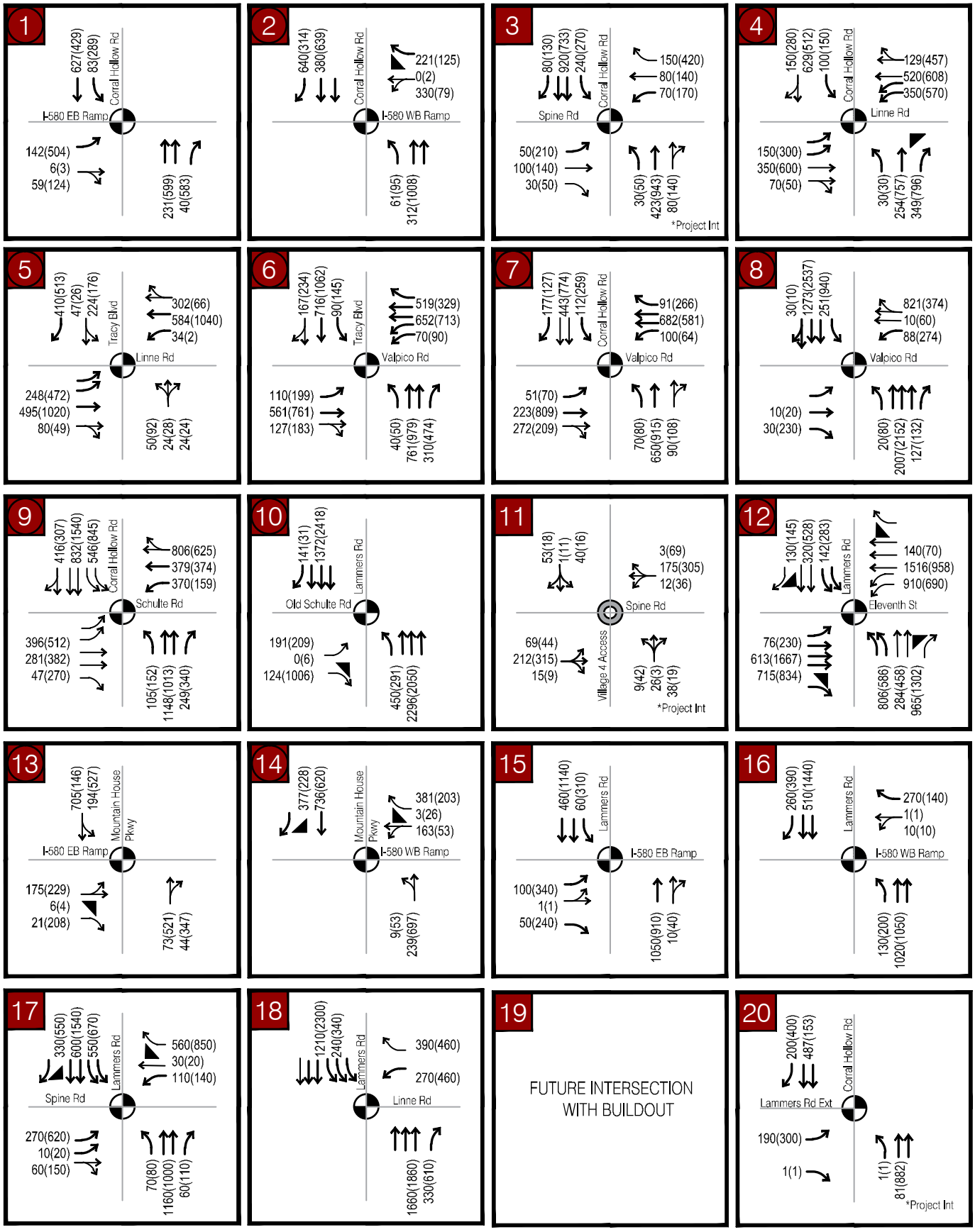

FIGURE 4.13-16

Cumulative + Project (2035) Turning Movements & Geometry - Tracy

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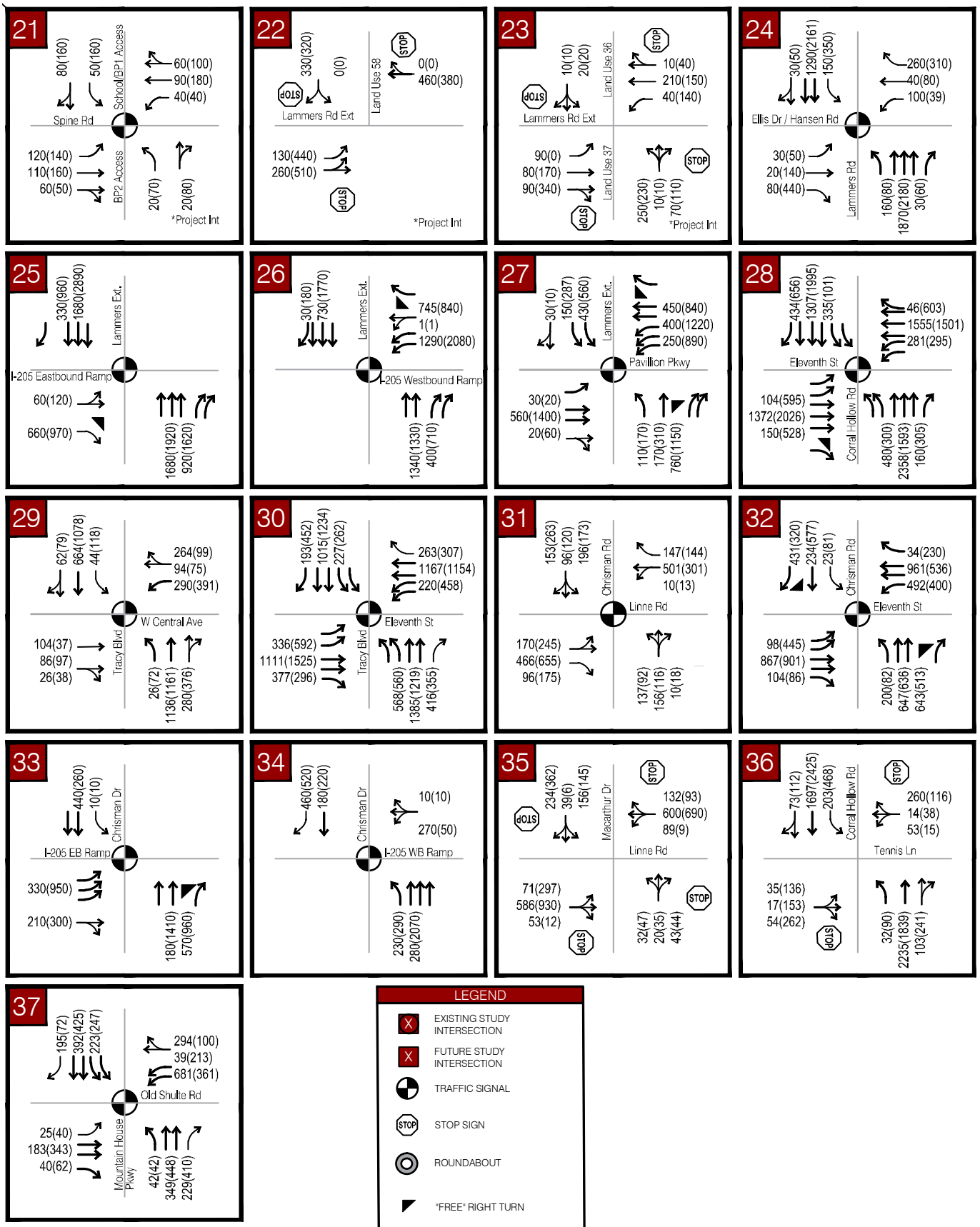

FIGURE 4.13-16

Cumulative + Project (2035) Turning Movements & Geometry - Tracy

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Table 4.13-39: Cumulative Plus Project 2035 Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative + Project (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	Signal	A	7.4	D	44.3
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	Signal	B	19.0	A	5.4
3	Corral Hollow Rd and Spine Rd	D	City	Signal	B	15.6	D	39.9
4	Corral Hollow Rd and Linne Rd	D	County	Signal	C	31.9	C	20.5
5	Tracy Blvd and Linne Rd	D	City	Signal	C	23.4	D	42.0
6	Tracy Blvd and Valpico Rd	D	City	Signal	B	18.7	C	24.0
7	Corral Hollow Rd and Valpico Rd	D	County	Signal	B	12.4	B	17.8
8	Lammers Rd and Valpico Rd	D	County	Signal	D	43.5	C	26.0
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	C	28.5	D	50.2
10	Lammers Rd and Old Schulte Rd	D	County	Signal	B	12.6	B	16.1
11	Roundabout on Spine Rd	D	City	Roundabout	A	5.7	A	7.3
	Worst Approach				*V/C*	*0.3*	*V/C*	*0.4*
12	Lammers Rd and Eleventh St	D	City	Signal	B	11.4	B	11.2
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	Signal	A	9.8	A	8.6
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	Signal	B	10.0	A	5.3
15	Lammers Rd and I -580 EB Ramp	C/D	Caltrans	Signal	A	7.9	C	29.2
16	Lammers Rd and I-580 WB Ramp	C/D	Caltrans	Signal	B	17.4	B	17.8
17	Lammers Rd and Spine Rd	D	City	Signal	C	23.2	C	33.6
18	Lammers Rd and Linne Rd	D	City	Signal	B	15.2	C	23.9
19	Future Intersection with Project Buildout	D	City	Signal	-	-	-	-
20	Corral Hollow Rd and South Project Driveway	D	City	Signal	A	8.3	A	9.1
21	Business Park Main Driveway	D	City	Signal	A	4.9	A	6.2
22	Internal Intersection	D	City	SSSC	-	6.0	-	5.6
	Worst Approach				*C*	*18.0*	*C*	*15.3*
23	Internal Intersection	D	City	AWSC	B	12.6	C	17.2
24	Lammers Rd/Hansen Rd	D	County	Signal	C	23.2	D	41.6
25	Lammers Ext (Eleventh) and I-205 EB Ramps	C/D	Caltrans	Signal	A	2.9	A	4.3
26	Lammers Ext (Eleventh) and I-205 WB Ramps	C/D	Caltrans	Signal	B	19.0	C	24.7
27	Lammers Ext and Grant Line Rd	D	County	Signal	B	19.0	D	45.2
28	Corral Hollow Rd and Eleventh St	D	City	Signal	B	16.7	B	19.5
29	Tracy Blvd and W. Central Ave	D	City	Signal	C	32.2	D	47.7
30	Tracy Blvd and Eleventh St	D	City	Signal	B	16.6	B	18.7
31	Linne Rd and Chrisman Rd	D	County	Signal	A	9.1	B	14.9
32	Chrisman Rd and Eleventh St	D	County	Signal	D	39.1	D	50.9
33	Chrisman Rd and I-205 EB Ramps	C/D	Caltrans	Signal	A	7.1	B	14.9
34	Chrisman Rd and I-205 WB Ramps	C/D	Caltrans	Signal	B	18.2	A	5.3
35	Linne Rd and MacArthur Drive	D	County	AWSC	**F**	**60.3**	**F**	**67.6**
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	**-**	**32.3**	**-**	**OVRFL**

Table 4.13-39: Cumulative Plus Project 2035 Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative + Project (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	C	21.0	C	22.6

Notes: Intersections that are operating below acceptable levels are shown in **BOLD**.
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is controlled by a signal, all way stop control (AWSC), or side street stop control (SSSC).

Source: Kimley-Horn, 2014.

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative (2035) AM Peak LOS	Cumulative (2035) AM Peak Delay	Cumulative (2035) PM Peak LOS	Cumulative (2035) PM Peak Delay	Cumulative + Project (2035) AM Peak LOS	Cumulative + Project (2035) AM Peak Delay	Cumulative + Project (2035) PM Peak LOS	Cumulative + Project (2035) PM Peak Delay	Cumulative + Project (2035) Mitigated AM Peak LOS	Cumulative + Project (2035) Mitigated AM Peak Delay	Cumulative + Project (2035) Mitigated PM Peak LOS	Cumulative + Project (2035) Mitigated PM Peak Delay	Project Mitigation Action
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	Signal	A	6.7	C	27.5	A	7.4	D	44.3	-	-	-	-	-
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	Signal	B	12.4	A	3.7	B	19.0	A	5.4	-	-	-	-	-
3	Corral Hollow Rd and Spine Rd	D	City	Signal	-	-	-	-	B	15.6	D	39.9	-	-	-	-	-
4	Corral Hollow Rd and Linne Rd	D	County	Signal	A	7.5	A	8.4	C	31.9	C	20.5	-	-	-	-	-
5	Tracy Blvd and Linne Rd	D	City	Signal	B	17.2	C	20.2	C	23.4	D	42.0	-	-	-	-	-
6	Tracy Blvd and Valpico Rd	D	City	Signal	B	17.1	B	18.1	B	18.7	C	24.0	-	-	-	-	-
7	Corral Hollow Rd and Valpico Rd	D	County	Signal	B	11.1	B	11.8	B	12.4	B	17.8	-	-	-	-	-
8	Lammers Rd and Valpico Rd	D	County	Signal	C	22.5	B	12.5	D	43.5	C	26.0	-	-	-	-	-
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	C	26.3	D	43.7	C	28.5	D	50.2	-	-	-	-	-
10	Lammers Rd and Old Schulte Rd	D	County	Signal	A	7.7	A	8.8	B	12.6	B	16.1	-	-	-	-	-
11	Roundabout on Spine Rd	D	City	Roundabout	-	-	-	-	A	5.7	A	7.3	-	-	-	-	-
	Worst Approach				-	-	-	-	*v/c*	*0.3*	*v/c*	*0.4*	-	-	-	-	-
12	Lammers Rd and Eleventh St	D	City	Signal	A	7.1	A	10.0	B	11.4	B	11.2	-	-	-	-	-
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	Signal	A	7.6	A	8.0	A	9.8	A	8.6	-	-	-	-	-
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	Signal	A	7.2	A	5.1	B	10.0	A	5.3	-	-	-	-	-
15	Lammers Rd and I -580 EB Ramp	C/D	Caltrans	Signal	B	17.2	B	11.3	A	7.9	C	29.2	-	-	-	-	-
16	Lammers Rd and I-580 WB Ramp	C/D	Caltrans	Signal	B	11.6	A	6.0	B	17.4	B	17.8	-	-	-	-	-
17	Lammers Rd and Spine Rd	D	City	Signal	-	-	-	-	C	23.2	C	33.6	-	-	-	-	-
18	Lammers Rd and Linne Rd	D	City	Signal	A	9.8	B	12.3	B	15.2	C	23.9	-	-	-	-	-
19	Future Intersection with Project Buildout	D	City	Signal	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Corral Hollow Rd and South Project Driveway	D	City	Signal	-	-	-	-	A	8.3	A	9.1	-	-	-	-	-
21	Business Park Main Driveway	D	City	Signal	-	-	-	-	A	4.9	A	6.2	-	-	-	-	-
22	Internal Intersection	D	City	SSSC	-	-	-	-	-	6.0	-	5.6	-	-	-	-	-
	Worst Approach				-	-	-	-	*C*	*18.0*	*C*	*15.3*					
23	Internal Intersection	D	City	AWSC	-	-	-	-	B	12.6	C	17.2	-	-	-	-	-
24	Lammers Rd/Hansen Rd	D	County	Signal	C	20.1	C	28.2	C	23.2	D	41.6	-	-	-	-	-
25	Lammers Ext (Eleventh) and I-205 EB Ramps	C/D	Caltrans	Signal	A	2.7	A	4.2	A	2.9	A	4.3	-	-	-	-	-
26	Lammers Ext (Eleventh) and I-205 WB Ramps	C/D	Caltrans	Signal	B	16.3	C	25.6	B	19.0	C	24.7	-	-	-	-	-
27	Lammers Ext and Pavillion Pkwy	D	County	Signal	B	18.4	D	44.1	B	19.0	D	45.2	-	-	-	-	-
28	Corral Hollow Rd and Eleventh St	D	City	Signal	B	15.3	B	17.1	B	16.7	B	19.5	-	-	-	-	-
29	Tracy Blvd and W. Central Ave	D	City	Signal	C	28.8	C	34.7	C	32.2	D	47.7	-	-	-	-	-
30	Tracy Blvd and Eleventh St	D	City	Signal	B	15.7	B	17.7	B	16.6	B	18.7	-	-	-	-	-
31	Linne Rd and Chrisman Rd	D	County	Signal	A	7.7	A	7.6	A	9.1	B	14.9	-	-	-	-	-
32	Chrisman Rd and Eleventh St	D	County	Signal	C	30.5	D	35.1	D	39.1	D	50.9	-	-	-	-	-
33	Chrisman Rd and I-205 EB Ramps	C/D	Caltrans	Signal	A	6.9	B	14.4	A	7.1	B	14.9	-	-	-	-	-
34	Chrisman Rd and I-205 WB Ramps	C/D	Caltrans	Signal	B	18.9	A	4.9	B	18.2	A	5.3	-	-	-	-	-
35	Linne Rd and MacArthur Drive	D	County	AWSC	**E**	**41.1**	**F**	**55.2**	**F**	**60.3**	**F**	**67.6**	B	14	C	23	Add EBL, make WB approach WBL, WBT, and WBR, make SB approach SBL, SBT, SBR, and signalize.
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	**-**	**OVRFL**	**-**	**OVRFL**	**-**	**32.3**	**-**	**OVRFL**	B	10.4	B	18.9	Make RIRO per discussion with the City OR signalize.
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***	***F***	***OVRFL***	***F***	***OVRFL***					
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	B	18.9	B	16.8	C	21.0	C	22.6	-	-	-	-	-

Notes: Intersections that are operating below acceptable levels are shown in **BOLD.**

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1] Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

Source: Kimley-Horn & Associates, Inc. (2014)

TABLE 4.13-40

Cumulative + Project 2035 Intersection Delay & LOS Mitigation - Tracy

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Table 4.13-41: Cumulative Plus Project 2035 Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Project	PM Project	AM Project	PM Project
Lammers Road (Northbound)	N/O Eleventh St	1,485	500	758	0.3	0.5
	Eleventh St to Old Schulte Rd	2,673	2,271	2,303	0.85	0.86
	Old Schulte Rd to Valpico Rd	2,673	1,273	2,334	0.5	0.87
	Valpico Rd to Linne Rd	2,673	1,074	1,232	0.4	0.5
	Linne Rd to Spine Rd	2,673	1,990	2,370	0.7	0.89
	S/O Spine Rd	2,673	1,290	1,190	0.5	0.4
Lammers Road (Southbound)	N/O Eleventh St	1,485	592	956	0.4	0.6
	Eleventh St to Old Schulte Rd	2,673	1,729	2,251	0.6	0.84
	Old Schulte Rd to Valpico Rd	2,673	1,525	2,374	0.6	0.89
	Valpico Rd to Linne Rd	2,673	806	2,048	0.3	0.77
	Linne Rd to Spine Rd	2,673	1,480	2,373	0.6	0.9
	S/O Spine Rd	2,673	770	1,830	0.3	0.7
Lammers Road Ext/Eleventh St. (Northbound/Westbound)	N/O I-205 Fwy	2,228	1,935	1,970	0.87	0.88
	I-205 Fwy to Lammers Rd	2,970	2,396	2,625	0.81	0.88
	Lammers Rd to Corral Hollow Rd	2,673	2,368	2,088	0.89	0.8
	E/O Corral Hollow Rd	2,228	1,882	2,399	0.84	**1.1**
Lammers Road Ext/Eleventh St. (Southbound/Eastbound)	N/O I-205 Fwy	2,228	760	1,950	0.3	0.88
	I-205 Fwy to Lammers Rd	2,970	1,872	3,296	0.6	**1.1**
	Lammers Rd to Corral Hollow Rd	2,673	1,673	3,201	0.6	**1.2**
	E/O Corral Hollow Rd	2,228	1,867	2,432	0.84	**1.1**
Corral Hollow Road (Northbound)	N/O Eleventh St	2,228	2,508	2,791	**1.1**	**1.3**
	Eleventh St to New Schulte Rd	2,228	2,674	2,174	**1.2**	**0.98**
	New Schulte Rd to Linne Rd	1,485	1,018	1,510	0.7	**1.0**
	Linne Rd to Spine Rd	1,485	628	1,578	0.4	**1.1**
	S/O Spine Rd	1,485	1,240	1,133	0.84	0.76
Corral Hollow Road (Southbound)	N/O Eleventh St	2,228	2,076	2,752	**0.9**	**1.2**
	Eleventh St to New Schulte Rd	2,228	1,766	2,755	0.79	**1.2**
	New Schulte Rd to Linne Rd	1,485	1,064	1,281	0.7	0.86
	Linne Rd to Spine Rd	1,485	1,145	1,133	0.77	0.76
	S/O Spine Rd	1,485	1,020	953	0.7	0.6
Chrisman Road (Northbound)	N/O I-205 Fwy	2,673	290	2,080	0.1	0.78
	I-205 Fwy to Eleventh	2,673	765	1,841	0.3	0.7
	Eleventh to Valpico Rd	1,782	1,490	1,231	0.84	0.7
	S/O Valpico	891	473	505	0.5	0.6
Chrisman Road (Southbound)	N/O I-205 Fwy	2,673	640	640	0.2	0.2
	I-205 Fwy to Eleventh	2,673	669	769	0.3	0.3

Table 4.13-41: Cumulative Plus Project 2035 Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Project	PM Project	AM Project	PM Project
	Eleventh to Valpico Rd	1,782	830	1,063	0.5	0.6
	S/O Valpico	891	445	556	0.5	0.6
MacArthur Drive (Northbound)	Linne Rd to Valpico Rd	891	171	428	0.2	0.5
	Valpico Rd to W Schulte Rd	1,485	494	951	0.3	0.6
	W Schulte Rd to Eleventh St	1,485	689	825	0.5	0.6
	N/O Eleventh St	1,485	659	1,005	0.4	0.7
MacArthur Drive (Southbound)	Linne Rd to Valpico Rd	891	246	431	0.3	0.5
	Valpico Rd to W Schulte Rd	1,485	445	843	0.3	0.6
	W Schulte Rd to Eleventh St	1,485	537	875	0.4	0.6
	N/O Eleventh St	1,485	408	937	0.3	0.6
Tracy Boulevard (Northbound)	N/O Eleventh St	1,485	1,984	2,118	**1.3**	**1.4**
	Eleventh St to Valpico Rd	1,485	1,880	1,821	**1.3**	**1.2**
	Valpico Rd to Linne Rd	1,485	843	1,035	0.6	0.7
	S/O Linne Rd	891	98	144	0.1	0.2
Tracy Boulevard (Southbound)	N/O Eleventh St	1,485	1,435	1,948	**1.0**	**1.3**
	Eleventh St to Valpico Rd	1,485	1,293	1,715	0.87	**1.2**
	Valpico Rd to Linne Rd	1,485	797	1,025	0.5	0.7
	S/O Linne Rd	891	161	77	0.2	0.1
Linne Road (Eastbound)	W/O Corral Hollow Rd	1,782	570	950	0.3	0.5
	Corral Hollow Rd to Tracy Blvd	2,673	811	1544	0.3	0.6
	Tracy Blvd to MacArthur Dr	1,782	727	1,230	0.4	0.7
	MacArthur Dr to Chrisman Rd	1,782	759	1,097	0.4	0.6
	E/O Chrisman Rd	891	672	751	0.75	0.84
Linne Road (Westbound)	W/O Corral Hollow Rd	1,782	700	918	0.4	0.5
	Corral Hollow Rd to Tracy Blvd	2,673	1,022	1,640	0.4	0.6
	Tracy Blvd to MacArthur Dr	1,782	893	1104	0.5	0.6
	MacArthur Dr to Chrisman Rd	1,782	806	724	0.5	0.4
	E/O Chrisman Rd	891	658	458	0.7	0.5

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-42: Cumulative Plus Project 2035 Freeway Segment Volumes & LOS- *Tracy*

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road	EB	345	2.9	A	2,203	18.7	C
		WB	1,032	8.7	A	1,487	12.6	B
2	I-580 - Mountain House Parkway/Patterson Pass Road to Lammers Road	EB	291	2.5	A	2,770	24.2	C
		WB	1,476	12.5	B	1,839	15.6	B
3	Lammers to Corral Hollow Road	EB	175	1.5	A	2,350	20.0	C
		WB	1,064	9.0	A	1,345	11.4	B
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	149	1.3	A	2,656	23.0	C
		WB	1,611	13.6	B	1,307	11.1	B
5	I-580: Rt. 132 to I-5	EB	149	1.3	A	2,673	23.1	C
		WB	1,734	14.6	B	1,433	12.1	B
6	I-205: I-205 Junction to Mountain House Parkway	EB	2,007	16.5	B	**5,254**	**96.8**	**F**
		WB	1,637	13.5	B	**5,584**	**141.0**	**F**
7	I-205: Mountain House Parkway to Eleventh St	EB	2,789	23.6	C	**5,728**	**175.1**	**F**
		WB	2,010	16.5	B	**6,440**	**-**	**F**
8	I-205: Eleventh St to Lammers Extension	EB	3,132	17.2	B	**7,057**	**-**	**F**
		WB	3,741	20.7	C	**6,840**	**56.6**	**F**
9	I-205: Lammers Extension to Grant Line Rd	EB	3,909	21.8	C	**8,650**	**187.0**	**F**
		WB	**5,906**	**40.0**	**E**	**8,956**	**291.6**	**F**
10	I-205: Grant Line Rd to Tracy Blvd	EB	4,548	26.1	D	**10,660**	**-**	**F**
		WB	**7,677**	**83.7**	**F**	**9,563**	**42,249.8**	**F**
11	I-205: Tracy Blvd to MacArthur Dr.	EB	4,938	29.3	D	**11,033**	**-**	**F**
		WB	**8,392**	**138.1**	**F**	**9,749**	**-**	**F**
12	I-205: MacArthur Dr to Chrisman Rd	EB	4,263	24.0	C	**10,040**	**-**	**F**
		WB	**7,592**	**79.7**	**F**	**8,670**	**182.5**	**F**
13	I-205: Chrisman Rd to I-5 Junction	EB	4,681	27.1	D	**10,671**	**-**	**F**
		WB	**7,191**	**65.2**	**F**	**7,947**	**98.6**	**F**
14	I-205: I-5 Junction to SR-120	EB	4,811	15.8	B	**11,823**	**62.4**	**F**
		WB	8,129	28.7	D	**9,221**	**35.1**	**E**

Table 4.13-42: Cumulative Plus Project 2035 Freeway Segment Volumes & LOS- *Tracy*

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
(a) Directional volumes in vehicles per hour (vph) were calculated using the Tracy Hills TIA models generated by Fehr & Peers (2013) and data from the Caltrans Traffic Data Branch (2012).
(b) pc/mi/ln = passenger cars per mile per lane
(c) Directional volumes in vehicles per hour (vph) obtained from the Tracy Hills model generated by Fehr & Peers, 2013.

Source: Kimley-Horn, 2014.

I-580 Interchange	Freeway Direction	Ramp	Length of Accel/Decel Lane (ft)	Cumulative								Cumulative Plus Project (2035)								Cumulative Plus Project (2035) Mitigations				
				AM				PM				AM				PM					AM			PM	
				Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Recommended Mitigation	Ramp Density (pc/mi/ln) (b)	LOS	Ramp Density (pc/mi/ln) (b)	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	38	109	5.5	A	1,567	695	24.5	C	67	129	5.9	A	1,666	875	27.0	C	-	-	-	-	-
		Diverge (off-ramp)	200	215	177	4.6	A	2,058	491	23.4	C	274	207	5.2	A	2,297	631	25.9	C	-	-	-	-	-
	WB	Merge (on-ramp)	400	1,073	622	19.6	B	1,139	271	16.0	B	1,242	702	22.1	C	1,198	411	17.8	B	-	-	-	-	-
		Diverge (off-ramp)	200	1,545	472	18.2	B	1,245	106	15.1	B	1,794	552	20.7	C	1,404	206	16.8	B	-	-	-	-	-
Lammers Road	EB	Merge (on-ramp)	250	174	41	6.0	A	1,806	252	22.8	C	204	70	6.6	A	1,946	351	25.0	C	-	-	-	-	-
		Diverge (off-ramp)	200	236	62	4.9	A	2,118	312	24.0	C	355	151	6.1	A	**2,527**	**581**	**28.2**	**D**	Add an additonal 500' deceleration lane	0.2	A	21.9	C
	WB	Merge (on-ramp)	400	1,583	112	18.8	B	1,318	246	17.4	B	1,663	391	22.6	C	1,458	595	21.9	C	-	-	-	-	-
		Diverge (off-ramp)	200	1,695	112	19.7	B	1,410	92	16.8	B	1,944	281	22.3	C	1,609	151	18.8	B	-	-	-	-	-

Notes:

*Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.

*Analysis performed using HCS 2010 software.

*Freeway volumes obtained from the Fehr & Peers generated model for cumulative scenarios.

*Cumulative ramp volumes obtained from the Fehr & Peers (2013) generated model for the corresponding scenario.

(a) pc/mi/ln = passenger cars per mile per lane

TABLE 4.13-43

Cumulative + Project Ramp Merge Diverge LOS & Mitigation - Tracy

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CUMULATIVE PLUS PROJECT BUILDOUT OPERATIONS (SAN JOAQUIN COUNTY/TRACY)

The Cumulative 2035 Plus Project Buildout (post-2035) scenario for the Tracy intersections, roadway segments, and highway segments was formed by adding full buildout of the THSP Project traffic onto the cumulative network and background traffic.

Tables 4.13-44 through 4.13-47 show the analysis results for Cumulative Plus Project Buildout conditions (i.e., intersection delay and LOS, roadway segment V/C, freeway segment LOS, and ramp merge/diverge LOS).

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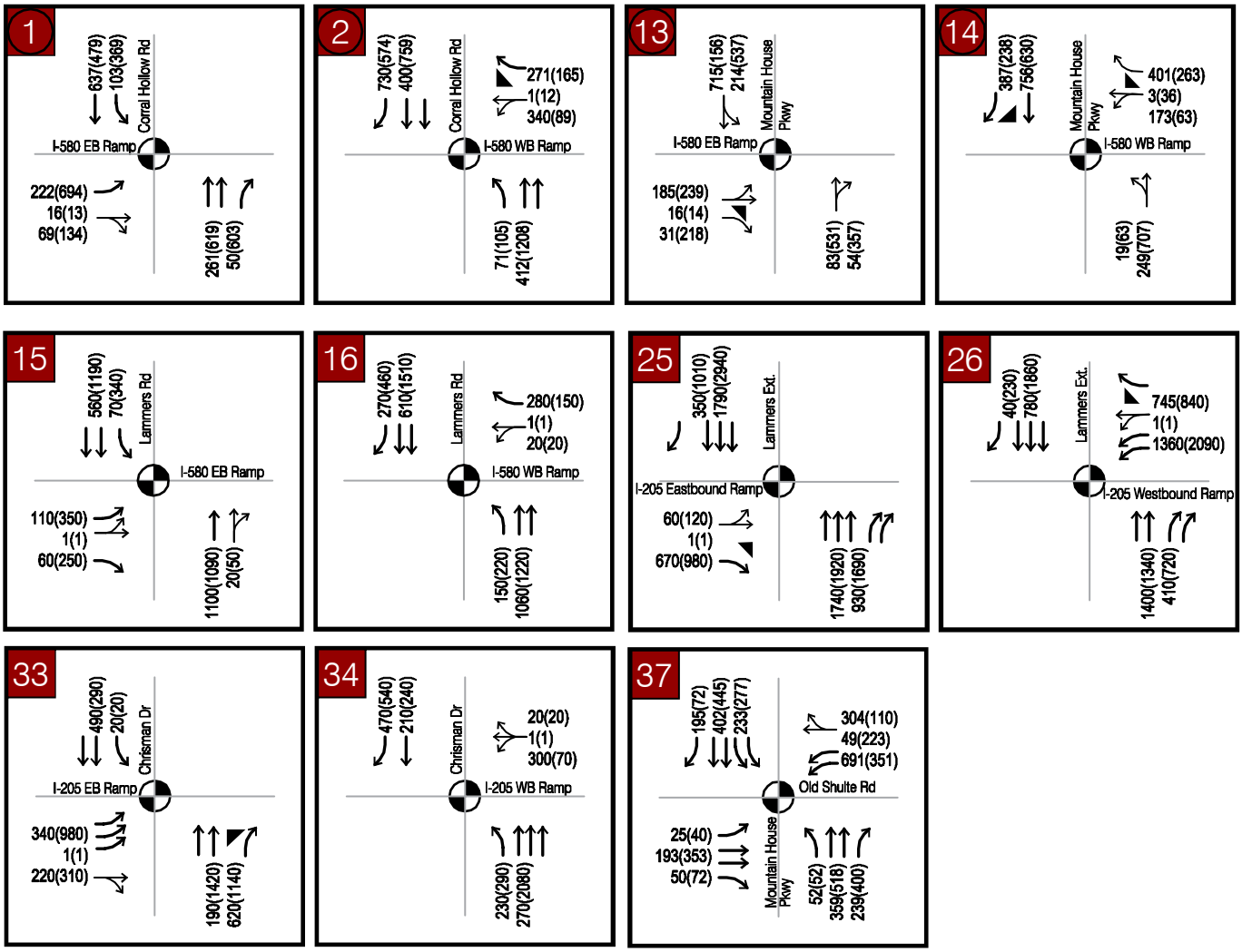

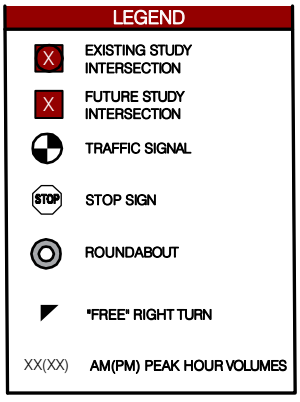

FIGURE 4.13-17

Cumulative + Buildout Turning Movements & Geometry - Tracy

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Table 4.13-44: Cumulative Plus Buildout Intersection Delay & LOS- *Tracy*

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative + Buildout			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	Signal	A	8.5	D	53.2
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	Signal	C	34.4	D	38.8
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	Signal	A	10.0	A	9.0
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	Signal	A	8.5	A	5.9
15	Lammers Rd and I -580 EB Ramp	C/D	Caltrans	Signal	A	8.0	C	21.4
16	Lammers Rd and I-580 WB Ramp	C/D	Caltrans	Signal	B	13.8	B	11.2
25	Lammers Ext (Eleventh) and I-205 EB Ramps	C/D	Caltrans	Signal	A	3.0	A	4.5
26	Lammers Ext (Eleventh) and I-205 WB Ramps	C/D	Caltrans	Signal	C	20.0	C	28.0
33	Chrisman Rd and I-205 EB Ramps	C/D	Caltrans	Signal	A	7.3	B	15.6
34	Chrisman Rd and I-205 WB Ramps	C/D	Caltrans	Signal	C	20.3	A	6.1
37	Mountain House Pkwy and Old Schulte Rd	D	City	Signal	C	22.0	C	22.8

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD.**
OVRFL = "OVERFLOW" represents an intersection that operates within a delay exceeding 300 seconds.
[1]Each study Intersection is controlled by a signal, all way stop control (AWSC), or side street stop control (SSSC).

Source: Kimley-Horn, 2014.

Table 4.13-45: Cumulative Plus Buildout Roadway Segment Volumes, Capacities, and *V/C* Ratios - *Tracy*

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Buildout	PM Buildout	AM Buildout	PM Buildout
Lammers Road (Northbound)	N/O Eleventh St	1,485	570	858	0.4	0.6
	Eleventh St to Old Schulte Rd	2,673	2,326	2,378	0.87	0.89
	Old Schulte Rd to Valpico Rd	2,673	2,281	2,243	0.85	0.84
	Valpico Rd to Linne Rd	2,673	1,204	1,507	0.5	0.6
	Linne Rd to Spine Rd	2,673	2,140	2,820	0.80	**1.1**
	S/O Spine Rd	2,673	1,340	1,370	0.5	0.5
Lammers Road (Southbound)	N/O Eleventh St	1,485	672	996	0.5	0.7
	Eleventh St to Old Schulte Rd	2,673	2,079	2,191	0.78	0.82
	Old Schulte Rd to Valpico Rd	2,673	1,950	2,368	0.7	0.89
	Valpico Rd to Linne Rd	2,673	1,056	2,263	0.4	0.8
	Linne Rd to Spine Rd	2,673	1,800	2,970	0.7	**1.1**
	S/O Spine Rd	2,673	880	1,970	0.3	0.7
Lammers Road Ext/Eleventh St. (Northbound/Westbound)	N/O I-205 Fwy	2,228	1,945	1,980	0.87	0.89
	I-205 Fwy to Lammers Rd	2,970	2,541	2,600	0.86	0.88
	Lammers Rd to Corral Hollow Rd	2,673	2,373	2,168	0.89	0.81
	E/O Corral Hollow Rd	2,228	1,952	2,459	0.88	**1.1**
Lammers Road Ext/Eleventh St. (Southbound/Eastbound)	N/O I-205 Fwy	2,228	820	1,940	0.4	0.87
	I-205 Fwy to Lammers Rd	2,970	2,047	3,421	0.7	**1.2**
	Lammers Rd to Corral Hollow Rd	2,673	1,703	3,286	0.6	**1.2**
	E/O Corral Hollow Rd	2,228	1,937	2,502	0.87	**1.1**
Corral Hollow Road (Northbound)	N/O Eleventh St	2,228	2,678	2,911	**1.2**	**1.3**
	Eleventh St to New Schulte Rd	2,228	2,834	2,419	**1.3**	**1.1**
	New Schulte Rd to Linne Rd	1,485	1,153	1,950	0.78	**1.3**
	Linne Rd to Spine Rd	1,485	918	2,313	0.6	**1.6**
	S/O Spine Rd	1,485	1,429	1,353	**0.96**	**0.91**
Corral Hollow Road (Southbound)	N/O Eleventh St	2,228	2,186	2,962	**0.98**	**1.3**
	Eleventh St to New Schulte Rd	2,228	1,906	2,925	0.86	**1.3**
	New Schulte Rd to Linne Rd	1,485	1,259	1,212	0.85	0.82
	Linne Rd to Spine Rd	1,485	1,469	1,668	**0.99**	**1.1**
	S/O Spine Rd	1,485	939	1,333	0.6	**0.9**
Chrisman Road (Northbound)	N/O I-205 Fwy	2,673	290	2,100	0.1	0.79
	I-205 Fwy to Eleventh	2,673	870	2,086	0.3	0.78
	Eleventh to Valpico Rd	1,782	1,570	1,521	0.88	0.85
	S/O Valpico	891	643	745	0.7	0.84

Table 4.13-45: Cumulative Plus Buildout Roadway Segment Volumes, Capacities, and *V/C* Ratios - *Tracy*

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Buildout	PM Buildout	AM Buildout	PM Buildout
Chrisman Road (Southbound)	N/O I-205 Fwy	2,673	680	680	0.3	0.3
	I-205 Fwy to Eleventh	2,673	734	829	0.3	0.3
	Eleventh to Valpico Rd	1,782	970	1,173	0.5	0.7
	S/O Valpico	891	625	726	0.7	0.81
MacArthur Drive (Northbound)	Linne Rd to Valpico Rd	891	254	604	0.3	0.7
	Valpico Rd to W Schulte Rd	1,485	566	1,072	0.4	0.7
	W Schulte Rd to Eleventh St	1,485	738	879	0.5	0.6
	N/O Eleventh St	1,485	684	1,045	0.5	0.7
MacArthur Drive (Southbound)	Linne Rd to Valpico Rd	891	336	545	0.4	0.6
	Valpico Rd to W Schulte Rd	1,485	519	949	0.3	0.6
	W Schulte Rd to Eleventh St	1,485	578	944	0.4	0.6
	N/O Eleventh St	1,485	428	981	0.3	0.7
Tracy Boulevard (Northbound)	N/O Eleventh St	1,485	2,024	2,178	**1.4**	**1.5**
	Eleventh St to Valpico Rd	1,485	1,930	1,961	**1.3**	**1.3**
	Valpico Rd to Linne Rd	1,485	913	1,165	0.6	0.8
	S/O Linne Rd	891	138	194	0.2	0.2
Tracy Boulevard (Southbound)	N/O Eleventh St	1,485	1,485	2,008	**1.0**	**1.4**
	Eleventh St to Valpico Rd	1,485	1,363	1,865	**0.9**	**1.3**
	Valpico Rd to Linne Rd	1,485	907	1,270	0.6	**0.9**
	S/O Linne Rd	891	201	137	0.2	0.2
Linne Road (Eastbound)	W/O Corral Hollow Rd	1,782	600	980	0.3	0.5
	Corral Hollow Rd to Tracy Blvd	2,673	1,066	1889	0.4	0.7
	Tracy Blvd to MacArthur Dr	1,782	932	1,480	0.5	0.83
	MacArthur Dr to Chrisman Rd	1,782	909	1,282	0.5	0.7
	E/O Chrisman Rd	891	722	771	0.81	0.87
Linne Road (Westbound)	W/O Corral Hollow Rd	1,782	730	948	0.4	0.5
	Corral Hollow Rd to Tracy Blvd	2,673	1,352	2,030	0.5	0.8
	Tracy Blvd to MacArthur Dr	1,782	1118	1294	0.6	0.7
	MacArthur Dr to Chrisman Rd	1,782	971	854	0.5	0.5
	E/O Chrisman Rd	891	718	518	0.81	0.6

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-46: Cumulative Plus Buildout Freeway Segment Volumes & LOS- Tracy

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road	EB	410	3.5	A	2,299	19.5	C
		WB	1,075	9.1	A	1,601	13.5	B
2	I-580 - Mountain House Parkway/Patterson Pass Road to Lammers Road	EB	338	2.9	A	3,056	27.6	D
		WB	1,349	11.4	B	2,185	18.5	C
3	Lammers to Corral Hollow Road	EB	256	2.2	A	2,560	22.0	C
		WB	1,146	9.7	A	1,606	13.6	B
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	169	1.4	A	2,770	24.2	C
		WB	1,671	14.1	B	1,352	11.4	B
5	I-580: Rt. 132 to I-5	EB	168	1.4	A	2,749	24.0	C
		WB	1,764	14.9	B	1,433	12.1	B
6	I-205: I-205 Junction to Mountain House Parkway	EB	2,007	16.5	B	**5,254**	**96.8**	**F**
		WB	1,637	13.5	B	**5,584**	**141.0**	**F**
7	I-205: Mountain House Parkway to Eleventh St	EB	2,796	23.7	C	**5,731**	**176.1**	**F**
		WB	2,010	16.5	B	**6,440**	**---**	**F**
8	I-205: Eleventh St to Lammers Extension	EB	3,139	17.2	B	**7,060**	**62.3**	**F**
		WB	3,741	20.7	C	**6,840**	**56.6**	**F**
9	I-205: Lammers Extension to Grant Line Rd	EB	3,947	22.0	C	**8,734**	**207.3**	**F**
		WB	**6,049**	**42.0**	**E**	**9,073**	**369.4**	**F**
10	I-205: Grant Line Rd to Tracy Blvd	EB	4,578	26.3	D	**10,735**	**---**	**F**
		WB	**7,749**	**87.2**	**F**	**9,576**	**----**	**F**
11	I-205: Tracy Blvd to MacArthur Dr.	EB	4,919	29.1	D	**11,105**	**----**	**F**
		WB	**8,433**	**143.1**	**F**	**9,753**	**----**	**F**
12	I-205: MacArthur Dr to Chrisman Rd	EB	4,285	24.2	C	**10,103**	**----**	**F**
		WB	**7,653**	**82.4**	**F**	**8,675**	**----**	**F**
13	I-205: Chrisman Rd to I-5 Junction	EB	4,786	28.0	D	**10,892**	**----**	**F**
		WB	**7,275**	**67.8**	**F**	**7,951**	**98.8**	**F**
14	I-205: I-5 Junction to SR-120	EB	4,916	29.1	D	**12,072**	**----**	**F**
		WB	**8,294**	**126.9**	**F**	**9,319**	**674.2**	**F**

Table 4.13-46: Cumulative Plus Buildout Freeway Segment Volumes & LOS- Tracy

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
(a) Directional volumes in vehicles per hour (vph) were calculated using the Tracy Hills TIA models generated by Fehr & Peers (2013) and data from the Caltrans Traffic Data Branch (2012).
(b) pc/mi/ln = passenger cars per mile per lane
(c) Directional volumes in vehicles per hour (vph) obtained from the Tracy Hills model generated by Fehr & Peers, 2013.

Source: Kimley-Horn, 2014.

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I-580 Interchange	Freeway Direction	Ramp	Length of Accel/Decel Lane (ft)	Cumulative									Cumulative Plus Buildout								Cumulative Plus Buildout Mitigated				
				AM					PM				AM				PM					AM		PM	
				Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Ramp Speed (mph)	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Freeway Volume (vph)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (a)	LOS	Recommended Mitigation	Ramp Density (pc/mi/ln) (b)	LOS	Ramp Density (pc/mi/ln) (b)	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	38	109	5.5	A	62	1,567	695	24.5	C	87	169	6.6	A	**1,706**	**985**	**28.3**	**D**	Add an additional 500' acceleration lane	1.9	A	23.6	C
		Diverge (off-ramp)	200	215	177	4.6	A	57	2,058	491	23.4	C	394	307	6.5	A	**2,547**	**841**	**28.4**	**D**	Add an additional 500' deceleration lane	0.2	A	22.1	C
	WB	Merge (on-ramp)	400	1,073	622	19.6	B	61	1,139	271	16.0	B	1,262	802	23.3	C	1,218	691	20.5	C	-	-	-	-	-
		Diverge (off-ramp)	200	1,545	472	18.2	B	56	1,245	106	15.1	B	1,874	612	21.5	C	1,484	266	17.6	B	-	-	-	-	-
Lammers Road	EB	Merge (on-ramp)	250	174	41	6.0	A	62	1,806	252	22.8	C	304	90	7.7	A	2,156	391	27.3	C	-	-	-	-	-
		Diverge (off-ramp)	200	236	62	4.9	A	58	2,118	312	24.0	C	475	171	7.3	A	**2,757**	**601**	**30.5**	**D**	Add an additional 500' deceleration lane	1.0	A	24.2	C
	WB	Merge (on-ramp)	400	1,583	112	18.8	B	61	1,318	246	17.4	B	1,763	421	23.8	C	1,738	685	25.3	C	-	-	-	-	-
		Diverge (off-ramp)	200	1,695	112	19.7	B	58	1,410	92	16.8	B	2,064	301	23.5	C	1,909	171	21.9	C	-	-	-	-	-

Notes:

*Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.

*Analysis performed using HCS 2010 software.

*Freeway volumes obtained from the Fehr & Peers generated model for cumulative scenarios.

*Cumulative ramp volumes obtained from the Fehr & Peers (2013) generated model for the corresponding scenario.

(a) pc/mi/ln = passenger cars per mile per lane

TABLE 4.13-47

Cumulative + Buildout Ramp Merge Diverge LOS & Mitigation - Tracy

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SJCOG CMP BACKGROUND

The purpose of the CMP is to monitor the cumulative transportation impacts of growth of the regional roadway system, establish a level of service standard, identify deficient regional roadways and develop plans to mitigate the deficiencies, and facilitate travel demand management and operational preservation strategies for existing and planned development.

To be consistent with the SJCOG CMP, this analysis identifies potential impacts of the THSP Project on CMP roadways and intersections, includes identification and implementation of mitigation measures to resolve or mitigate identified impacts (including estimated cost), and details how the Project would be compliant with the Regional Travel Demand Management Action Plan.

EIR CMP ANALYSIS

The SJCOG CMP accepts the 2000 or 2010 operational method documented in the Highway Capacity Manual for its evaluation of intersection level of service. For signalized intersections, the intersection's average control delay will be used. For side-street stop controlled intersections, levels of service will be assessed based on the intersection approach with the highest control delay. For all-way stop-controlled intersections levels of service will be assessed based on the weighted average control delay at the intersection.

This analysis identifies a substantial number of Project trips using intersections along Eleventh Street, Lammers Road, Corral Hollow Road, and Linne Road. Intersection analysis of the CMP roadways was conducted for the Existing Plus Project 2035 and Cumulative Plus Project 2035 Conditions. As shown in Tables 4.13-48 and 4.13-49, *SJCOG Regional Congestion Management Program Intersection Level of Service*, all the CMP intersections studied would operate at an acceptable level of service (LOS D or better) without mitigation for the Cumulative Plus Project 2035 Conditions. The Existing Plus Project 2035 conditions has deficient operations at intersections along Corral Hollow Road, but mitigations alleviating those effects are contained within the City of Tracy TMP geometrics for the horizon year including the inclusion of the Lammers Road and I-580 interchange and the six-lane extension of Lammers Road south of Linne Road.

Tables 4.13-48 through 4.13-49 show the results of this SJCOG RCMP analysis (i.e., intersection segment LOS for Existing Plus Project (2035) and Cumulative Plus Project (2035), respectively).

Table 4.13-48: Existing Plus Project (2035)
SJCOG Regional Congestion Management Program Intersection LOS

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) + Project (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	**-**	**OVRFL**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	**-**	**OVRFL**	**-**	**238.9**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
3	Corral Hollow Rd and Spine Rd	D	City	Signal	C	28.6	**F**	**OVRFL**
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	**-**	**226.6**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
5	Tracy Blvd and Linne Rd	D	City	AWSC	**D**	**32.8**	**F**	**56.0**
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC / Signal[3]	**F**	**68.9**	**F**	**78.3**
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	13.6	-	8.3
	Worst Approach				*C*	*16.1*	*B*	*11.3*
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**67.8**	D	40.5
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**39.5**	C	20.1
12	Lammers Rd and Eleventh St	D	City	Signal	C	22.2	B	19.4
15	Lammers Rd and I -580 EB Ramp*	C/D	Caltrans	Signal	-	-	-	-
16	Lammers Rd and I-580 WB Ramp*	C/D	Caltrans	Signal	-	-	-	-
17	Lammers Rd and Spine Rd*	D	City	Signal	-	-	-	-
18	Lammers Rd and Linne Rd*	D	City	Signal	-	-	-	-
19	Corral Hollow Rd and N. Tracy Hills Rd	D	City	Signal	-	-	-	-
20	Corral Hollow Rd and S. Tracy Hills Rd	D	City	Signal	B	18.8	B	8.1
24	Lammers Rd/Hansen Road*	D	County	Signal	-	-	-	-
28	Corral Hollow Rd and Eleventh St	D	City	Signal	C	29.5	D	42.6
30	Tracy Blvd and Eleventh St	D	City	Signal	C	20.6	C	23.9
31	Linne Rd and Chrisman Rd	D	County	Signal	A	6.4	A	6.1
32	Chrisman Rd and Eleventh St	D	County	Signal	B	14.1	B	14.0
35	Linne Rd and MacArthur Drive	D	County	AWSC	C	15.1	B	12.2
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	-	**46.5**	**-**	**0.8**
	Worst Approach				***F***	***OVRFL***	***A***	***1.3***

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD**
OVRFL = "overflow;" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]Currently, Intersection #7 is an AWSC. However, the intersection would be signalized before the Project (Phase I) is implemented. See Appendix H-7.

Table 4.13-49: Cumulative Plus Project (2035)
SJCOG Regional Congestion Management Program Intersection LOS

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative + Project (2035)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	Signal	A	7.4	D	44.3
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	Signal	B	19.0	A	5.4
3	Corral Hollow Rd and Spine Rd	D	City	Signal	B	15.6	D	39.9
4	Corral Hollow Rd and Linne Rd	D	County	Signal	C	31.9	C	20.5
5	Tracy Blvd and Linne Rd	D	City	Signal	C	23.4	D	42.0
7	Corral Hollow Rd and Valpico Rd	D	County	Signal	B	12.4	B	17.8
8	Lammers Rd and Valpico Rd	D	County	Signal	D	43.5	C	26.0
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	C	28.5	D	50.2
10	Lammers Rd and Old Schulte Rd	D	County	Signal	B	12.6	B	16.1
12	Lammers Rd and Eleventh St	D	City	Signal	B	11.4	B	11.2
15	Lammers Rd and I -580 EB Ramp	C/D	Caltrans	Signal	A	7.9	C	29.2
16	Lammers Rd and I-580 WB Ramp	C/D	Caltrans	Signal	B	17.4	B	17.8
17	Lammers Rd and Spine Rd	D	City	Signal	C	23.2	C	33.6
18	Lammers Rd and Linne Rd	D	City	Signal	B	15.2	C	23.9
20	Corral Hollow Rd and South Project Driveway	D	City	Signal	A	8.3	A	9.1
24	Lammers Rd/Hansen Rd	D	County	Signal	C	23.2	D	41.6
28	Corral Hollow Rd and Eleventh St	D	City	Signal	B	16.7	B	19.5
30	Tracy Blvd and Eleventh St	D	City	Signal	B	16.6	B	18.7
31	Linne Rd and Chrisman Rd	D	County	Signal	A	9.1	B	14.9
32	Chrisman Rd and Eleventh St	D	County	Signal	D	39.1	D	50.9
35	Linne Rd and MacArthur Drive	D	County	AWSC	**F**	**60.3**	**F**	**67.6**
36	Corral Hollow Rd and Tennis Ln	D	City	SSSC	**-**	**32.3**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***

Notes: Intersections that are operating below acceptable levels are shown in **BOLD**.
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is controlled by a signal, all way stop control (AWSC), or side street stop control (SSSC).

All the CMP intersections would operate acceptably with the improvement identified in the City of Tracy TMP for Cumulative Conditions, and also with implementing the improvements for intersections #35 (Linne Road/MacArthur Drive) and #36 (Corral Hollow Road/Tennis Lane) indicated in Table 4.13-40. These improvements would result in acceptable LOS operations for both Existing and Project (2035) and Cumulative Plus Project (2035) conditions.

INTERCHANGE ROUNDABOUT ANALYSIS

"Intersection Control Evaluation" refers to the process and framework that a growing number of transportation agencies are adopting to provide an alternative approach to the consideration and selection of access strategies and concepts during transportation planning, project identification and initiation processes that contemplate the addition, expansion or full control of major intersections (including interchange ramp termini). "Full control" involves the use of signal, stop or yield control on each of the through and most major

movements."[8] Caltrans requires that intersections under its control be evaluated utilizing the ICE process. For the THSP Project, all of the existing and future Caltrans interchange ramp terminals studied within this traffic impact analysis was also analyzed as roundabouts. Sidra 6 software was used to analyze the interchange ramp intersections. The results of this analysis indicate that all interchanges used operate best using the current Tracy TMP geometrics indicated. More detailed results are printed in Appendix H-5.

Table 4.13-50: Existing Plus Project 2035 PM Interchange Roundabout Analysis

Int. No.	Interchange	RAB Type	LOS	Delay	V/C Ratio
1 & 2	Corral Hollow Rd/I-580	Single Lane	**F**	**290.6**	2.2
13 & 14	Mountain House Pkwy/I-580	Single Lane	D	35.3	1.2

Notes:
LOS Calculations are analyzed using 2010 Highway Capacity Manual (HCM) methodology. Delay refers to the average control delay for both interchange ramps measured in seconds per vehicle.
Sidra was used to analyze the roundabouts; the Federal Highway Administration (FHWA) suggests a maximum V/C ratio for a roundabout of .85. Above this value, the operation of the roundabout deteriorates rapidly.

Source: Kimley-Horn, April 2014

Table 4.13-51: Cumulative Plus Project 2035 PM Interchange Roundabout Analysis

Int. No.	Interchange	RAB Type	LOS	Delay	V/C Ratio
1 & 2	Corral Hollow Rd/I-580	Dual Lane	**E**	**59.3**	1.4
13 & 14	Mountain House Pkwy/I-580	Single Lane	**F**	**130.1**	2.0
25 & 26	Lammers Ext/I-205	Dual Lane	**F**	**236.5**	2.6
33 & 34	Chrisman Rd/I-205	Dual Lane	**F**	**OVRFL**	7.8

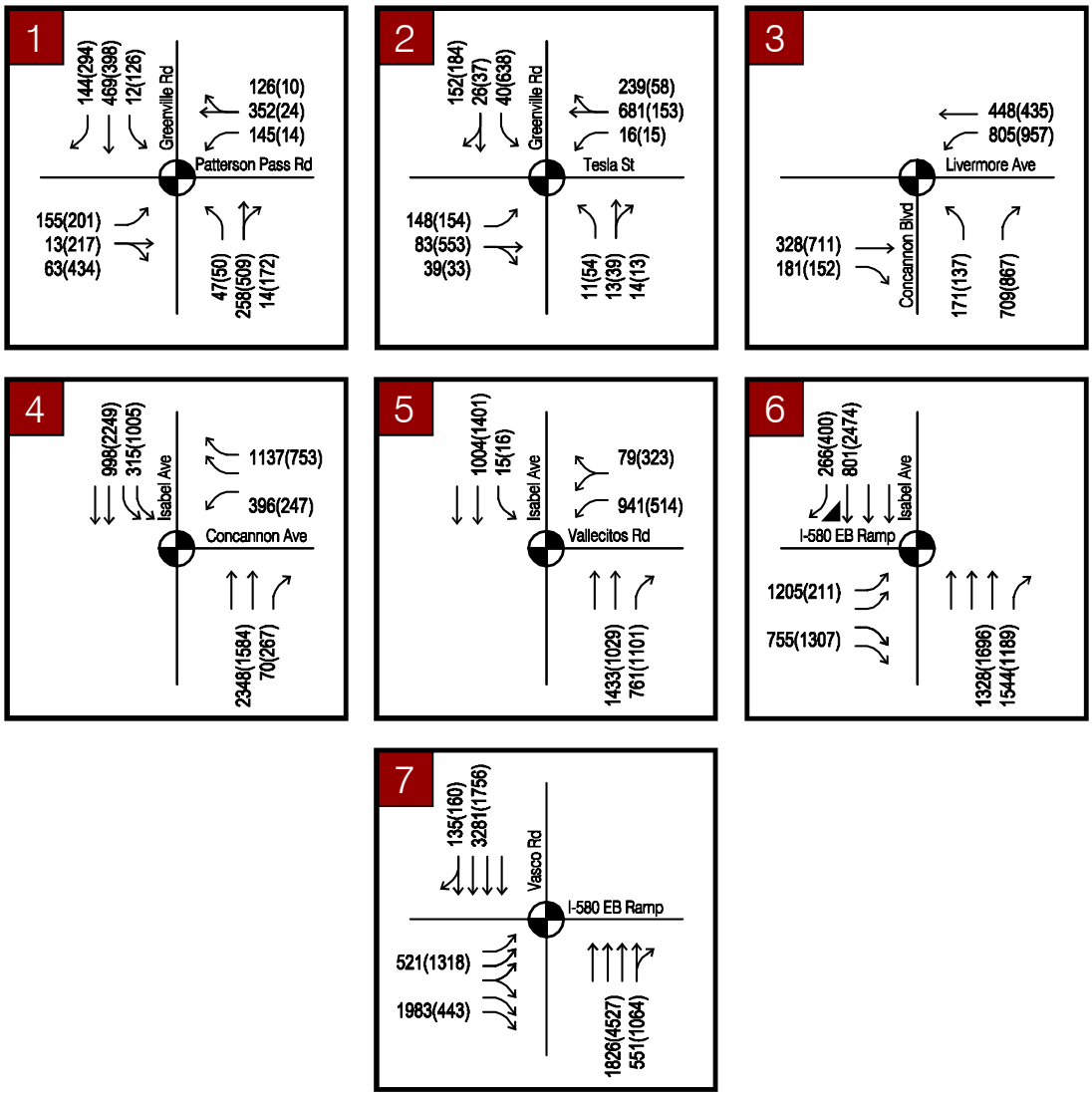
Notes:
LOS Calculations are analyzed using 2010 Highway Capacity Manual (HCM) methodology. Delay refers to the average control delay for both interchange ramps measured in seconds per vehicle. OVRFL = "OVERFLOW" represents a delay exceeding 300 s/veh.
Sidra was used to analyze the roundabouts; the Federal Highway Administration (FHWA) suggests a maximum V/C ratio for a roundabout of .85. Above this value, the operation of the roundabout deteriorates rapidly.

Source: Kimley-Horn, April 2014.

CUMULATIVE NO PROJECT 2040 OPERATIONS (ALAMEDA COUNTY/LIVERMORE)

Tables 4.13-52 through 4.13-54 show the analysis results for Cumulative No Project 2040 conditions (i.e., intersection delay and LOS, roadway segment V/C ratios, and freeway segment LOS).

[8] http://www.dot.ca.gov/hq/traffops/liaisons/ice.html



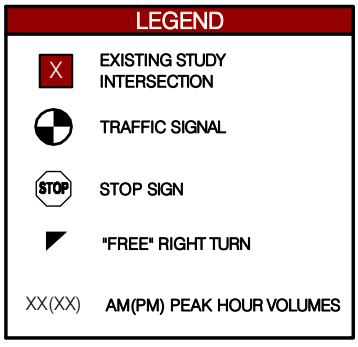


FIGURE 4.13-18

Cumulative (2040) Turning Movements & Geometry - Livermore

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Table 4.13-52: Cumulative 2040 No Project Intersection Delay & LOS - Livermore

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative (2040)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
L1	Greenville Road & Patterson Pass Road	Mid-D	City	Signal	**D**	**51.9**	**F**	**81.4**
L2	Greenville Road & Tesla Road	Mid-D	County	Signal	**E**	**58.9**	**D**	**46.4**
L3	Concannon Boulevard & Livermore Avenue[2]	Mid-D	City	Signal	D	45.4	F	126.4
L4	Isabel Avenue & Concannon Boulevard	Mid-D	City	Signal	**F**	**148.4**	**F**	**99.7**
L5	Isabel Avenue & Vallecitos Road	Mid-D	City	Signal	D	35.7	C	26.7
L6	Isabel Avenue & I-580 EB Ramp	E	City	Signal	D	37.3	E	59.0
L7	Vasco Rd & I-580 EB Ramps	E	City	Signal	E	61.9	D	49.0

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD**
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1] Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2] The City of Livermore General Plan states that the intersection of Concannon Boulevard and Livermore Avenue may exceed its LOS Criteria
Source: Kimley-Horn, 2014.

Table 4.13-53: Cumulative 2040 No Project Roadway Segment Volumes, Capacities, & V/C Ratios - Livermore

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Cumulative	PM Cumulative	AM Cumulative	PM Cumulative
Altamont Pass Road (Eastbound)	E/ O Greenville Rd	1,495	61	2,108	0.04	**1.41**
Altamont Pass Road (Westbound)	E/ O Greenville Rd	1,495	1,288	54	0.86	0.04
Patterson Pass Road (Eastbound)	E/ O Greenville Rd	1,495	39	515	0.03	0.34
Patterson Pass Road (Westbound)	E/ O Greenville Rd	1,495	623	48	0.42	0.03
Tesla Road (Eastbound)	E/ O Greenville Rd	1,495	137	1,204	0.09	0.81
Tesla Road (Westbound)	E/ O Greenville Rd	1,495	936	226	0.63	0.15

Note:
The existing capacity was determined from the Highway Capacity Manual for a Class II Highway facility with rolling terrain.
Source: Kimley-Horn, 2014.

Table 4.13-54: Cumulative 2040 No Project Freeway Segment Volumes & LOS - Livermore

No.	Study Segment	Direction	Lanes	AM Peak			PM Peak		
				Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[a]	Density (pc/mi/ln)[b]	LOS
L1	I-580 - I-205 Junction to Grant Line Rd.	EB	4	2,066	9.5	A	**8,510**	**63.6**	**F**
		WB	5	7,707	31.4	D	5,104	18.7	C
L2	I-580 - Grant Line Rd. to Flynn Rd.	EB	4	2,066	9.0	A	**8,582**	**55.7**	**F**
		WB	4	7,707	42.8	E	5,104	22.7	C
L3	I-580 - Flynn to Altamont Pass Rd.	EB	4	2,057	9.2	A	**8,578**	**58.4**	**F**
		WB	4	7,671	44.9	E	5,083	23.3	C
L4	I-580 - Altamont Pass Rd. to Vasco Rd.	EB	4	2,135	9.4	A	8,192	44.5	E
		WB	4	**8,967**	**55.7**	**F**	5,509	24.3	C
L5	I-580 - Vasco Rd. to First St.	EB	4	1,903	8.4	A	**8,903**	**56.0**	**F**
		WB	4	**8,491**	**49.4**	**F**	5,779	26.0	D
L6	I-580 - First St. to Livermore Ave.	EB	4	2,421	10.7	A	**8,537**	**50.1**	**F**
		WB	4	**8,831**	**54.8**	**F**	5,362	23.9	C
L7	I-580 - Livermore Ave. to SR-84 (Isabel Ave.)	EB	4	2,290	10.2	A	**9,053**	**58.9**	**F**
		WB	4	**8,919**	**56.3**	**F**	5,293	23.5	C

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
(a) Directional volumes in vehicles per hour (vph) were calculated using the Tracy Hills TIA models generated by Fehr & Peers (2013) and data from the Caltrans Traffic Data Branch (2012).
(b) pc/mi/ln = passenger cars per mile per lane
(c) For segments where generated model volumes indicated a substantial decrease in Project trips beyond existing Caltrans data, existing volumes and LOS were assumed for conservative analysis. (i.e., no growth)

Source: Kimley-Horn, 2014.

CUMULATIVE PLUS BUILDOUT OPERATIONS (ALAMEDA COUNTY/LIVERMORE)

Tables 4.13-55 through 4.13-57 show the analysis results for Cumulative Plus Buildout conditions (i.e., intersection delay and LOS, roadway segment V/C ratios, and freeway segment LOS).

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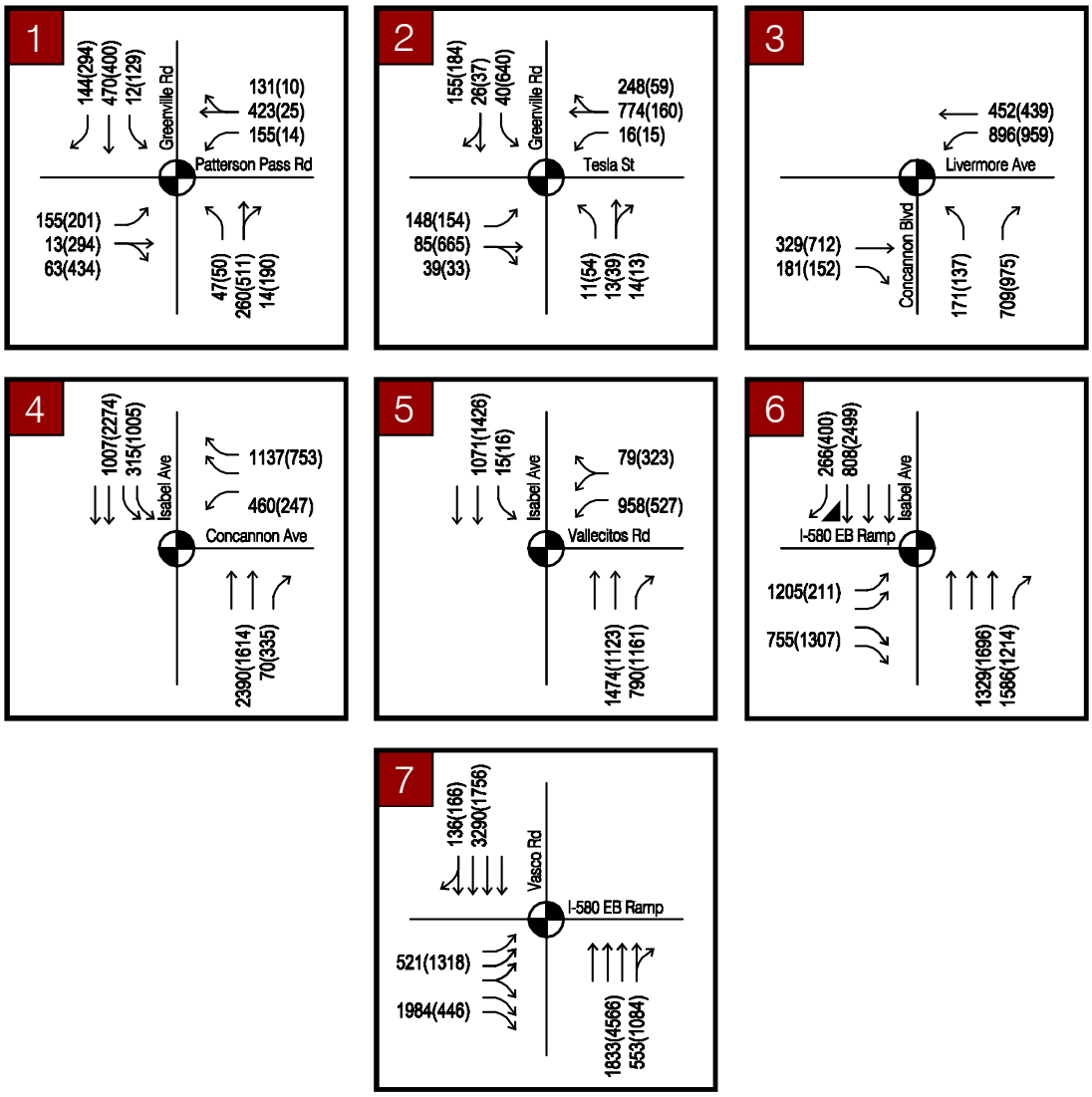

FIGURE 4.13-19

Cumulative (2040) + Buildout Turning Movements - Livermore

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Table 4.13-55: Cumulative 2040 Plus Buildout Intersection Delay & LOS - Livermore

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Cumulative + Project					
					AM Peak			PM Peak		
					LOS	Delay	Var	LOS	Delay	Var
L1	Greenville Road & Patterson Pass Road	Mid-D	City	Signal	**E**	**68.6**	**16.7**	**F**	**100.0**	**18.6**
L2	Greenville Road & Tesla Road	Mid-D	County	Signal	**F**	**87.8**	**28.9**	**E**	**69.5**	**23.1**
L3	Concannon Boulevard & Livermore Avenue[2]	Mid-D	City	Signal	**E**	**58.5**	**13.1**	**F**	**139.6**	**13.2**
L4	Isabel Avenue & Concannon Boulevard	Mid-D	City	Signal	**F**	**155.2**	**6.8**	**F**	**100.0**	**0.3**
L5	Isabel Avenue & Vallecitos Road	Mid-D	City	Signal	D	38.0	2.3	C	32.0	5.3
L6	Isabel Avenue & I-580 EB Ramp	E	City	Signal	D	40.8	3.5	E	60.4	1.4
L7	Vasco Rd & I-580 EB Ramps	E	City	Signal	E	62.5	0.6	D	50.2	1.2

Notes:
Intersections that are operating below acceptable levels are shown in BOLD.
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]The City of Livermore General Plan states that the intersection of Concannon Boulevard and Livermore Avenue may exceed its LOS Criteria

Source: Kimley-Horn, 2014.

Table 4.13-56: Cumulative 2040 Plus Buildout Roadway Segment Volumes & V/C Ratios - Livermore

Street	Segment	Cumulative Capacity	Volume		V/C	
			AM Buildout	PM Buildout	AM Buildout	PM Buildout
Altamont Pass Road (Eastbound)	E/O Greenville Rd	1,495	62	2,157	0.04	**1.44**
Altamont Pass Road (Westbound)	E/O Greenville Rd	1,495	1,307	57	0.87	0.04
Patterson Pass Road (Eastbound)	E/O Greenville Rd	1,495	39	613	0.03	0.41
Patterson Pass Road (Westbound)	E/O Greenville Rd	1,495	709	49	0.47	0.03
Tesla Road (Eastbound)	E/O Greenville Rd	1,495	139	1,318	0.09	0.88
Tesla Road (Westbound)	E/O Greenville Rd	1,495	1,038	234	0.69	0.16

Note:
The existing capacity was determined from the Highway Capacity Manual for a Class II Highway facility with rolling terrain.

Source: Kimley-Horn, 2014.

Table 4.13-57: Cumulative 2040 Plus Buildout Freeway Segment Volumes & LOS - Livermore

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
L1	I-580 - I-205 Junction to Grant Line Rd.	EB	2,224	10.2	A	**8,839**	**72.6**	**F**
		WB	7859	32.4	D	5224	19.2	C
L2	I-580 - Grant Line Rd. to Flynn Rd.	EB	2224	9.7	A	**8911**	**62.4**	**F**
		WB	7861	44.7	E	5224	23.3	C
L3	I-580 - Flynn to Altamont Pass Rd.	EB	2215	9.9	A	**8905**	**68.0**	**F**
		WB	**7825**	**47.0**	**F**	5203	23.9	C
L4	I-580 - Altamont Pass Rd. to Vasco Rd.	EB	2286	10.0	A	**8504**	**48.4**	**F**
		WB	**9126**	**58.6**	**F**	5628	24.9	C
L5	I-580 - Vasco Rd. to First St.	EB	2043	9.0	A	**9192**	**61.7**	**F**
		WB	**8654**	**51.9**	**F**	5895	26.6	D
L6	I-580 - First St. to Livermore Ave.	EB	2544	11.3	B	**8803**	**54.3**	**F**
		WB	8969	57.2	F	5458	24.3	C
L7	I-580 - Livermore Ave. to SR-84 (Isabel Ave.)	EB	2412	10.7	A	**9313**	**64.4**	**F**
		WB	**9070**	**59.2**	**F**	5389	24.0	C

Source: Kimley-Horn, 2014

IMPACTS & MITIGATION MEASURES

Table 4.13-68 at the end of this chapter indicates the summarized mitigation measures for the traffic and circulation analysis identified in this EIR. The following statements are a detailed discussion of each impact and corresponding mitigation measures for all scenarios.

TRANSIT

Impact 4.13-1a: Implementation of the THSP Project would result in less-than-significant impacts to transit.

The THSP Project shall comply with the goals, objectives, and policies of the General Plan, including the specific intent of the General Plan with respect to Urban Reserve 10. Goal CIR-4 of the General Plan provides for a balanced transportation system that encourages the use of public transit and high occupancy vehicles. Policy P4 under CIR-4.1 states that the City shall require large developments to provide for transit with adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots, and multi-modal transit centers, if appropriate. The proposed Project would generate transit trips on the ACE service (95 additional daily boardings (2.05% of the Project trips) at the Tracy Station) and to the East Dublin/Pleasanton BART Station (119 additional daily westbound passengers and 121 daily eastbound passengers (3.97% of the Project trips)). This assignment to the regional transit service equates to 1.7% of daily boardings at the East Dublin/Pleasanton Station, and is not anticipated to impact transit services. Therefore, this impact is considered *less-than-significant.*

The THSP identifies existing and future transit connections outside of the Specific Plan Area and commits to providing detailed transit facility infrastructure per the required governing agency standards at the time of Tentative Subdivision Map Approval. Currently, regional rail service is provided by the Altamont Corridor Express (ACE) which is a passenger rail line running between Stockton and San Jose, with a Bay Area Rapid Transit (BART) connection to the Bay Area from Pleasanton. Regional bus service is also available within San Joaquin County provided by the San Joaquin Regional Transit District (SJRTD), County Area Transit, the San Joaquin Commuter bus, Greyhound and Amtrak California.

Local bus service is provided by the City's TRACER bus system. TRACER offers Fixed Route and Paratransit services providing local public transportation to most major destinations within Tracy including connecting to other public transportation options such as the City's Transit Station and the ACE station. The TRACER Fixed Route is routinely updated and Tracy Hills will accommodate extension of the Fixed Route system through reservation of bus stop locations and, where appropriate, bus turnarounds. The type, number and location of bus facilities including bus shelters, timing of improvements, and Developers responsibilities will be determined at the time of Tentative Subdivision Map approval.

Mitigation Measures: None required

Impact 4.13-1b: Implementation of the THSP Project would result in impacts to parking at the Pleasanton and East Dublin BART parking garages.

The THSP Project will generate 119 daily trips to the East Dublin/Pleasanton and West Dublin/Pleasanton BART Stations. The West Dublin/Pleasanton and East Dublin/Pleasanton BART Stations currently have a vacancy of approximately 78 parking spaces during the weekday morning (peak demand). The addition of parking demand from the THSP exceeds the available capacity and vehicles may park on the local streets and private lots surrounding the parking garages.

The Supplemental EIR for the West Dublin/Pleasanton BART Station and Transit Village Project identifies BART mitigation measures to be implemented by BART, to decrease spillover from parking onto the local streets and private parking lots surrounding the stations. Per Mitigation 4.5-5 from the BART West Dublin/Pleasanton BART Station and Transit Village EIR, a parking monitoring program shall be designed to determine whether substantial parking spillover into adjacent private parking lots occurs as a result of the parking charges. BART will conduct the monitoring program, which will consist of: A baseline survey of parking conditions in the vicinity of the West Dublin/Pleasanton BART Station prior to commencement of operations at the station. The baseline survey will establish parking conditions in the vicinity of the station during weekday morning hours. Monitoring during the first six months of operation of the station to verify spillover parking is occurring within a quarter mile radius of the station. Such monitoring will be based on field surveys and any complaints received by BART and local parking authorities. In addition, under-utilization of the BART parking garages will be monitored to determine whether any increase in the use of adjacent private parking is related to a disincentive to use BART parking due to parking changes. (After the first six months of operation of the station, BART Community Relations staff will respond to parking complaints and BART will investigate such complaints to verify parking concerns.) If spillover parking is identified as a problem, BART staff will assist local parking authorities in implementing appropriate parking control measures. Such measures shall be based on BART'S parking management Toolkit for the BART-SFO Extension Station Areas. This toolkit was developed for the BART San Francisco Airport Extension Project. It identifies a detailed process for understanding local parking issues, evaluating parking conflicts, and implementing specific parking control measures. BART staff will assist local authorities to ensure that such parking control measures, adopted as appropriate for site specific conditions, are implemented and are achieving the necessary effect. BART staff will also continue discussions as necessary with local authorities to help adjust any parking control measures in respons4e to issues that may arise during implementation of such measures.

Mitigation Measures: The Project Applicant shall pay the JPA fees as mitigation for potential impacts to the BART System and BART Parking as indicated in the Settlement Agreement. In addition, BART has established a program by which parking is monitored at the stations, as indicated in 4.13-1b above.

Significance After Mitigation: *Significant and unavoidable.* The City of Tracy cannot control how BART monitors and mitigates parking impacts, or how the JPA fees are used to implement TDM and transit improvements. For this reason, the impacts remain significant and unavoidable until implemented.

BICYCLE AND PEDESTRIAN MODES

Impact 4.13-2: Implementation of the THSP Project would result in potentially significant impacts to bicycle and pedestrian modes.

The THSP shall comply with the goals, objectives, and policies of the 2011 General Plan, including the specific intent of the General Plan. A Class I bike path is proposed along all extents of Spine Road and at the business

park and school access points. In addition, pedestrian facilities would be provided along neighborhood streets providing access to various Village Centers. This discourages vehicular traffic and promotes a multi-modal approach to transportation within the Project site. Goal CIR-3 of the General Plan provides for safe and convenient bicycle and pedestrian travel as alternative modes of transportation in and around the City. This goal details several policy statements designed to enhance safe and convenient travel for bicyclists and pedestrians. For example, policies P4 and P6 under CIR-3 state that the City's bicycle and pedestrian system shall have a high level of connectivity, and that new development shall include pedestrian and bicycle facilities internal to the development and which connect to citywide facilities, such as parks, schools, and recreational corridors. When developed, the THSP Project would include pedestrian and bicycle facilities internal to the Project site and that connect to the existing pedestrian system via street frontage improvements that include sidewalks and bicycle paths. Therefore, this impact is considered *less-than-significant.*

The THSP identifies the provision of pedestrian and bicycle connections within the Specific Plan Area and commits to providing detailed pedestrian and bicycle facility infrastructure per the required governing agency standards at the time of Tentative Subdivision Map Approval. These connections will be provided via multi-use trails and bike and pedestrian travel ways. These trails may be separated from the vehicular roadway and will allow access between neighborhoods.

The THSP Design Guidelines provide bikeway and trails concepts in detail. A pedestrian/bike circulation plan identifying circulation patterns, street crossings, access between neighborhoods, and walkways shall be prepared with each tentative map and are intended to include the following:

- Class I and/or Class II bikeways will be located on Lammers Road from the Delta-Mendota Canal crossing south to the intersection with Corral Hollow Road. Class I and/or Class II bikeways will also be provided on Corral Hollow Road from the Delta-Mendota Canal south and west to the Lammers Road intersection. Additional Class I and/or Class II bikeways will be provided on the primary east/west streets that intersect Lammers Road and parallel Interstate 580. No marked bike lanes will be provided on residential streets and non-arterial streets. Combination pedestrian/bike paths shall be a minimum of 10 feet wide.
- Sidewalks may be provided on one side of the street when fronted with homes on only one side. The minimum width of sidewalks shall be 5 feet in residential, industrial, and commercial areas.
- The bikeway and trail system will serve schools, commercial areas, and community facilities. The planning and design of the system will avoid conflicts with roadways as much as possible and keep crossings to a minimum.
- Bicycle and pedestrian connections from the THSP that connect to the Citywide infrastructure traverse jurisdictions that do not fall within City of Tracy control. These jurisdictions include the UPRR/CA PUC, San Joaquin County, Caltrans and the Department of Reclamation.

Mitigation Measures: To achieve compliance with CIR-3 Policy P4 and P6, the bicycle and pedestrian improvement connections from the THSP to the Citywide Network shall be implemented when the roadway infrastructure is required as determined at approval of each final map or issuance of building permits by the City Engineer. The pedestrian and bicycle facilities are included in the City of Tracy's typical cross sections and in the City TIF. Bicycle and pedestrian facilities within the THSP area shall be implemented with each building permit application/final map approval. Widening Corral Hollow Road and constructing and widening Lammers Road shall be in place when the project generates 2,588 AM peak hour trips.

Significance After Mitigation: *Significant and unavoidable.* Despite the Projects compliance with Policy P4 and P6 under goal CIR-3 of the General Plan, the City of Tracy cannot control the timing of these improvements which fall outside their jurisdiction (Caltrans, UPRR/CA PUC, San Joaquin County, the Department of Reclamation). Thus, until the improvements for bicycle and pedestrians are implemented, the impact will be considered significant and unavoidable.

CONSTRUCTION TRAFFIC AND HAZARDS

Impact 4.13-3a: Implementation of the THSP Project would result in less-than-significant construction-related traffic impacts.

The number of trips generated by Project construction activities is estimated to be less than the trips generated by the THSP Project. The potential impacts and mitigations identified for the Project peak-hour traffic would thus suffice for potential construction traffic impacts. The schematic layout of the roadways for the THSP does not indicate obvious traffic hazards. During final design review by the City Engineer, intersection corner sight distance, stopping sight distance, and horizontal and vertical sight distance would be reviewed on a design level and eliminated. The City's final design review process requires the Project Applicant to prepare and submit Traffic Control plans for construction purposes, which must be reviewed by the City Engineer. The purpose of the Traffic Control Plans is to accommodate safe traffic operations on the roadway system during construction activities. The plans may include warning signs, bollards, and temporary diversion of traffic. Application and implementation of the industry standard practices as contained in the 2012 California Manual for Uniform Traffic Control Devices and the 2010 Caltrans Standard Plans and Specifications, stated above, would minimize construction-related impacts. The resulting impact would be considered *less-than-significant.*

Mitigation Measures: None required.

Impact 4.13-3b: Implementation of the THSP Project would result in less-than-significant impacts caused by a substantial increase in hazards due to a design feature or incompatible use.

The THSP Project would not result in any hazards related to a design feature. Based on the street network, including street hierarchy width of travel lanes, design speed, points of ingress and egress, as well as the location of parking, no hazards have been identified, and thus impacts would be less than significant. All roads would be designed and constructed to meet City and industry standards and requirements for operations and safety. Therefore, this impact is considered *less-than-significant.*

Mitigation Measures: None required.

CITY OF TRACY IMPACTS AND MITIGATIONS

SJCOG REGIONAL ROADWAYS CONGESTION MANAGEMENT PROGRAM

Impact 4.13-4a: Implementation of the THSP Project would not result in an impact to the CMP roadways.

The THSP Project complies with the SJCOG Congestion Management Program and the CMP LOS standard of D or better is maintained on all the CMP routes as shown in Tables 4.13-48 and 4.13-49. Thus, *no impact* would result from implementation of the Project.

Mitigation Measures: None required

Impact 4.13-4b: Implementation of the THSP Project would result in no impact to the CMP TDM Policies.

Pursuant to the description of the SJCOG TDM goals within Section 4.13.2 of this chapter, the proposed THSP Project includes a range of vehicle trip reduction and travel demand management strategies consistent with those identified in the City's station area plans of the General Plan and the SJCOG TDM goals. The following TDM strategies are identified for the project.

- Ride-matching assistance (e.g., subsidized public transit passes)
- Preferential carpool parking
- Flexible work schedules for carpools
- Vanpool assistance or employer-provided vanpool/shuttle
- Telecommute and/or flexible work hour programs
- Car-sharing program
- Bicycle end-trip facilities, including bike parking, showers, and lockers
- Construct a Park-and-Ride facility at the Lammers Road/I-580 interchange once the interchange and Lammers Road is constructed.

As a result, no impacts would result. The implementation of these TDM measures will result in a credit to payment of the JPA fees. The Project shall submit a TDM Action Plan at the submittal of each building permit application and/or final map approval as directed by the City Engineer to implement TDM measures prior to the 100 employees occupying development on the site. The Park-and-Ride facility is included in the City TIF. The Project will pay traffic impact fees and the City will construct the facility when the Lammers Road interchange is constructed. The City may request the developer to fund and develop the Park-and-Ride lot upfront and enter into a reimbursement agreement, if insufficient funds have been collected in the City TIF to construct the Park-and-Ride facility.

Mitigation Measures: None required

EXISTING PLUS PROJECT 2035

Impact 4.13-5a: Development within the THSP Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.

As indicated in Table 4.13-19, *Existing Plus Project 2035 Intersection Delay & LOS* the THSP Project adds traffic to existing intersections and would degrade LOS at the following intersections below the minimum acceptable LOS standards: Intersection #1, #2, #3, #4, #5, #7, #9, #10, #14, #23, #36. This is a *potentially significant* impact.

Mitigation Measures:

4.13-5a As shown in Table 4.13-20, *Existing Plus Project 2035 Intersection Delay & LOS Mitigations,* the following mitigations are required to obtain acceptable LOS based on development of the Project as assumed for year 2035. Triggers based on the volume of traffic generated by the Project in year 2035 are identified in Table 4.13-68 at the end of the chapter:

- Intersection #1 (Corral Hollow Road / I-580 EB Ramps) Signalize the intersection and widen the I-580 overcrossing to four through lanes. The northbound approach shall be reconstructed to include two northbound through lanes and a northbound right-turn lane. The southbound approach shall include two southbound through lanes and a southbound left-turn lane, and the eastbound approach shall include a shared eastbound through/right-turn lane and an eastbound left-turn lane. This mitigation is beyond the scope of improvements identified in the adopted TMP.

  The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Interchange (as identified in the adopted TMP). Either of these options will fully mitigate the impact. The TMP improvement includes only the reconstruction of the northbound approach to include a northbound through lane and a shared northbound through/right-turn lane. On the southbound approach, only the reconstruction to include a southbound left-turn lane and two southbound through lanes. And on the eastbound approach, only the reconstruction to include an eastbound left-turn lane, a shared eastbound left/through lane, and an eastbound right turn lane. This intersection shall be interconnected with Intersection #2: Corral Hollow Road / I-580 WB Ramps.

  The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements for Corral Hollow Road and Lammers Road. The PSR shall commence immediately following the approval of this Project Application by the City of Tracy and the Interchange shall be improved when the project will generate its 2,588 AM peak hour trip, which would be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval in collaboration with the City Engineer. If the trip generation indicates 2,588 AM peak hour trips or more, the interchange shall be improved before issuance of such building permit and/or final map approval. The intersection falls under Caltrans jurisdiction.

- Intersection #2 (Corral Hollow Road/ I-580 WB Ramps) - Signalize the intersection, widen the I-580 overcrossing to four through lanes, and construct a westbound loop on-ramp to accommodate Project 2035 conditions. The northbound approach shall be reconstructed to include two northbound through lanes and two northbound right-turn lanes which lead to the loop on-ramp. The southbound approach shall include two southbound through lanes and one southbound right-turn lane, and the westbound approach shall include one shared westbound through/left-turn lane and one westbound right-turn lane. This mitigation is beyond the scope of improvements identified in the adopted TMP.

  The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Interchange (as identified in the adopted TMP). Either of these options will fully mitigate the impact. The TMP improvement includes only the reconstruction of the northbound approach to include a northbound left-turn lane and a northbound through lane. On the southbound approach, only the reconstruction to include a southbound right-turn lane and two southbound through lanes. And on the westbound approach, only the reconstruction to include a shared westbound through/left-turn lane and a channelized westbound right-turn lane. This intersection shall be interconnected with Intersection #1: Corral Hollow Road / I-580 EB Ramps.

  The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements for Corral Hollow Road and Lammers Road. The PSR shall commence immediately following the approval of this Project Application by the City of Tracy and the Interchange shall be improved when the project will generate its 2,588 AM peak hour trip, which would be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval as directed by the City Engineer. If the trip generation indicates 2,588 AM peak hour trips or more, the interchange shall be improved before issuance of such building permit and/or final map approval. The intersection falls under Caltrans jurisdiction.

- Intersection #3 (Corral Hollow Road /Spine Road) – Signalize the intersection and improve the northbound approach to include a northbound left-turn lane, two northbound through lanes, and a northbound right-turn lane. The southbound approach shall include two southbound left-turn lanes, two southbound through lanes, and a southbound right-turn lane. The eastbound approach shall include an eastbound left-turn lane, an eastbound through lane, and an eastbound right-turn lane. The westbound approach shall include two westbound left-turn lanes, a westbound through lane, and a westbound right-turn lane. The construction of Corral Hollow's approaches to four through lanes is within the scope of improvements identified in the adopted TMP, while Spine Road and the north and southbound turn lanes into the Project site from Corral Hollow Road are not, and thus, are the responsibility of the Applicant. If the Applicant chooses to also construct the Lammers Road Interchange, the mitigation decreases as follows: Construct the northbound approach to include a northbound right turn lane, a

northbound through lane and a shared northbound through/right-turn lane. Construct the southbound approach to include a southbound left-turn lane, two southbound through lanes, and a southbound right-turn lane. The westbound approach shall be constructed to include a westbound left-turn lane, a westbound through lane, and a westbound right-turn lane. No decreased mitigations would be triggered for the eastbound approach. Either of these options will fully mitigate the impact. The intersection shall be improved at the issuance of the first building permit.

- Intersection #4 (Corral Hollow Road / Linne Road) – Signalize the intersection and reconstruct the northbound approach to include a northbound right-turn lane and a northbound through lane. The southbound approach shall include a southbound left-turn lane and a southbound through lane, and the westbound approach shall remain a shared westbound left/right-turn lane. This signal shall be interconnected with the controller at the railroad crossing and improvements shall be constructed at the railroad crossing gates Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. Approval of the railroad crossing improvements falls under the jurisdiction of UPRR and the CA PUC. The Applicant shall, in collaboration with the City Engineer and UPRR/CA PUC, commence with a preliminary and final design process for the intersection and railroad crossing improvements.

  For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved when the project will generate its 468 PM peak hour trips, which could be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval as directed by the City Engineer. If the trip generation indicates 468 PM peak hour trips or more, the intersection shall be improved before issuance of such subsequent building permit and/or final map approval. Approval of the railroad improvements falls under the jurisdiction of UPRR and CA PUC.

- Intersection #5 (Tracy Boulevard / Linne Road) – Signalize the intersection and reconstruct the southbound approach to include a shared southbound through/left-turn lane and a southbound right-turn lane. Construct the eastbound approach to include an eastbound left-turn lane and a shared eastbound through/right-turn lane. The westbound approach shall remain a shared westbound left/through/right-turn lane and the northbound approach shall remain a shared northbound through/left/right-turn lane. This signal shall be interconnected with the controller at the railroad crossing and improvements shall be constructed at the railroad crossing gates. Approval of the railroad improvements falls under the jurisdiction of UPRR and CA PUC. The applicant shall, in collaboration with the City Engineer and UPRR/CA PUC, commence with a preliminary and final design process for the intersection improvements.

Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved when the project will generate its 469 PM peak hour trips, which could be generated by a mix of office, retail, industrial and residential land uses. The applicant shall submit a trip generation calculation with each building permit application and/or final map approval as directed by the City Engineer. If the trip generation indicates 469 PM peak hour trips or more, the intersection shall be improved before issuance of such building permit.

- Intersection #7 (Corral Hollow Road / Valpico Road) – Signalize the intersection and reconstruct the southbound, eastbound, and westbound approaches to each include a left-turn lane and a shared through/right-turn lane. Reconstruct the northbound approach to include one left-turn lane, one through lane, and one right-turn lane. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The intersection shall be improved at the issuance of the first building permit.

- Intersection #9 (Corral Hollow Road / New Schulte Road) - Reconstruct the westbound approach to include a westbound left-turn lane, one westbound through lane and right turn lane, and one westbound right-turn lane. The northbound, southbound, and eastbound approaches are to remain as they are in Existing Conditions. Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved at the issuance of the first building permit.

- Intersection #10 (Lammers Road / Old Schulte Road) - Signalize the intersection and reconstruct the northbound approach to include a northbound left-turn lane and a northbound through lane. Reconstruct the southbound approach to include a southbound right-turn lane and a southbound through lane. The eastbound approach shall remain as it is in Existing Conditions. However, the City has established a CIP Project for this interim improvement and partial funds have already been collected from other development projects as fair share payments and these other development projects funded the addition of the northbound left-turn lane only. The Applicant shall fund the addition of the southbound right-turn lane and signal modifications required to accommodate Project 2035 Conditions.

Prior to approval of the first tentative map for the project, the City Engineer will identify which of the foregoing improvements, if any, are eligible for funding with the City's TIF funds. For those improvements determined by the City Engineer to be eligible for funding with City TIF funds, Applicant shall be responsible for paying its fair share of the costs of such improvements. For those improvements determined by the City Engineer not to be eligible for funding with City TIF funds, Applicant shall be responsible for paying the full costs of such improvements. The intersection shall be improved at the issuance of the first building permit. A portion of the ROW required for widening this intersection falls with San Joaquin jurisdiction.

- Intersection #13 (Mountain House Parkway / I-580 EB Ramps) – Signalize the intersection. The City has approved the Medline, FedEx, and Building 1 and 2 projects which have been conditioned to implement this improvement to mitigate their respective impacts. With anticipated installation of the signal, the Project will have no additional impact at this intersection. This intersection falls under Caltrans jurisdiction.

- Intersection #14 (Mountain House Parkway / I-580 WB Ramps) – Signalize the intersection. The City has approved the Medline, FedEx, and Building 1 and 2 projects which have been conditioned to implement this improvement to mitigate their respective impacts. With anticipated installation of the signal, the Project will have no additional impact at this intersection and thus the Applicant is not responsible for this mitigation. This intersection falls under Caltrans jurisdiction.

- Intersection #23 (Internal Intersection along S. Tracy Hills Road) – Signalize the intersection and construct the northbound approach to include a shared northbound through/left-turn lane and a channelized northbound right-turn lane. The southbound approach shall include dual southbound left-turn lanes and a shared southbound through/right turn lane. The eastbound approach shall include an eastbound left-turn lane and a shared eastbound through/right-turn lane. The westbound approach shall include a westbound left-turn lane, two westbound through lanes, and a westbound right-turn lane. This improvement is the responsibility of the Applicant and shall be implemented at the time this area and roadways develop, and before the first building permit for this area is issued.

- Intersection #36 (Corral Hollow Road / Tennis Lane) – Construct a median along Corral Hollow Road and allow only left –in's and right-in-right-out turns on both approaches of Tennis Lane. This improvement shall be added to the City TMP and TIF. The Project will have no impact after implementation of this improvement. The City shall implement this improvement.

Significance After Mitigation: Intersection #3, #7, #9, #23, #36: *Less-than-significant.*
Intersection #1, #2, #4, #5, #10, #14: *Significant and unavoidable.* Despite the improvements ability to fully mitigate the traffic impacts, the City of Tracy cannot control the timing of these improvements as they fall

either completely or partially under the jurisdiction of Caltrans, San Joaquin County or UPRR/CA PUC. For this reason, the impact remains significant and unavoidable until implemented.

Impact 4.13-5b: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the roadway segments.

As indicated in Table 4.13-22, *Existing Plus Project 2035 Roadway Segment Volumes, Capacities, & V/C Ratios* the Project would add traffic to the roadway network. The conditions would increase V/C ratios to greater than 0.89, triggers are identified in Table 4.13-68 at the end of the chapter. This is a *potentially significant* impact.

Mitigation Measures:

4.13-5b Construct the first two lanes of the future four lane arterial along Corral Hollow Road between Linne Road and the railroad tracks south of Golden Leaf Lane. Construct new street segments along Corral Hollow Road to a four lane arterial from S. Tracy Hills Road to Linne Road. This mitigation also requires the construction of Lammers Road as a four lane expressway/parkway between I-580 and Kimball High School. Operational analysis at the intersections of Corral Hollow Road with Linne Road and Valpico Road indicate that one through lane in each direction along Corral Hollow Road would maintain acceptable intersection LOS standards of D or better. Intersections govern street network operations in an urban environment, and the roadway segment capacity analysis omits intersection operations. Thus, widening of the street segments beyond the required capacity at the intersections is not required.

The construction of two lanes of the future four lane facility is required to extend the current design life of Corral Hollow Road. The portion of this widening between Linne and Golden Leaf Lane is a City project and fully funded by the City TIF. The Applicant shall, through payment of the City TIF, contribute its fair share towards this improvement. The roadway shall include either a Class I or a Class 2 bicycle facility and pedestrian facilities. Roadway improvements must be completed prior to the project generating 2,588 AM peak hour trips. Sections of Corral Hollow and Lammers Road fall within the jurisdiction of San Joaquin County. The Applicant shall, in collaboration with the City Engineer, UPRR/PUC, the Department of Reclamation, and San Joaquin County, commence with a preliminary and final design process for the roadway improvements at the issuance of the first building permit for the Project.

Significance After Mitigation: *Significant and unavoidable.* Despite the identified improvements ability to fully mitigate the traffic impact along these roadway segments, the City of Tracy cannot control the timing of these improvements as they fall partially within the jurisdiction of the UPRR/CA PUC, the County of San Joaquin and/or the Department of Reclamation. For this reason, the impact remains significant and unavoidable until implemented.

Impact 4.13-5c: Development within the THSP Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-23, *Existing Plus Project Freeway Segment Volumes & LOS* development would add traffic to the freeway network. The conditions would not deteriorate the freeway network below the Caltrans LOS standard of D.

Mitigation Measure: None required.

EXISTING PLUS PROJECT BUILDOUT

Impact 4.13-6a: Buildout of the THSP Project would add traffic on the existing roadway, potentially impacting the existing Caltrans intersections.

As indicated in Table 4.13-25, *Existing Plus Buildout Intersection Delay & LOS* buildout of the THSP Project adds traffic to existing Caltrans intersections degrading LOS on the study intersections below the Caltrans threshold of D. This is a *potentially significant* impact.

Mitigation Measures:

4.13-6a As shown in Table 4.13-27, *Existing Plus Project Buildout Intersection Delay & LOS Mitigations* the following mitigations are required, triggers are identified in Table 4.13-68 at the end of the chapter:

- Intersection #1 (Corral Hollow Road / I-580 EB Ramps) – Signalize the intersection and widen the I-580 overcrossing to four through lanes. In addition, reconstruct the eastbound approach to include an eastbound left-turn lane, a shared eastbound left/through lane, and two eastbound right-turn lanes. Reconstruct the northbound approach to include two northbound through lanes and a northbound right-turn lane. Reconstruct the southbound approach to include a southbound left-turn lane and two southbound through lanes to accommodate Project Buildout conditions. This mitigation is beyond the scope of improvements identified in the adopted TMP. The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Road Interchange (as identified in the adopted TMP). Either of these options will fully mitigate the impact. The TMP improvement includes only the reconstruction of the northbound approach to a northbound through lane and a shared northbound through/right-turn lane. On the southbound approach, only the reconstruction to a southbound left-turn lane and two southbound through lanes, and on the eastbound approach, the reconstruction to an eastbound left-turn lane, a shared eastbound left/through lane, and an eastbound right turn lane. This intersection shall be interconnected with Intersection #2: Corral Hollow Road / I-580 WB Ramps. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements when the Project Application is approved by the City of Tracy. The intersection falls under Caltrans jurisdiction.

- Intersection #2 (Corral Hollow Road / I-580 WB Ramps) - Signalize the intersection, widen the I-580 overcrossing to four through lanes and construct a westbound loop on-ramp. Reconstruct the northbound approach to include two northbound through lanes and two northbound right-turn lanes leading into the loop on-ramp. Reconstruct the southbound approach to include two southbound through lanes and a southbound right-turn lane, and reconstruct the eastbound approach to include a shared eastbound through/left-turn lane and an eastbound right-turn lane to accommodate Project Buildout conditions. This mitigation is beyond the scope of improvements identified in the adopted TMP.

  The Applicant has the option of constructing the I-580 interchange improvements only to the extent identified in the adopted TMP if the Applicant also implements the Lammers Road Interchange (as identified in the adopted TMP). Either of these options would fully mitigate the impact if timed concurrent with the triggers identified above. The TMP improvement includes only the reconstruction of the northbound approach to a northbound left-turn lane and a northbound through lane. On the southbound approach, the reconstruction to a southbound right-turn lane and two southbound through lanes, and on the westbound approach, the reconstruction to a shared westbound through/left-turn lane and a channelized westbound right-turn lane. This intersection is interconnected with Intersection #1: Corral Hollow Road / I-580 EB Ramps. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with a Project Study Report (PSR) for the interchange improvements. The intersection falls under Caltrans jurisdiction.

- Intersection #13 (Mountain House Parkway / I-580 EB Ramps) – Refer to Mitigation 4.13-5a.

- Intersection #14 (Mountain House Parkway / I-580 WB Ramps) – Refer to Mitigation 4.13-5a

Significance After Mitigation: *Significant and unavoidable.* Despite the identified improvements ability to fully mitigate the traffic impact at these intersections, the City of Tracy cannot control the timing of these improvements as they are under the jurisdiction of Caltrans. For this reason, the impact remains significant and unavoidable until implemented.

Impact 4.13-6b: Buildout of the THSP would add traffic onto the existing roadway and potentially impact the roadway segments.

As indicated in Table 4.13-29, *Existing Plus Buildout Roadway Segment Volumes, Capacities, & V/C Ratios* Project Buildout would add traffic to the roadway network. The conditions would increase V/C ratios to greater than 0.89, triggers are identified in Table 4.13-68 at the end of the chapter. This is a *potentially significant* impact. The Applicant shall in collaboration with the City Engineer, UPRR/ CAPUC, and San Joaquin County, commence with a preliminary and final design process for the intersection improvements before issuance of the first building permit.

Mitigation Measures:

4.13-6b Implement Mitigation Measure 14.13-5b.

Significance After Mitigation: *Significant and unavoidable.* Despite the improvements identified in Mitigation Measure 14.13-5b, the City of Tracy cannot control the timing of the improvements as they fall partially under the jurisdiction of either Caltrans, San Joaquin County, UPRR/CA PUC, or the Department of Reclamation. For this reason, the impact remains significant and unavoidable.

Impact 4.13-6c: Buildout of the THSP would add traffic onto the existing freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-31, *Existing Plus Buildout Freeway Segment Volumes & LOS* Project Buildout would add traffic to the freeway network. The conditions would not deteriorate the freeway network below the Caltrans LOS standard of D. Therefore, the impact is considered *less-than-significant.*

Mitigation Measures: None required.

CUMULATIVE PLUS PROJECT 2035

Impact 4.13-7a: Development within the THSP would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to intersections under the Cumulative Plus Project 2035 scenario.

As indicated in Table 4.13-39, *Cumulative Plus Project 2035 Intersection Delay & LOS* the THSP would add traffic to roadway network deteriorating some intersections below their jurisdictional standard. Intersections #31 (Linne Road / Chrisman Road) and #35 (Linne Road / MacArthur Drive) are within the County of San Joaquin jurisdiction. The THSP would generate traffic that contributes to significant impacts at intersections #31 and #35. No future improvements are planned at Intersection #35 Linne Road / MacArthur Drive by the County or the City. The mitigation measures below for Intersection #35 are feasible, but has no identified or committed funding mechanism, and thus the impact is considered *significant.*

Mitigation Measures:

4.13-7a Mitigation measures below are feasible, but have no identified or committed funding mechanism, and thus the impact is considered *significant and unavoidable*. As shown in Table 4.13-40, *Cumulative Plus Project 2035 Intersection Delay & LOS Mitigations* the following mitigations are required, triggers are identified in Table 4.13-68 at the end of the chapter:

- Intersection #35 (Linne Road / MacArthur Drive) – Signalize the intersection and reconstruct the southbound approach to include one southbound left-turn lane, one southbound through lane, and one southbound right-turn lane, reconstruct the eastbound approach to include an eastbound left-turn lane and a shared eastbound through/right-turn lane, reconstruct the westbound approach to include a westbound left-turn lane, one westbound through lane, and one westbound right-turn lane. No additional lanes are required on the northbound approach. This signal shall be interconnected with the controller at the railroad crossing and improvements shall be constructed at the railroad crossing gates. This intersection falls under the jurisdiction of San Joaquin County and UPRR/ CA PUC and no CIP project is identified. The Applicant shall pay a fair share

contribution to the improvement and the improvement shall be implemented by the time the Project generates 1,420 trips. The Applicant shall in collaboration with the City Engineer, UPRR/ CAPUC, and San Joaquin County, commence with a preliminary and final design process for the intersection improvements before issuance of the first building permit.

- Intersection #36 (Corral Hollow Road / Tennis Lane) – Signalize the intersection or construct a median along Corral Hollow Road and allow only left-ins and right-in-right-out turns on both approaches of Tennis Lane. This improvement shall be added to the City TMP and TIF. The Project will have no impact after implementation of this improvement. The City will implement the improvement as part of their CIP program.

Significance After Mitigation: Intersection #35 (Linne Road/MacArthur Drive)-*Significant and unavoidable.* Intersection #36 (Corral Hollow Road/Tennis Lane)-*Less-than-significant.*

Impact 4.13-7b: Development within the THSP would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to the roadway segments under the Cumulative Plus Project 2035 scenario.

As indicated in Table 4.13-41, *Cumulative Plus Project 2035 Roadway Segment Volumes, Capacities, & V/C Ratios,* Project trips would add traffic to the 2035 roadway network. The conditions would increase V/C ratios to greater than 0.89 at some locations. This is a *potentially significant* cumulative impact.

Mitigation Measures:

4.13-7b The Applicant shall pay the applicable City TIF, County TIF, SJCOG RTF, the JPA TIF, and any other applicable transportation fees that may be in place when individual projects are processed under the THSP in accordance with applicable laws and regulations.

Significance After Mitigation: *Significant and unavoidable.* Despite the improvements identified in Mitigation Measure 14.13-7b, the City of Tracy cannot control the timing of the improvements as they fall outside of their immediate control. For this reason, the impact remains significant and unavoidable.

Impact 4.13-7c: Development within the THSP would add traffic on the cumulative freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-42, *Cumulative Plus Project 2035 Freeway Segment Volumes & LOS* the Project would add traffic to the 2035 freeway network. The conditions would not deteriorate the freeway network below the Caltrans LOS standard of D. Thus, impacts are considered *less-than-significant* and no mitigation is required.

Mitigation Measures: None required

CUMULATIVE PLUS PROJECT BUILDOUT

Impact 4.13-8a: Buildout of the THSP Project would add traffic on the 2035 roadway network and would potentially impact the Caltrans intersections.

For cumulative conditions, TMP improvements were assumed to have been implemented by Project buildout on the entire roadway network within the City of Tracy. The roadway improvements also fall within the jurisdiction of Caltrans, San Joaquin County, UPRR/CA PUC and the Department of Reclamation. With these improvements in place, the Project would have no impact on the 2035 roadway network. As indicated in Table 4.13-44, *Cumulative Plus Buildout Intersection Delay & LOS* buildout of the THSP Project adds traffic to Caltrans intersections but does not degrade the intersections below the jurisdictional standards. However, the City of Tracy cannot control the timing of improvements outside of its jurisdiction.

Significance After Mitigation: *Significant and unavoidable.* Despite the improvements ability to fully mitigate the traffic impacts as identified in Table 4.13-44, the City of Tracy cannot control the timing of these improvements as they fall partially under the jurisdiction of Caltrans. For this reason, the impact remains significant and unavoidable until implemented.

Impact 4.13-8b: Buildout of the THSP Project would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to the 2035 roadway segments.

As indicated in Table 4.13-45, *Cumulative Plus Buildout Roadway Segment Volumes, Capacities, & V/C Ratios* Project Buildout would add traffic to the 2035 roadway network. The conditions would increase V/C ratios to greater than 0.89 at some locations. This is a *significant* cumulative impact.

Mitigation Measures:

4.13-8b The Applicant shall pay the applicable City TIF, County TIF, SJCOG RTF, the JPA TIF, and any other applicable transportation fees that may be in place when individual projects are processed under the THSP in accordance with applicable laws and regulations.

Significance After Mitigation: *Significant and unavoidable.* Despite the improvements ability to fully mitigate the adverse V/C ratios, the City of Tracy cannot control the timing of the improvements identified in Table 4.13-45 as they fall partially under the jurisdiction of San Joaquin County and UPRR/CA PUC. For this reason, the impact remains significant and unavoidable.

Impact 4.13-8c: Buildout of the THSP Project would add traffic to the 2035 freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-46, *Cumulative Plus Buildout Freeway Segment Volumes & LOS* Project Buildout would add traffic to the 2035 freeway network. The conditions would not deteriorate the freeway network below the Caltrans LOS standard of D. The 2035 freeway network assumes cumulative improvements have been implemented as identified in the TMP. However, since the City does not have control over the timing of the implementation of these improvements, impacts are considered *significant and unavoidable.*

Significance After Mitigation: *Significant and unavoidable.* Despite the improvements ability to fully mitigate the traffic impacts, the City of Tracy cannot control the timing of these improvements as it falls under the jurisdiction of Caltrans. For this reason, the impact remains significant and unavoidable.

Impact 4.13-8d: Buildout of the THSP Project would trigger individual roadway and intersection improvements.

Beyond Phase 1a, phasing for the balance of THSP buildout is currently unknown. As future Vested Tentative Map applications are submitted to the City for review, the Project Applicant shall submit site-specific traffic assignments to determine the triggers warranting improvements as identified in the TMP and this EIR.

Mitigation Measures:

4.13-8d: The Applicant shall submit site-specific trip generation and traffic assignments to determine triggers warranting improvements as identified in the City TMP and this SEIR.

Significance After Mitigation: *Less than significant.*

CITY OF LIVERMORE IMPACTS AND MITIGATIONS

EXISTING PLUS PROJECT BUILDOUT - LIVERMORE

Impact 4.13-9a: Development within the THSP Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.

As indicated in Table 4.13-26, *Existing Plus Project Buildout Intersection Delay & LOS* the THSP Project adds traffic to existing intersections and would degrade LOS at the following intersections below the minimum acceptable LOS standards: Intersection #L1 (Greenville Road / Patterson Pass Road), #L2 (Greenville Road / Tesla Road), and #L5 (Isabel Avenue / Vallecitos Road).This is a *potentially significant* impact.

Mitigation Measures:

4.13-9a As shown in Table 4.13-28, *Existing Plus Buildout Intersection Delay & LOS Mitigations*, the following mitigations are required to obtain acceptable LOS.

- Intersection #L1 (Greenville Road / Patterson Pass Road) - The City of Livermore has identified the installation of a signal at this intersection and the reconstruction of all approaches to include left-turn lanes. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit

portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

- Intersection #L2 (Greenville Road /Tesla Road) - The City of Livermore has identified the installation of a signal at this intersection. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF partially to mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

- Intersection #L3 (Concannon Boulevard / Livermore Avenue) - The City of Livermore has not identified any improvements at this intersection; however, optimization of signal timing improves the operating conditions to acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

- Intersection #L5 (Isabel Avenue / Vallecitos Road) - The City of Livermore has identified the reconstruction of the westbound approach at the intersection to include a left-turn lane and a shared left/right-turn lane. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued

as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and unavoidable.* Despite the improvements ability to fully mitigate the traffic impacts as identified in Table 4.13-28, the City of Tracy cannot control the timing of these improvements as they fall completely under the jurisdiction of the City of Livermore. For this reason, the impact remains significant and unavoidable until implemented.

Impact 4.13-9b: Development within the THSP Project would add traffic on the existing Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.

As indicated in Table 4.13-30, *Existing Plus Project Buildout Roadway Segment Volumes, Capacities, & V/C Ratios* the Project would add traffic to the roadway network. The conditions would increase V/C ratios to greater than 0.89. This is a *potentially significant* impact.

Mitigation Measures:

4.13-9b Per the Settlement Agreement, as referred to on pages 4.13-6 through 4.13-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. These roadways would continue to operate at unacceptable conditions.

Significance After Mitigation: *Significant and Unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation to regional traffic impacts generated by the Project. However, even with payment of the fees, the roadways will continue to operate at unacceptable conditions.

Impact 4.13-9c: Development within the THSP Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-32, *Existing Plus Project Buildout Freeway Segment Volumes & LOS* development would add traffic to the freeway network. The conditions would deteriorate the freeway network below the Caltrans LOS standard of D.

Mitigation Measure:

4.13-9c Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer. The freeway would however continue to operate at unacceptable conditions.

Significance After Mitigation: *Significant and unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. However, even with payment of the fees, and implement of the TDM measures, the freeway facilities would however continue to operate at unacceptable conditions.

CUMULATIVE PLUS PROJECT BUILDOUT - LIVERMORE

Impact 4.13-10a: Development within the THSP Project would add traffic on the cumulative roadway network and would potentially impact the following existing intersections.

As indicated in Table 4.13-55, *Cumulative Plus Project Buildout Intersection Delay & LOS* the THSP Project adds traffic to existing intersections and would degrade LOS at the following intersections below the minimum acceptable LOS standards: Intersections #L1 (Greenville Road / Patterson Pass Road), #L2 (Greenville Road / Tesla Road), #L4 (Isabel Avenue / Concannon Boulevard), #L6 (Isabel Avenue / I-580 EB Ramp), and #L7 (Vasco Road / I-580 EB Ramps). This is a *potentially significant* impact.

Mitigation Measures:

4.13-10a As shown in Table 4.13-28, *Existing Plus Buildout Intersection Delay & LOS,* the following mitigations are required:

- Intersection #L1 (Greenville Road / Patterson Pass Road) - Even with implementation of the identified improvements in Cumulative conditions, the intersection would continue to operate at an unacceptable LOS. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. The cumulative impact would not be fully mitigated through payment of the JPA TIF. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit

portion for TDM measures shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

- Intersection #L2 (Greenville Road / Tesla Road) - Even with implementation of the identified improvements in Cumulative conditions, the intersection would continue to operate at an unacceptable LOS. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. The cumulative impact would not be fully mitigated through payment of the JPA TIF. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

- Intersection #L4 (Isabel Avenue / Concannon Boulevard) - Even with implementation of the identified improvements in Cumulative conditions, the intersection would continue to operate at an unacceptable LOS. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. The cumulative impact would not be fully mitigated through payment of the JPA TIF. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and Unavoidable*. Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. However, even with payment of the fees, and implementation of the improvements, the intersections would continue to operate at unacceptable conditions. In addition, the City of Tracy has no jurisdiction over the timing of implementation of improvements in Livermore.

Impact 4.13-10b: Development within the THSP Project would add traffic on the future Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.

As indicated in Table 4.13-56, *Cumulative Plus Project Buildout Roadway Segment Volumes, Capacities, & V/C Ratios* the Project would add traffic to the roadway network. The conditions would increase V/C ratios to greater than 0.89. This is a *potentially significant* impact.

Mitigation Measures:

4.13-10b Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and Unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. However, even with payment of the fees, the street segments would continue to operate at unacceptable conditions. In addition, the City of Tracy has no jurisdiction over the timing of implementation of improvements in Alameda County.

Impact 4.13-10c: Development within the THSP Project would add traffic onto the cumulative freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-57, *Cumulative Plus Project Buildout Freeway Segment Volumes & LOS* development would add traffic to the freeway network. The conditions would deteriorate the freeway network below the Caltrans LOS standard of D.

Mitigation Measure:

4.13-10c Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and Unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. However, even with payment of the fees and implementation of TDM measures, the freeway

facilities would continue to operate at unacceptable conditions. In addition, the City of Tracy has no jurisdiction over the timing of implementation of improvements of Caltrans facilities.

EXISTING PLUS PHASE 1a

A tentative map for Phase 1a of the Project is evaluated in this section. It includes development of a portion of the THSP immediately west of Corral Hollow Road and between the I-580 and the California Aqueduct. Access would be via a new collector Road, (Spine Road) onto Corral Hollow Road. This phase includes the construction of residential units, a school and a business park, as defined below.

TRIP GENERATION & DISTRIBUTION

The City of Tracy 2011 General Plan Travel Demand Model was used to develop trip generation and distributions for the THSP Project. Project-specific roadway improvements were added to the existing model to represent future Project access and internal circulation elements, and the land use described in Table 4.13-16 was used to represent THSP trip generators. The traffic analysis using the Tracy Travel Demand Model includes an overall higher trip generation compared to using ITE assumptions, and thus, presents a conservative scenario of traffic operations.

The Phase 1a external trip distribution is shown in Figure 4.13-20 and was obtained from the model. Trips distribute to and from the City of Tracy, the County of San Joaquin, and points beyond such as Stockton to the east and the greater San Francisco Bay area to the west. Trips utilize Corral Hollow Road to enter and exit the Project site; they also utilize County and City roadway facilities as well as Interstates 580 and 205 to distribute throughout the network. The model captures trips internally which are dependent on the land uses within the Project, the surrounding roadway network, and the land uses accounted for throughout the City, County, and points beyond. Given the size of the school and the residential land uses within the Specific Plan Area, school trips have an assumed one-hundred percent internal capture rate.

Phase 1a includes the construction and operation of a K-8 school proposed to gain access from Spine Road along two access streets through the residential area. The school is assumed to include a total of 800 students (both elementary and middle school). The trip generation, using ITE rates, produces 384 AM trips and 120 PM trips. For this analysis, all school trips were considered to be generated from the Phase 1a area and remain internal to the THSP. School trips would gain access to the Project site utilizing both study intersections #11 (Roundabout on Spine Road – School/Village access) and #21 (Business Park Main Driveway). To accommodate the school and the business park and residential land uses at Intersection #21, the northbound left-turn lane, the southbound left turn lane, and the westbound left turn lane storage length would be a minimum of 175' and the eastbound left turn lane turn storage length would be a minimum of 75'. This intersection shall be signalized. Therefore traffic and circulation impacts resulting from the trips generated and site location of the school would be *less-than-significant*.

In the AM, queuing is expected to be fully accommodated on site if 1,280 feet of storage is provided. However, in the school PM, parents arriving before the bell rings, would wait in line and the expected queue could be more than 40 vehicles or 1,280 feet on site storage. To accommodate this potential variance, an exclusive inbound traffic lane would be provided to the school from intersection #21 as indicated on the Vesting Tentative Map for Phase 1a. Without the 1,280 feet storage, a *potentially significant* impact would result. In addition, queuing capacity would be provided along the school frontage road. The road would have two travel

lanes, a TWLTL and a parking lane on the north side. No parking would be provided on the south side. Vehicle lanes shall be at least 11 feet wide and the parking lane 8 feet wide.

A 10 foot contiguous bicycle and pedestrian sidewalk would connect onto the school site from the Phase 1a pedestrian and bike circulation system from Spine Road along both access streets leading to the school site driveways. These two roads include the roadway from the roundabout and the roadway to the business park. Locating the school driveways at existing cross streets would be a recommendation to increase traffic and student safety.

Table 4.13-58: Phase 1a Trip Generation Table

Trip Generation Rates	ITE Land Use Code/Reference	Units	Weekday AM				Weekday PM			
			Rate	IN	/	OUT	Rate	IN	/	OUT
Low/Mid Density Residential	Model	No. of Dwelling Units	0.55	25%	/	75%	1.05	63%	/	37%
High Density Residential	Model	No. of Dwelling Units	0.31	20%	/	80%	0.59	65%	/	35%
Retail	Model	Employees	1.9	62%	/	38%	3.46	48%	/	52%
Office	Model	Employees	0.22	88%	/	12%	0.42	17%	/	83%
Other (Industrial/Warehousing)	Model	Employees	0.17	79%	/	21%	0.33	25%	/	75%
School	ITE (520 & 530)	Students	0.48	55%	/	45%	0.15	49%	/	51%
Land Use	**Units**		**Weekday AM Trips**				**Weekday PM Trips**			
			Total	**IN**	**/**	**OUT**	**Total**	**IN**	**/**	**OUT**
Low/Mid Density Residential	1,179	No. of Dwelling Units	648	162	/	486	1,238	780	/	458
High Density Residential	0	No. of Dwelling Units	0	0	/	0	0	0	/	0
Retail	188	Employees	357	221	/	136	650	312	/	338
Office	568	Employees	125	110	/	15	238	40	/	198
Other (Industrial/Warehousing)	162	Employees	28	22	/	6	53	13	/	40
School	800	Students	384	211	/	173	120	59	/	61
		Total Trips	**1,542**	**727**	**/**	**815**	**2,299**	**1,204**	**/**	**1,095**

Source: Kimley-Horn, 2014

Tables 4.13-59 through 4.13-68 show the analysis results for all Existing Plus Phase 1a conditions (i.e. intersection delay and LOS, roadway segment V/C, freeway segment LOS, and ramp merge/diverge LOS).

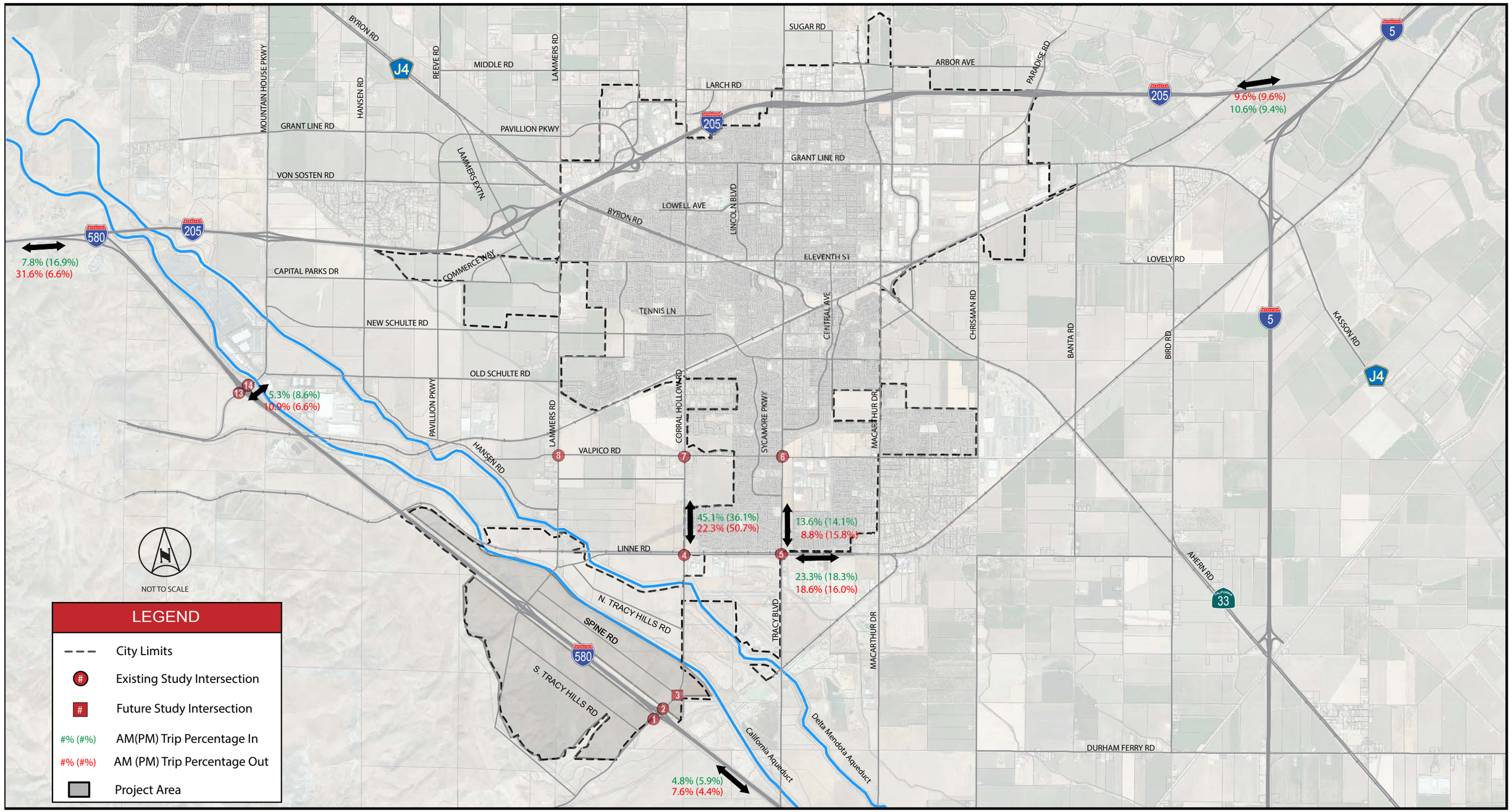

FIGURE 4.13-20
Phase 1A Trip Distribution - Tracy

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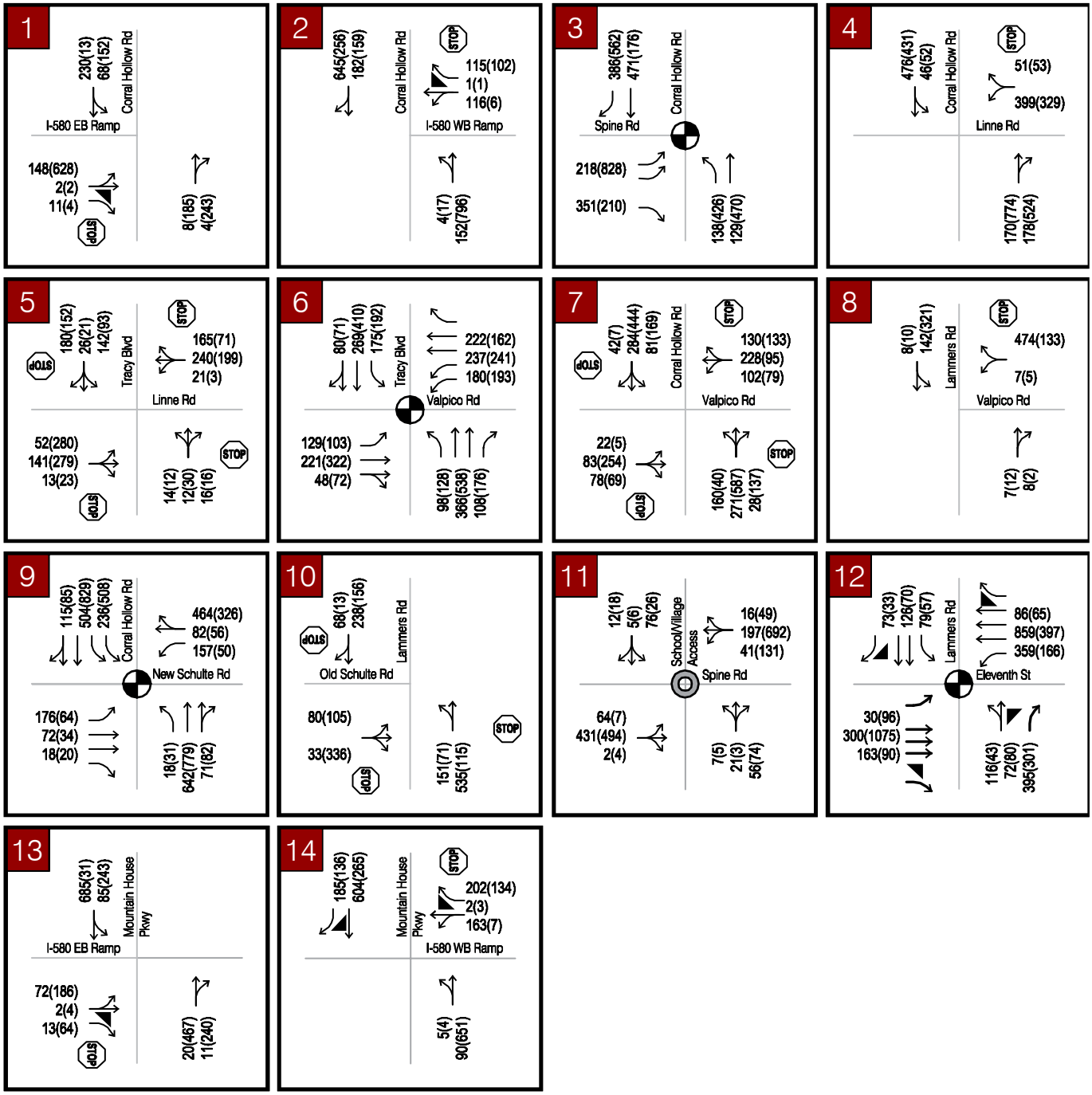

FIGURE 4.13-21

Existing + Phase 1A Turning Movements & Geometry - Tracy

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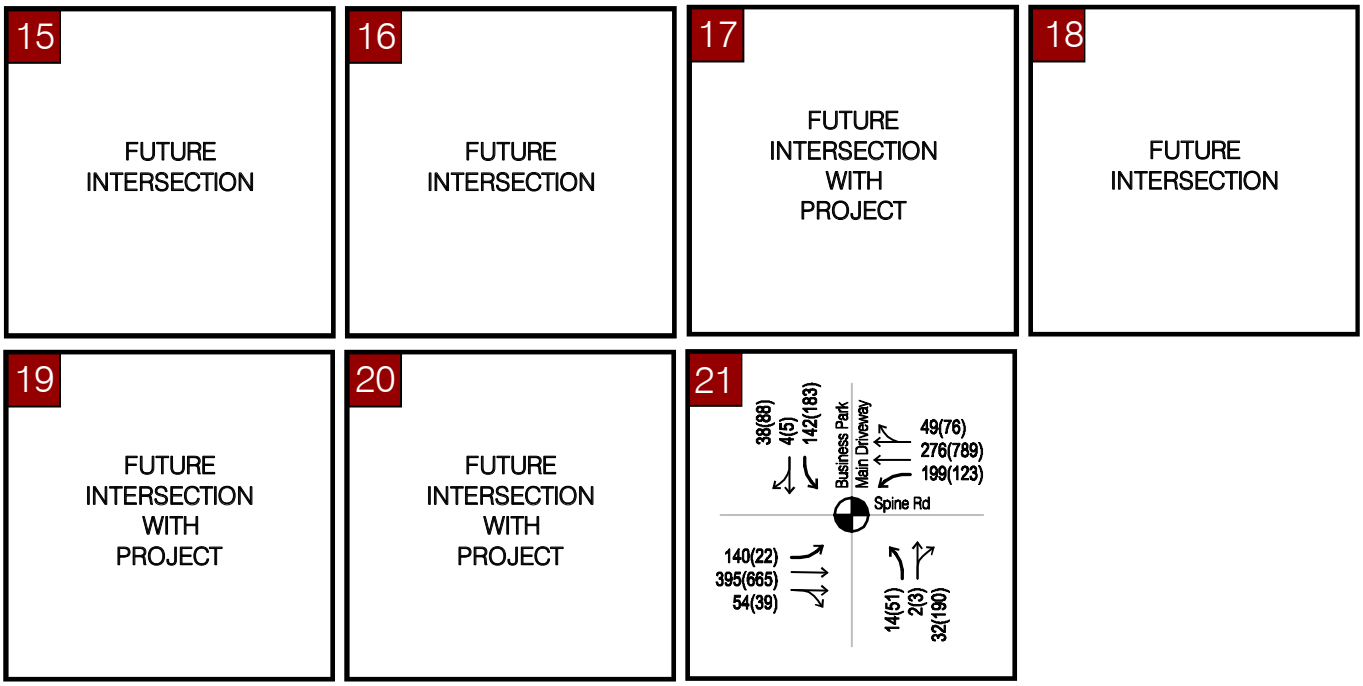

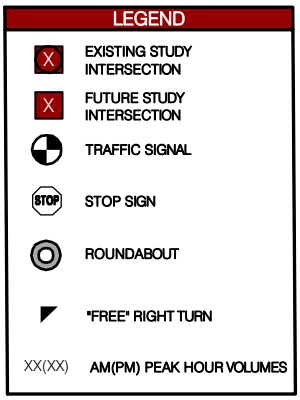

FIGURE 4.13-21

Existing + Phase 1A Turning Movements & Geometry - Tracy

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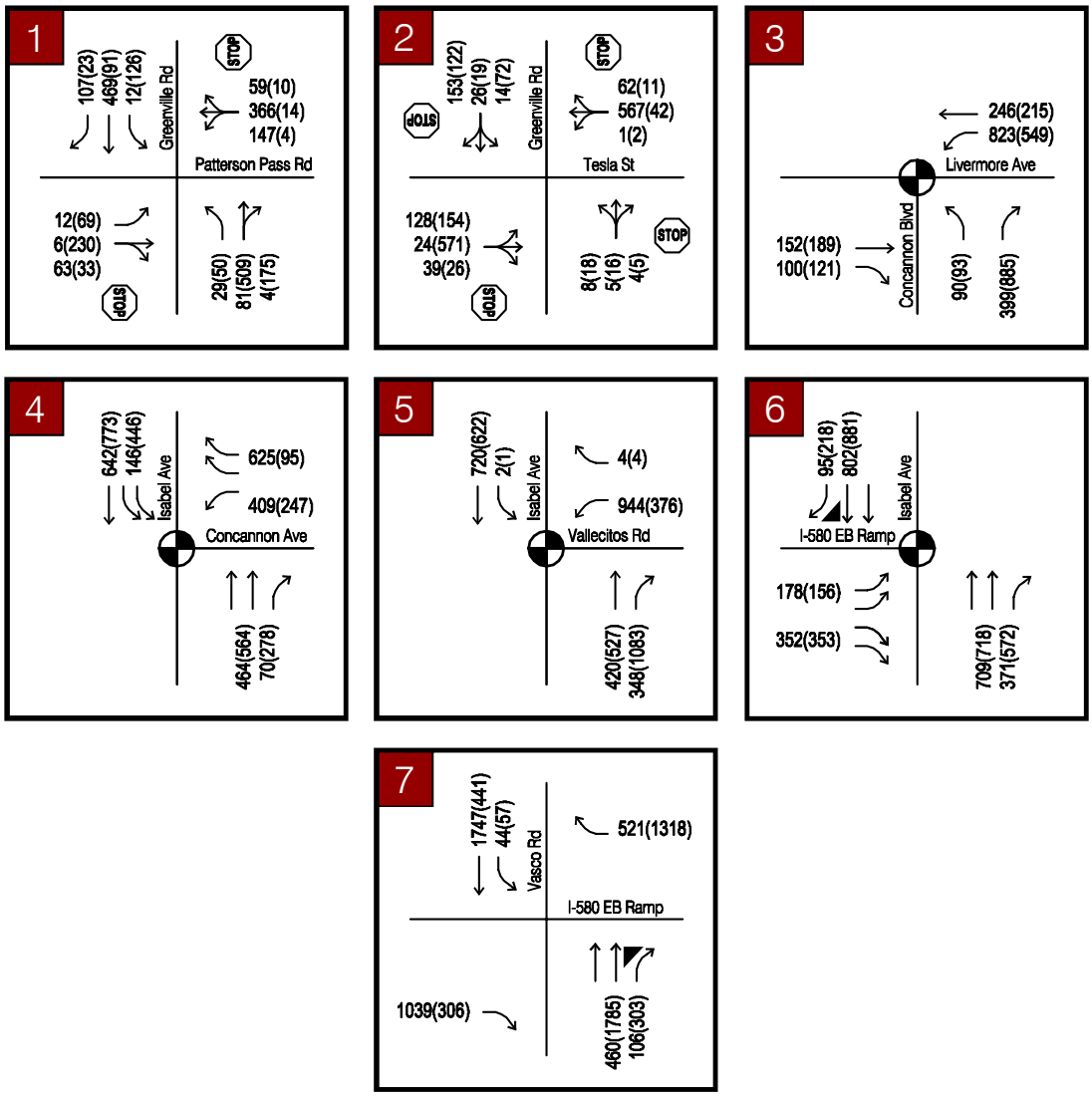

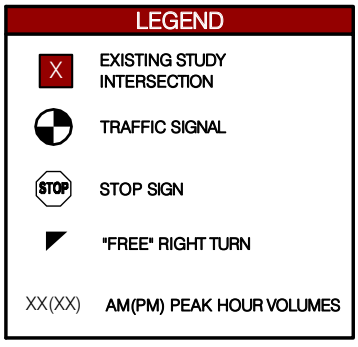

FIGURE 4.13-22

Existing + Phase 1A Turning Movements & Geometry - Livermore

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Table 4.13-59: Existing Plus Phase 1a Intersection Delay & LOS - Tracy

	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013) + Project (Phase 1a)			
					AM Peak		PM Peak	
					LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	-	8.5	**-**	**290.1**
	Worst Approach				*C*	22.3	***F***	***OVRFL***
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	-	4.3	-	1.6
	Worst Approach				*C*	21.7	*C*	*19.9*
3	Corral Hollow Rd and Spine Rd	D	City	Signal	A	9.6	B	17.4
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	**-**	**218.6**	**-**	**OVRFL**
	Worst Approach				***F***	***OVRFL***	***F***	***OVRFL***
5	Tracy Blvd and Linne Rd	D	City	AWSC	**E**	**35.3**	**E**	**38.2**
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	25.9	C	25.9
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC	**F**	**67.8**	**F**	**78.3**
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	11.0	-	8.0
	Worst Approach				*B*	*12.8*	*A*	*9.7*
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**59.5**	D	37.2
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**37.9**	B	14.2
11	Roundabout on Spine Rd	D	City	Roundabout[3]	A	8.4	A	6.5
	Worst V/C Ratio				*V/C*	*0.5*	*V/C*	*0.6*
12	Lammers Rd and Eleventh St	D	City	Signal	D	39.0	B	19.2
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	-	1.4	**-**	7.3
	Worst Approach				A	6.6	*C*	*23.7*
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	-	2.5	-	2.9
	Worst Approach				A	8.1	*C*	22.6
15	Future Intersection in Cumulative Conditions	C/D	Caltrans	-	-	-	-	-
16	Future Intersection in Cumulative Conditions	C/D	Caltrans	-	-	-	-	-
17	Future Intersection in Cumulative Conditions	D	City	-	-	-	-	-
18	Future Intersection in Cumulative Conditions	D	City	-	-	-	-	-
19	Future Intersection with Project Buildout	D	City	-	-	-	-	-
20	Future Intersection with Project	D	City	-	-	-	-	-
21	Business Park Main Driveway	D	City	Signal	A	5.4	A	8.4

Notes:
Intersections that are operating below acceptable levels are shown in **BOLD** and significant impacts are highlighted.
OVRFL = "OVERFLOW" represents an intersection that operates with a delay exceeding 300 seconds.
[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).
[2]Currently, Intersection #7 is an AWSC. However, after recent discussions with the City the intersection would be signalized before the Project (Phase I) is implemented. See Appendix H-7.
[3]LOS analysis was conducted using SIDRA software.

Source: Kimley-Horn, 2014.

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	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2013)				Existing (2013) + Phase I				Existing (2013) + Phase I (Mitgated)				Project Mitigation Action
					AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
					LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	
1	Corral Hollow Rd and I-580 EB Ramps	C/D	Caltrans	SSSC	-	3.0	-	10.5	-	8.5	**-**	**290.1**	A	7.4	B	15.3	Signalize Intersection
	Worst Approach				*B*	*13.0*	*D*	*29.2*	*C*	*22.3*	***F***	***OVRFL***	-	-	-	-	-
2	Corral Hollow Rd and I-580 WB Ramps	C/D	Caltrans	SSSC	-	3.7	-	1.1	-	4.3	-	1.6	-	-	-	-	-
	Worst Approach				*B*	*12.7*	*B*	*12.0*	*C*	*21.7*	*C*	*19.9*	-	-	-	-	-
3	Corral Hollow Rd and Spine Rd	D	City	Signal	-	-	-	-	A	9.6	B	17.4	-	-	-	-	-
4	Corral Hollow Rd and Linne Rd	D	County	SSSC	-	10.5	-	3.3	**-**	**218.6**	**-**	**OVRFL**	A	1.1	A	4.4	Signalize Intersection
	Worst Approach				*D*	*25.7*	*C*	*15.7*	**F**	**OVRFL**	**F**	**OVRFL**	-	-	-	-	
5	Tracy Blvd and Linne Rd	D	City	AWSC	B	14.6	B	10.3	**E**	**35.3**	**E**	**38.2**	C	21.1	C	16.6	Convert to paritial TMP geometry (i.e., add EBL and WBR)
6	Tracy Blvd and Valpico Rd	D	City	Signal	C	25.9	C	24.7	C	25.9	C	25.9	-	-	-	-	-
7	Corral Hollow Rd and Valpico Rd	D	County	AWSC	**F**	**52.0**	**F**	**55.8**	**F**	**67.8**	**F**	**78.3**	**E**	**46.1**	**F**	**79.7**	Roundabout Option
					-	-	-	-	-	-	-	-	B	17.6	C	24.6	Signalize Interesection and add partial TMP geometry (i.e., NBL, NBR, SBL, EBL, and WBL lanes)
8	Lammers Rd and Valpico Rd	D	County	SSSC	-	11.0	-	8.0	-	11.0	-	8	-	-	-	-	-
	Worst Approach				*B*	*12.8*	*A*	*9.6*	*B*	*12.8*	*A*	*9.7*	-	-	-	-	-
9	Corral Hollow Rd and New Schulte Rd	D	City	Signal	**E**	**55.5**	C	29.3	**E**	**59.5**	D	37.2	-	-	-	-	-
10	Lammers Rd and Old Schulte Rd	D	County	AWSC	**E**	**37.8**	B	13.9	**E**	**37.9**	B	14.2	-	-	-	-	-
11	Roundabout on Spine Rd	D	City	Roundabout	-	-	-	-	A	8.4	A	6.5	-	-	-	-	-
	Worst v/c Ratio				-	-	-	-	*v/c*	*0.5*	*v/c*	*0.6*	-	-	-	-	-
12	Lammers Rd and Eleventh St	D	City	Signal	C	21.8	C	19.6	D	39.0	B	19.2	-	-	-	-	-
13	Mountain House Pkwy and I-580 EB Ramps	C/D	Caltrans	SSSC	-	1.3	**-**	4.7	-	1.4	-	**96.9**	**E**	**46.3**	**E**	**40.1**	AWSC Option
	Worst Approach				*A*	*6.6*	*B*	*13.0*	*A*	*6.6*	***F***	***OVRFL***	A	7.3	B	10.0	Signalize Intersection
14	Mountain House Pkwy and I-580 WB Ramps	C/D	Caltrans	SSSC	-	2.2	-	1.7	-	2.5	-	2.9	**E**	**42.3**	**E**	**36.7**	AWSC Option
	Worst Approach				*A*	*7.6*	*C*	*17.8*	*A*	*8.1*	*C*	*22.6*	B	8.5	A	3.2	Signalize Intersection
15	Future Intersection in Cumulative Conditions	C/D	Caltrans	Signal	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
16	Future Intersection in Cumulative Conditions	C/D	Caltrans	Signal	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
17	Future Intersection in Cumulative Conditions	D	City	Signal	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
18	Future Intersection in Cumulative Conditions	D	City	Signal	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
19	Future Intersection with Project Buildout	D	City	Signal	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
20	Future Intersection with Project	D	City	Signal	-	-	-	-	-	-	-	-	-	-	**-**	**-**	**-**
21	Business Park Main Driveway	D	City	Signal	-	-	-	-	A	5.4	A	8.4	-	-	**-**	**-**	**-**

Notes: Intersections that are operating below acceptable levels are shown in **BOLD.**

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

[2]Currently, Intersection #7 is an AWSC. However, after recent discussions with the City the intersection will be signalized before the Project (Phase I) is implemented. See the Appendix

Source: Kimley-Horn & Associates, Inc. (2014)

TABLE 4.13-60

Existing + Phase 1A Intersection Delay & LOS Mitigation - Tracy

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	Intersection	LOS Criteria	Jurisdiction	Existing Control[1]	Worst peak hour project trip generation/equivalent number of Single Family Housing Dwelling Units which triggers AWSC				Existing (2013) + Phase 1 (Mitigated w/ AWSC)				Worst peak hour project trip generation/equivalent number of Single Family Housing Dwelling Units which triggers signalization				Project Mitigation Action	Existing (2013) + Phase 1 (Mitigated w/ Signal)			
									AM Peak		PM Peak							AM Peak		PM Peak	
					Trips	SFD	LOS	Delay	LOS	Delay	LOS	Delay	Trips	SFD	LOS	Delay		LOS	Delay	LOS	Delay
1	Corral Hollow Rd and I-580 EB Ramps	C/D[2]	Caltrans	SSSC	196 (PM Peak)	192	C	18.7	A	6.6	C	25.2	832 (PM Peak)	816	C	24.9	Signalized Intersection; Existing Geometry	A	5.7	B	11.2
	Worst Approach						*E*	*49.7*													
3	Corral Hollow Rd and Spine Rd	D	City	SSSC	372 (PM Peak)	365	A	6.3	B	15.0	C	20.3	436 (PM Peak)	427	D	34.9	Signalized Intersection; Add NBLT and SBRT lanes	A	4.8	A	4.7
	Worst Approach						*D*	*35.0*													
4	Corral Hollow Rd and Linne Rd	D	City	SSSC	396 (PM Peak)	388	A	7.7	A	1.1	A	4.4	468 (PM Peak)	459	D	34.6	Signalized Intersection plus provide preemption for railroad tracks; Existing Geometry	A	1.2	A	1.3
	Worst Approach						*D*	*35.0*													

Note: Intersections that are operating below acceptable levels are shown in **BOLD**.

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1] Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

[2] For SSSC a LOS F is assumed as unacceptable on the side street approach. Typically a signal is only warranted when the side street LOS is F. Thus this overall LOS threshold C/D governs.

Source: Kimley-Horn & Associates, Inc. (2014)

TABLE 4.13-61

Existing + Phase 1A Intersection Delay & LOS Trigger Analysis - Tracy

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	Intersection	LOS Criteria	Jurisdiction	Control[1]	Existing (2014)				Existing (2014) + Phase 1A						Existing (2014) + Phase 1A + Improvements					
					AM Peak		PM Peak		AM Peak			PM Peak		Improvement Control[1]	AM Peak			PM Peak		
					LOS	Delay	LOS	Delay	LOS	Delay	Var	LOS	Delay	Var		LOS	Delay	Var	LOS	Delay	Var
L1	Greenville Road & Patterson Pass Road	Mid-D (30 secs)	City	SSSC	**F**	**206.2**	**F**	**94.4**	**F**	**221.6**	**15.4**	**F**	**106.6**	**12.2**	Signal	C	25.1	-181.1	D	35.8	-58.6
	Worst Approach				***F***	***466.3***	***F***	***411.6***	***F***	***492.8***	***26.5***	***F***	***452.5***	***40.9***		-	-	-	-	-	-
L2	Greenville Road & Tesla Road	Mid-D (30 secs)	County	AWSC	**E**	**38.7**	**E**	**41.3**	**E**	**38.9**	**0.2**	**E**	**41.6**	**0.3**	Signal	C	24.9	-13.8	B	12.5	-28.8
L3	Concannon Boulevard & Livermore Avenue	Mid-D (45 secs)	City	Signal	C	34.3	C	26.8	D	37.1	2.8	C	27.4	0.6	Signal	C	30.5	-3.8	C	21.4	-5.4
L4	Isabel Avenue & Concannon Boulevard	Mid-D (45 secs)	City	Signal	C	23.8	C	26.5	C	24.4	0.6	C	26.4	-0.1	Signal	C	21.2	-2.6	C	24.9	-1.6
L5	Isabel Avenue & Vallecitos Road	Mid-D (45 secs)	City	Signal	**E**	**74.1**	C	24.2	**E**	**76.3**	**2.2**	C	25.3	1.1	Signal	B	17.8	-56.3	B	13.8	-10.4
L6	Isabel Avenue & I-580 EB Ramp	E (80 secs)	City	Signal	B	13.3	B	11.8	B	13.2	-0.1	B	11.8	0.0	Signal	A	8.7	-4.6	B	12.7	0.9
L7	Vasco Rd & I-580 EB Ramps[2]	E (80 secs)	City	-	-	-	-	-	-	-	-	-	-	-	Signal	B	12.7	-	B	13.6	-

Notes: Intersections that are operating below acceptable levels are shown in **BOLD.**

OVRFL represents an intersection that operates with a delay exceeding 300 seconds.

[1]Each study intersection is control by a signal, all way stop control (AWSC), or side street stop control (SSSC).

[2]This intersection is uncontrolled and therefore the delay cannot be calculated using HCM methodology in Synchro. The SBL movement has to yield to NBT traffic and therefore the queues were determined. The max queue in the Existing + Phase 1A scenario for the AM peak was one vehicle and the PM peak was four vehicles.

TABLE 4.13-62

Existing + Phase 1A Intersection Delay & LOS Plus Mitigations - Livermore

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Table 4.13 - 63: Existing Plus Phase 1a Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C		
			AM Phase I	PM Phase I	AM Phase I	PM Phase I	
Lammers Road (Northbound)	N/O Eleventh St	891	188	241	0.2	0.3	
	Eleventh St to Old Schulte Rd	891	599	322	0.7	0.4	
	Old Schulte Rd to Valpico Rd	891	584	166	0.7	0.2	
	S/O Valpico Rd	891	15	14	0.02	0.02	
Lammers Road (Southbound)	N/O Eleventh St	891	278	160	0.3	0.2	
	Eleventh St to Old Schulte Rd	891	477	248	0.5	0.3	
	Old Schulte Rd to Valpico Rd	891	211	412	0.2	0.5	
	S/O Valpico Rd	891	15	15	0.02	0.02	
Corral Hollow Road (Northbound)	New Schulte Rd to Linne Rd	891	476	782	0.5	0.88	
	Linne Rd to Spine Rd	891	348	1,298	0.4	**1.5**	
	S/O Spine Rd	891	267	896	0.3	**1.0**	
Corral Hollow Road (Southbound)	New Schulte Rd to Linne Rd	891	601	691	0.7	0.78	
	Linne Rd to Spine Rd	891	866	749	**0.97**	0.84	
	S/O Spine Rd	891	822	386	**0.92**	0.4	
Chrisman Road (Northbound)	N/O Eleventh St	891	79	36	0.1	0.0	
	Eleventh St to Linne Rd	891	444	292	0.5	0.3	
	S/O Linne Rd	891	157	105	0.2	0.1	
Chrisman Road (Southbound)	N/O Eleventh St	891	57	86	0.1	0.1	
	Eleventh St to Linne Rd	891	309	334	0.3	0.4	
	S/O Linne Rd	891	102	162	0.1	0.2	
MacArthur Drive (Northbound)	N/O Linne Rd	891	81	126	0.1	0.1	
	S/O Linne Rd	891	40	54	0.04	0.1	
MacArthur Drive (Southbound)	N/O Linne Rd	891	167	102	0.2	0.1	
	S/O Linne Rd	891	86	15	0.1	0.02	
Tracy Boulevard (Northbound)	N/O Eleventh St	1,485	988	995	0.7	0.7	
	Eleventh St to Valpico Rd	1,485	969	894	0.7	0.6	
	Valpico Rd to Linne Rd	891	401	612	0.4	0.7	

Table 4.13 - 63: Existing Plus Phase 1a Roadway Segment Volumes, Capacities, & V/C Ratios - Tracy

Street	Segment	Existing Capacity	Volume		V/C	
			AM Phase I	PM Phase I	AM Phase I	PM Phase I
	S/O Linne Rd	891	42	58	0.05	0.1
Tracy Boulevard (Southbound)	N/O Eleventh St	1,485	714	935	0.5	0.6
	Eleventh St to Valpico Rd	1,485	693	873	0.5	0.6
	Valpico Rd to Linne Rd	891	423	471	0.5	0.5
	S/O Linne Rd	891	60	47	0.1	0.1
Linne Road (Eastbound)	W/O Tracy Blvd	891	206	582	0.2	0.7
	E/O Tracy Blvd	891	299	388	0.3	0.4
Linne Road (Westbound)	W/O Tracy Blvd	891	434	363	0.5	0.4
	E/O Tracy Blvd	891	426	273	0.5	0.3

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; **0.90 - 0.99 = LOS E; ≥1.00 = LOS F.**

Source: Kimley-Horn, 2014.

Table 4.13-64: Existing Plus Phase 1a Roadway Segment Volumes, Capacities, & V/C Ratios - Livermore

Street	Segment	Existing Capacity	Volume		V/C	
			AM Phase I	PM Phase I	AM Phase I	PM Phase I
Altamont Pass Road (Eastbound)	E/ O Greenville Rd	1,495	61	1,549	0.04	**1.04**
Altamont Pass Road (Westbound)	E/ O Greenville Rd	1,495	670	45	0.45	0.03
Patterson Pass Road (Eastbound)	E/ O Greenville Rd	1,495	22	531	0.01	0.36
Patterson Pass Road (Westbound)	E/ O Greenville Rd	1,495	572	28	0.38	0.02
Tesla Road (Eastbound)	E/ O Greenville Rd	1,495	42	648	0.03	0.43
Tesla Road (Westbound)	E/ O Greenville Rd	1,495	630	55	0.42	0.04

Notes:
Volumes derived from the Fehr & Peers generated model for the Tracy Hills EIR (2013). Capacities derived from the City of Tracy 2035 Travel Demand Model.
V/C ratios are correlated with LOS as follows: <0.60 = LOS A; 0.60 - 0.69 = LOS B; 0.70 - 0.79 = LOS C; 0.80 - 0.89 = LOS D; 0.90 - 0.99 = LOS E; **≥1.00 = LOS F**.
The existing capacity was determined from the Highway Capacity Manual for a Class II Highway facility with rolling terrain.

Source: Kimley-Horn, 2014.

Table 4.13-65: Existing Plus Phase 1a Freeway Segment Volumes & LOS - Tracy

No.	Study Segment		AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
1	I-580 - I-205 Junction to Mountain House Parkway/Patterson Pass Road	EB	355	3.0	A	2,184	18.5	C
		WB	2,230	18.9	C	1,241	10.5	A
2	Future Segment with Cumulative Conditions	-	-	-	-	-	-	-
3	I-580 - Mountain House Parkway/Patterson Pass Road to Corral Hollow Road	EB	401	3.4	A	2,115	17.9	B
		WB	2,169	18.4	C	1,218	10.3	A
4	I-580 - Corral Hollow Road to Route 132 (Vernalis Rd)	EB	277	2.3	A	1,866	15.8	B
		WB	1,941	16.4	B	1,121	9.5	A

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in **bold.**
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
AADT obtained from Caltrans Traffic Data Branch (2012).
Source: Kimley-Horn, April 2014
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane
(c) Directional volumes in vehicles per hour (vph) obtained from the THSP model generated by Fehr & Peers, 2013.

Source: Kimley-Horn, 2014.

Table 4.13-66: Existing Plus Phase 1a Freeway Segment Volumes & LOS - Livermore

No.	Study Segment	Direction	AM Peak			PM Peak		
			Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS	Volume (vph)[c]	Density (pc/mi/ln)[b]	LOS
L1	I-580 - I-205 Junction to Grant Line Rd.	EB	1,281	5.9	A	**8,356**	**60.0**	**F**
		WB	6,460	24.5	C	3,560	13.0	B
L2	I-580 - Grant Line Rd. to Flynn Rd.	EB	1,281	5.6	A	**8,356**	**51.8**	**F**
		WB	6,460	31.1	D	3,560	15.5	B
L3	I-580 - Flynn to Altamont Pass Rd.	EB	1,272	5.7	A	**8,297**	**54.6**	**F**
		WB	6,415	32.1	D	3,535	15.8	B
L4	I-580 - Altamont Pass Rd. to Vasco Rd.	EB	1,409	6.2	A	**8,243**	**45.1**	**F**
		WB	7,495	37.4	E	4,128	18.1	C
L5	I-580 - Vasco Rd. to First St.	EB	1,398	6.2	A	**8,190**	**45.4**	**F**
		WB	7,451	37.6	E	4,103	18.2	C
L6	I-580 - First St. to Livermore Ave.	EB	1,461	6.5	A	**8,580**	**50.7**	**F**
		WB	7,806	41.0	E	4,298	19.0	C
L7	I-580 - Livermore Ave. to SR-84 (Isabel Ave.)	EB	1,544	6.8	A	**9,074**	**59.3**	**F**
		WB	**8,259**	**46.3**	**F**	4,546	20.1	C

Notes:
Segments operating at unacceptable levels of service based on established targets by Caltrans, SJ County, SJCOG, & Alameda CTC (i.e., LOS F for I-580 Grant Line Rd to I-205 Junction and LOS D for I-580 east of I-205 Junction) are shown in bold.
Analysis performed using HCS 2010 software.
For freeway segments where an auxiliary lane is > 2,500 feet in length, weaving does not apply; therefore, the auxiliary lane is considered to be a basic freeway lane for the purposes of this analysis.
AADT obtained from Caltrans Traffic Data Branch (2012).
(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).
(b) pc/mi/ln = passenger cars per mile per lane
(c) Directional volumes in vehicles per hour (vph) obtained from the Tracy Hills model generated by Fehr & Peers, 2013.

Source: Kimley-Horn, 2014.

I-580 Interchange	Freeway Direction	Ramp	Length of Accel/Decel Lane (ft)	Existing								Existing Plus Phase IA							
				AM				*PM*				*AM*				*PM*			
				Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS	Freeway Volume (vph) (a)	Ramp Volume (vph)	Ramp Density (pc/mi/ln) (b)	LOS
Corral Hollow Road	EB	Merge (on-ramp)	250	178	41	6.0	A	1,433	333	20.1	C	178	74	6.4	A	1,433	397	20.6	C
		Diverge (off-ramp)	200	236	58	4.9	A	1,696	263	19.7	B	339	161	5.9	A	2,074	641	23.6	C
	WB	Merge (on-ramp)	400	1,689	325	22.1	C	967	86	12.7	B	1,689	650	25.6	C	967	663	17.9	B
		Diverge (off-ramp)	200	1,886	197	21.7	C	1,019	52	12.8	B	1,921	232	22.0	C	1,199	232	14.7	B

Notes:

*Ramps operating at unacceptable levels of service based on established targets by Caltrans are shown in **bold**.

*Analysis performed using HCS 2010 software.

*Freeway volumes obtained from Caltrans Traffic Data Branch (2012) for existing conditions.

*Existing ramp volumes obtained from existing turning movement counts conducted in May 2013. Project trip ramp volumes obtained from the Fehr & Peers (2013) generated model for the corresponding scenario.

(a) Directional volumes in vehicles per hour (vph) calculated as: AADT x K-Factor x D-Factor percentage. The K-Factor is the percentage of AADT during the peak hour for both directions of travel. The D-Factor is the percentage of the peak hour travel in the peak direction. 'K' and 'D' factors multiplied with the AADT gives the one way peak period directional flow rate or the design hourly volume (DHV).

(b) pc/mi/ln = passenger cars per mile per lane

TABLE 4.13-67

Existing + Phase 1A Ramp Merge Diverge & LOS - Tracy

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EXISTING PLUS PHASE 1a

Table 4.13-68 indicates the summarized mitigation measures for the traffic and circulation section of the Draft SEIR. The following statements are a detailed discussion of each impact and mitigation measure for the Existing Plus Phase 1a scenario.

Impact 4.13-14a: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the existing intersections.

As indicated in Table 4.13-59, *Existing Plus Phase 1a Intersection Delay & LOS* the THSP adds traffic to existing intersections degrading LOS on some study intersections below the jurisdictional standards. Therefore, there would be a *potentially significant* impact to the study intersections in the Existing Plus Phase 1a scenario of the THSP.

Mitigation Measures:

4.13-14a As shown in Table 4.13-60, *Existing Plus Phase 1a Intersection Delay & LOS Mitigations* the following mitigations are required to be installed by the Project Applicant, triggers are identified in Table 4.13-68 at the end of the chapter:

- Intersection #1 (Corral Hollow Road / I-580 EB Ramps) – Install an all-way stop controlled intersection as an interim improvement once development is approved to generate 196 PM peak hour trips to mitigate the interim impact. Signalize the intersection at the time development is approved to generate 832 PM peak hour trips to accommodate Project Phase 1a conditions and fully mitigate their impact. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The Applicant shall, in collaboration with the City Engineer and Caltrans, commence with an Encroachment Permit application to install the all-way stop sign and signal immediately following the approval of this Project Application by the City of Tracy.

- Intersection #3 (Corral Hollow Road / Spine Road) – Signalize the intersection and improve the northbound approach to include a northbound left-turn lane and one northbound through lane. The southbound approach to include one southbound through lane and one southbound right-turn lane, and the eastbound approach to include two eastbound left-turn lanes and one eastbound right-turn lane. The construction of Corral Hollow's approaches to four through lanes is within the scope of improvements identified in the adopted TMP, while Spine Road and the north and southbound turn lanes into the Project site from Corral Hollow are not, and thus, are the responsibility of the Applicant. The improvement shall be installed before issuance of the first certificate of occupancy.

- Intersection #4 (Corral Hollow Road / Linne Road) – Install a signal at the intersection that will have interconnect with the railroad crossing controller. Improvements shall be constructed at the railroad crossing gates. The signalization is a Public Utilities Commission requirement because vehicle queues will spill across the railroad tracks and will cause safety concerns for train traffic. The signal shall be installed when 396 PM peak

hour trips would be generated by the Project. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The Applicant shall, in collaboration with the City Engineer and UPRR/PUC, commence with an engineering design process to install the improvements identified. This design shall commence immediately following the approval of this Project Application by the City of Tracy.

- Intersection #5 (Tracy Boulevard / Linne Road) – Reconstruct the eastbound approach to an eastbound left-turn lane and eastbound through lane, and the westbound approach to a westbound right-turn lane and westbound through lane. Allow the northbound and southbound approaches to remain as they are in existing conditions. This improvement is a partial TMP improvement and shall be partially funded by the City TIF. The City Engineer shall, at the time the tentative map is prepared, identify the non-TMP improvements. The costs of the non-TMP improvements are the responsibility of the Applicant. The Applicant shall, in collaboration with the City Engineer and UPRR/ CA PUC, commence with an engineering design process to install the improvements identified. This design process shall commence immediately following the approval of this Project Application by the City of Tracy.

- Intersection #7 (Corral Hollow Road / Valpico Road) – Signalize the intersection and reconstruct the southbound, eastbound, and westbound approaches to include a left-turn lane and a shared through/right-turn lane. Reconstruct the northbound approach to include one northbound left-turn lane, one northbound through lane, and one northbound right-turn lane. This improvement is a TMP improvement and shall be partially funded by the City TIF. The City has funding for the expansion of Corral Hollow Road to four lanes from Parkside Drive to Linne Road, including the improvement and signalization of the Valpico Road/Corral Hollow Road intersection. The City is proceeding and currently in the planning stage of the expansion and signalization project and expects to begin construction in 2016/2017. With anticipated road expansion and installation of the signal, the Project will have no additional impact at this intersection and thus the Applicant is not responsible for this mitigation.

- Intersection #13 (Mountain House Parkway / I-580 EB Ramps) – Refer to Mitigation 4.13-5a.

- Intersection #14 (Mountain House Parkway / I-580 WB Ramps) – Refer to Mitigation 4.13-5a.

Significance After Mitigation: Intersection #7: *Less-than-significant.*
Intersection #1, #4, #5: *Significant and unavoidable.* Despite the improvements ability to fully mitigate the traffic impacts as identified above, the City of Tracy cannot control the timing of these improvements as they fall completely and/or partially under the jurisdiction of either Caltrans, San Joaquin County or UPRR/PUC. For this reason, the impact remains significant and unavoidable until implemented.

Impact 4.13-14b: Development within the THSP Project would add traffic on the existing roadway network and potentially impact the roadway segments.

As indicated in Table 4.13-63, *Existing Plus Phase 1a Roadway Segment Volumes, Capacities, & V/C Ratios* the Project would add traffic to the roadway network. The conditions would not increase V/C ratios to greater than 0.89, except along Corral Hollow Road, triggers are identified in Table 4.13-68 at the end of the chapter. Therefore there would be a *potentially significant* impact to the roadway segments in the Existing Plus Phase 1a scenario of the THSP.

Mitigation Measures:

4.13-14b The Applicant shall coordinate with the City Engineer to fund and implement the overlay of the existing two lanes of Corral Hollow Road between I-580 and Linne Road. Operational analysis at the intersection of Corral Hollow Road and Spine Road and Corral Hollow Road and Linne Road indicate that one through lane in each direction along Corral Hollow Road would maintain acceptable intersection LOS standards of D or better. Turn lanes will be provided at the intersection of Corral Hollow/Spine Road. Intersections govern street network operations in an urban environment, and the roadway segment capacity analysis omits intersection operations. Thus, widening of the street segments beyond the required capacity at the intersections is not required. The overlay of the two existing lanes is required to extend the current design life of Corral Hollow Road and is required before issuance of the first building permit. The roadway may include Class I or Class II bicycle and pedestrian facilities.

Significance After Mitigation: *Less-than-significant*

Impact 4.13-14c: Development of Phase 1a within the THSP Project would result in less-than-significant traffic impacts on the existing freeway network and freeway facilities.

As indicated in Table 4.13-65, *Existing Plus Map Phase 1a Freeway Segment Volumes & LOS* the Project would add traffic to the freeway network. The conditions would not deteriorate the freeway network below the Caltrans LOS standard of D. Therefore, for the Existing Plus Phase 1a scenario of the THSP the determination for this impact is *less-than-significant*.

Mitigation Measures: None required

Impact 4.13-14d: Development within the Phase 1a THSP Project would add traffic on the existing Phase 1a street network and potentially impact the streets surrounding the school site.

Queuing at the school site for pick-up and drop-off may spill over onto the streets surrounding the school and block access to local residences. Therefore, there would be a *potentially significant* safety impact to the streets surrounding the school in the Existing Plus Phase 1a scenario of the THSP.

Mitigation Measure:

4.13-14d: The Applicant shall provide roadways to the school that meet acceptable on and off-site storage for drop-off/pickup queuing per the City Engineer Standard Plans and requirements and / or tentative map, safety considerations, vehicular circulation, and bike and pedestrian access. Details are further specified in the Existing Plus Phase 1a Trip Generation section of this Draft SEIR.

Significance After Mitigation: *Less-than-significant*

EXISTING PLUS PROJECT PHASE 1a LIVERMORE

Impact 4.13-15a: Development within the THSP Phase 1a Project would add traffic on the existing roadway network and would potentially impact the following existing intersections.

As indicated in Table 4.13-62, *Existing Plus Project Phase 1a Intersection Delay & LOS* the THSP Project adds traffic to existing intersections and would degrade LOS at the following intersections below the minimum acceptable LOS standards: Intersection #L1 (Greenville Road / Patterson Pass Road), #L2 (Greenville Road / Tesla Road), and #L5 (Isabel Avenue / Vallecitos Road). This is a *potentially significant* impact.

Mitigation Measures:

4.13-15a

- Intersection #L1 (Greenville Road / Patterson Pass Road) - The City of Livermore has identified the installation of a signal at this intersection and the reconstruction of all approaches to include left-turn lanes. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs.

- Intersection #L2 (Greenville Road / Tesla Road) - The City of Livermore has identified the installation of a signal at this intersection. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs.

- Intersection #L5 (Isabel Avenue / Vallecitos Road) - The City of Livermore has identified the reconstruction of the westbound approach at the intersection to include a left-turn lane and a shared left/right-turn lane. With this improvement the intersection would operate at acceptable conditions. Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by no more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. Despite the improvements ability to fully mitigate the traffic impacts to the intersections identified above, the City of Tracy cannot control these improvements as they fall completely under the jurisdiction of the City of Livermore. For this reason, the impact remains *significant and unavoidable* until implemented.

Impact 4.13-15b: Development within the THSP Phase 1a Project would add traffic on the existing Altamont Pass, Corral Hollow Road and Patterson Pass roadways in Alameda County and potentially impact the roadway segments.

As indicated in Table 4.13-64, *Existing Plus Project Phase 1a Roadway Segment Volumes, Capacities, & V/C Ratios* the Project would add traffic to the roadway network. The conditions would increase V/C ratios to greater than 0.89 on Altamont Pass Road. This is a *potentially significant* impact. Corral Hollow Road and Patterson Pass will operate at acceptable conditions.

Mitigation Measures:

4.13-15b Per the Settlement Agreement, as referred to on pages 6-9, the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and Unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. The City of Tracy cannot control implementation of the TDM measures or any other improvements planned by Alameda County and until these measures are implemented, the impact will remain significant and unavoidable.

Impact 4.13-15c: Development within the THSP Phase 1a Project would add traffic onto the existing freeway network and potentially impact the freeway facilities.

As indicated in Table 4.13-66, *Existing Plus Project Phase 1a Freeway Segment Volumes & LOS* development would add traffic to the freeway network. The conditions would deteriorate the freeway network below the Caltrans LOS standard of D.

Mitigation Measure:

4.13-15c Per the Settlement Agreement, (pages 6-9), the Applicant shall pay in 2014 dollars, $1,288 per residential unit to the JPA TIF to partially mitigate its impact. In addition, the Applicant shall pay $644 per residential dwelling unit paid at building permit issuance, said fee to be adjusted by not more than 2.5% per annum for increases in the cost of living as determined annually by the Engineering News Record (ENR) index for road construction costs. A dollar for dollar credit up to $644 for payment of the SJCOG fee and up to $644 for implementation of TDM measures will apply to these fees per the Settlement Agreement. The fee credit portion for TDM measures, shall be calculated at the time each building permit is issued as the project is constructed. The calculation of this fee credit shall be overseen by the City Engineer.

Significance After Mitigation: *Significant and Unavoidable.* Pursuant to the terms of the Settlement Agreement, payment of the fees identified above shall be considered fair and equitable mitigation for impacts generated by the Project. The City of Tracy cannot control implementation of the TDM measures or any other improvements planned by Caltrans and until these measures are implemented, the impact will remain significant and unavoidable.

Impact 4.13-15d: Development of the THSP Phase 1a School and Interim School Site would add traffic to onto the Phase 1a roadway network and potentially impact operations and safety of pedestrians, cyclists and vehicles on the adjacent roadway facilities.

The street layout identified on the Phase 1a Tentative Map and adjacent to the proposed school site may limit efficient and safe mobility for parents and students. The current adjacent residential street layout may result in mis-aligned driveway access to the school, thereby potentially impacting the operations and safety of student drop-off and pick-up and student/pedestrian crossings. Section 3 describes the development of an interim on-site school adjacent to the Tracy Hills Elementary School at the time when the student population exceeds the capacity at the Tracy Hills Elementary School. In the interim condition, a modular building would be placed where the proposed Business Park would be located. Placement of the modular building in this location could result in additional roadway operational impacts and/or safety conflicts with existing school and circulation operations. The gross trip generation for the interim on-site school would not exceed the Business Park Trip

generation. The added traffic to/from the school would remain within the Tracy Hills Phase 1a Development. The additional traffic generated by the temporary school site would result in potentially unsafe operations for student mobility and drop-off and pick-up. Class I bicycle and pedestrian facilities and/or sidewalks shall be provided to the school site along both school access roads from Spine Road.

Mitigation Measure:

4.13-15d The Applicant shall provide roadways to the school meeting acceptable on and off-site storage for drop-off/pickup queuing, safety considerations, vehicular circulation, and bike and pedestrian access, per the City Standard Plans and /or Tentative Map. Details are further specified in the EIR. Though final school site design is subject to review and approval of the State Architect, prior to final Tentative Map approval and/or when the first student from Phase 1a attends either schools listed here, the Project Applicant shall demonstrate that the following planning and design considerations are addressed to the satisfaction of the City Engineer:

- School driveways are located directly opposite proposed streets entering the residential neighborhood to maximize traffic and student safety
- Pedestrian and bicycle (Class I) paths, sidewalks, and crosswalks are provided
- A Safe Routes To School Program is initiated in coordination with the School District. The Safe Routes to School Program shall be funded by the Applicant.
- The Project applicant shall fund the development of a Traffic Management Plan that will be prepared to the satisfaction of the City Engineer, the Police Department, and the Jefferson School District for the interim conditions when additional traffic would be generated to the interim school adjacent to the Tracy Hills Elementary School. The Traffic Management Plan shall identify techniques (such as: assignment of a traffic control staff member from the school to flag and manage drop off and pick-up, to control efficient ingress and egress to the school site, and coning off lanes for efficient circulation) to maintain traffic and student safety, and provide efficient pick-up and drop off procedures. The Traffic Management Plan shall be implemented when the temporary school building opens up for attendance.

Significance After Mitigation: *Less-than-significant.*

Impact 4.13-15e: Development of the temporary off-site school for 450 students would add traffic to onto the City roadway network and potentially impact safety and operations on the adjacent roadway facilities.

Section 3 describes the development of an interim off-site school site at the existing Tom Hawkins Elementary School. Traffic generated by the 450 homes to the school would not exceed the overall trip generation for Phase 1a. However, for the interim conditions, traffic operations at the Tom Hawkins Elementary School is anticipated to deteriorate with the addition of the 450 students. The traffic operations for pick-up and drop-off would be impacted.

Mitigation Measure:

4.13-15e The City shall work with Tom Hawkins Elementary School and Jefferson School District to develop a Traffic Management Plan for interim conditions. The Project Applicant shall fund the development of a Traffic Management Plan to the satisfaction of the City Engineer, the Police Department, the Tom Hawkins Elementary School and the Jefferson School District for the interim conditions when additional traffic would be generated to the school. The Traffic Management Plan shall identify techniques (such as: assignment of a traffic control staff member from the school to flag and manage drop off and pick-up, to control efficient ingress and egress to the school site, and coning off lanes for efficient circulation) to maintain traffic and student safety, and provide efficient pick-up and drop off procedures. The Traffic Management Plan shall be implemented when the first student from the Phase 1a area attend the Tom Hawkins Elementary School. The City Engineer shall approve the Traffic Management Plan.

Significance After Mitigation: *Less-than-significant.*

Impact 4.13-15f: Development of the temporary on-site school would add traffic onto the Phase 1a roadway network and would potentially impact the roadway facilities.

Section 3 describes the development of an interim on-site school adjacent to the Tracy Hills Elementary School when the student population exceeds the capacity. The modular building would be placed in the interim where the Business Park would be located. The gross trip generation for the interim on-site school would not exceed the Business Park Trip generation. The added traffic to/from the school would remain on the Tracy Hills Development. The traffic operations for pick-up and drop-off would be impacted.

Mitigation Measure:

4.13-15f The Applicant shall develop a Traffic Management Plan to the satisfaction of the City Engineer, Police Department, and the Jefferson School District for Interim Conditions which is inclusive of the determination of the modular school at the business park location.

Significance After Mitigation: *Less-than-significant.*

Impact 4.13-15g: Phase 1a of THSP does not indicate a bicycle and pedestrian connection from Spine Road along Corral Hollow Road.

Implementation of the THSP Phase 1a Project would thus result in an impact to bicycle and pedestrian connections because it does not connect the development to the citywide system. Therefore, Phase 1a would not be consistent with the City of Tracy General Plan Policies and Goals (CIR-3), which provides for safe bicycle and pedestrian travel as alternative modes of transportation in and around the City.

Mitigation Measure:

4.13-15g The Applicant shall construct a Class I or a Class II bicycle facility and a pedestrian facility from Spine Road to connect to the existing bicycle and pedestrian facilities just north of Linne Road. This improvement shall be included in the expansion of the first two lanes of Corral Hollow Road as indicated in the TMP. This improvement shall be in place when the Project generates 2,588 AM peak trips. The Applicant may fund these improvements up front and enter into a reimbursement agreement with the City for a credit against their proportionate fair share of the improvement.

Significance After Mitigation: *Significant and unavoidable.* Because the timing for construction of the first two lanes of Corral Hollow Road specifically the bridges across the California Aqueduct and the Delta Mendota Canal, per the TMP does not fall under the control of the City of Tracy, the City cannot assure that the improvement would be in place commensurate with the timing required by Mitigation Measure 4.13-15g. Until the Class I or Class II bicycle facilities and pedestrian facilities are installed, the impact is considered *significant and unavoidable.*

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Scenario	Mitigation #		Mitigation Location	Mitigation Type	Mitigation Summary (Refer to Mitigation text for detailed improvement)	Indicated in Adopted TMP?	Implementation Trigger	Mitigation Responsibility	Funding Program					Significant After Mitigation?
									City TIF	Partial City TIF	Co TIF	JPA TIF	RTP	
All	4.13-1	a	Transit	Transit	Applicant to install transit facilities, including bus shelters within THSP.	No	Each tentative map approval	Applicant in collaboration with City Engineer and TRACER.						None
	4.13-1	b	Transit	Previous EIR for BART Stations	BART to work with cities to develop parking solutions at stations. Applicant to pay JPA fees.	No	At issuance of each building permit	Applicant				✓		Yes, Jurisdiction
	4.13-2	-	Bicycle and Pedestrian	Bike/Ped Facilities	Construct bicycle and pedestrian infrastructure in accordance with the approval of each final map or building permit to connect to City Network.	Yes	At issuance of each building permit and final map approval.	Applicant in collaboration with City Engineer	✓					Yes, Jurisdiction
	4.13-4	b	TDM	TDM Measures	Develop TDM Plan	No	TDM Action Plan: 100 Employees	Applicant						None
					Construct Park-and-Ride facility.	Yes	Park-and-Ride: When Lammers Interchange is constructed, Applicant may pay fund up front	Applicant in collaboration with City Engineer						None
Tracy (Existing Plus Project 2035) (*This scenario includes mitigations and triggers for traffic volumes that are added for Project development at year 2035)	4.13-5	a	#1: Corral Hollow Road / I-580 EB Ramps	Intersection	Signalize and convert to beyond TMP geometry OR Build Corral Hollow Interchange per TMP and build Lammers Interchange per TMP. Work with Caltrans and City on PSR immediately following adoption of EIR.	2035 Conditions are included in TMP	2,588 AM Peak Hour Trips	Applicant	✓					Yes, Jurisdiction
			#2: Corral Hollow Road / I-580 WB Ramps	Intersection	Signalize and convert to beyond TMP geometry OR build Lammers Interchange which is in TMP. Work with Caltrans and City on PSR immediately following adoption of EIR.	2035 Conditions are included in TMP	2,588 AM Peak Trips	Applicant	✓					Yes, Jurisdiction
			#3: Corral Hollow Road / Spine Road	Intersection	Construct and signalize.	2035 Conditions are included in TMP	First Building Permit	Applicant		✓				No
			#4: Corral Hollow Road / Linne Road	Intersection	Signalize and convert to partial TMP geometry . Signalization requires railroad crossing improvements and interconnect. Commence with a preliminary and final design process for the intersection and railroad crossing improvements.	Yes	468 PM Peak Hour Trips	Applicant and City Engineer		✓				Yes, Jurisdiction
			#5: Tracy Boulevard / Linne Road	Intersection	Signalize and convert to partial TMP geometry . Signalization requires railroad crossing improvements and interconnect. Commence with a preliminary and final design process for the intersection and railroad crossing improvements.	Yes	469 PM Peak Hour Trips	Applicant and City Engineer		✓				Yes, Jurisdiction
			#7: Corral Hollow Road / Valpico Road	Intersection	Signalize intersection and add lanes.	Yes	First Building Permit	None for Applicant, City CIP project						No
			#9: Corral Hollow Road / New Schulte Road	Intersection	Reconstruct westbound approach lanes.	Yes	First Building Permit	Applicant and City Engineer		✓				No
			#10: Lammers Road / Old Schulte Road	Intersection	Project to add a SBR turn lane.	Yes	First Building Permit	Applicant & Previously Approved Projects and City Engineer						Yes, Jurisdiction
			#13: Mountain House Parkway / I-580 EB Ramps	Intersection	None for Applicant	No, but is included in Approved Projects' Conditions	Not Applicable	Previously Approved Projects (Cordes)						Not Applicable
			#14: Mountain House Parkway / I-580 WB Ramps	Intersection	None for Applicant	No, but is included in Approved Projects' Conditions	Not Applicable	Previously Approved Projects (Cordes)						Not Applicable
			#23: Internal Intersection on S. Tracy Hills Road	Intersection	Signalize and construct.	No	At issuance of the first building permit for VTM and development of this area of the project	Applicant						No
			#36: Corral Hollow Road / Tennis Lane	Intersection	Construct median on Corral Hollow and allow right turn out only on Tennis Ln.	No, but will be added to TMP	Not Applicable	City Engineer	✓					No
		b	Corral Hollow Road b/w S. Tracy Hills and Golden Leaf Lane and Lammers Road between I-580 and Kimball High School	Roadway	Widen Corral Hollow Road between S. Tracy Hills Road and Golden Leaf Ln. Also construct Lammers Road as in 4.13-5c. Construct Lammers Road to four lanes between I-580 and Kimball HS	Yes	2,588 AM Peak Hour Trips	Applicant	✓					Yes, Jurisdiction
			Corral Hollow Road between I-580 and just north of Linne Road.		Construct future two lanes, including pedestrian and bicycle facilities	Yes	2,588 AM Peak Hour Trips	Applicant	✓					Yes, Jurisdiction

TABLE 4.13-68
Transportation & Circulation EIR Mitigation Matrix

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Scenario	Mitigation #		Mitigation Location	Mitigation Type	Mitigation Summary (Refer to Mitigation text for detailed improvement)	Indicated in Adopted TMP?	Implementation Trigger	Mitigation Responsibility	Funding Program					Significant After Mitigation?
									City TIF	Partial City TIF	Co TIF	JPA TIF	RTP	
Tracy - Existing + Project Buildout (Caltrans)	4.13-6	a	#1: Corral Hollow Road / I-580 EB Ramps	Intersection	Signalize and convert to beyond TMP geometry OR Build Corral Hollow Interchange per TMP and build Lammers Interchange per TMP. Work with Caltrans and City on PSR immediately following EIR adoption.	2035 Conditions are included in TMP	2,588 AM Peak Hour Trips	Applicant	✓					Yes, Jurisdiction
			#2: Corral Hollow Road / I-580 WB Ramps	Intersection	Signalize and convert to beyond TMP geometry OR Build Corral Hollow Interchange per TMP and build Lammers Interchange per TMP. Work with Caltrans and City on PSR immediately following EIR adoption.	2035 Conditions are included in TMP.	2,588 AM Peak Trips	Applicant	✓					Yes, Jurisdiction
			#13: Mountain House Parkway / I-580 EB Ramps	Intersection	None for Applicant	No, but is included in Approved Projects' Conditions	Not Applicable	Previously Approved Projects (Cordes)						Not Applicable
			#14: Mountain House Parkway / I-580 WB Ramps	Intersection	None for Applicant	No, but is included in Approved Projects' Conditions	Not Applicable	Previously Approved Projects (Cordes)						Not Applicable
		b	All Impacted Roadways	Roadway	See Mitigation #4.13-5b.	Yes	2,588 AM Peak Hour Trips	Applicant		✓				Yes
Tracy - Cumulative + Project 2035	4.13-7	a	#35: Linne Road / MacArthur Drive	Intersection	Signalize and add turn lanes. Signalization requires railroad crossing improvements and interconnect. Commence with a preliminary and final design process for the intersection and railroad crossing improvements immediately following EIR adoption.	No	First Building Permit	Applicant						Yes, Jurisdiction
			#36: Corral Hollow Road / Tennis Lane	Intersection	Construct median on Corral Hollow and allow right turn out only on Tennis Ln.	No, but will be added to TMP	Not Applicable	City	✓					No
		b	All Impacted Roadways	Roadway	Pay the applicable fees.	Yes	At issuance of each building permit	Applicant	✓		✓	✓	✓	Yes
Tracy - Cumulative + Project Buildout	4.13-8	a	Caltrans Intersections	Intersection	None for Applicant	Yes	Not Applicable	Not Applicable						Yes
		b	All Impacted Roadways	Roadway	Pay the applicable fees.	Yes	At issuance of each building permit/final map approval	Applicant	✓		✓	✓	✓	Yes
		c	Caltrans Freeways	Freeway	Pay Regional Fees	No	At issuance of each building permit/final map approval	Applicant						Yes, Jurisdiction
		d	Site-Specific Roadways	Roadway	Applicant to construct all Specific Plan roadways.	No	At application of building permit/final map approval	Applicant						No
Livermore - Existing + Project Buildout	4.13-9	a	#L1: Greenville Road / Patterson Pass Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes
			#L2: Greenville Road / Tesla Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes
			#L3: Concannon Boulevard / Livermore Avenue	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes
			#L5: Isabel Avenue / Vallecitos Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes
		b	All Impacted Roadways	Roadway	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes
		c	All Impacted Freeways	Freeway	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes
Livermore - Cumulative 2040 + Project Buildout	4.13-10	a	#L1: Greenville Road / Patterson Pass Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes, Jurisdiction
			#L2: Greenville Road / Tesla Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes, Jurisdiction
			#L4: Isabel Avenue / Concannon Boulevard	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes, Jurisdiction
		b	All Impacted Roadways	Roadway	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes, Jurisdiction
		c	All Impacted Freeways	Freeway	Pay the applicable fees in SA.	No	At application of building permit/final map approval	Applicant				✓		Yes, Jurisdiction

TABLE 4.13-68
Transportation & Circulation EIR Mitigation Matrix

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Scenario	Mitigation #		Mitigation Location	Mitigation Type	Mitigation Summary (Refer to Mitigation text for detailed improvement)	Indicated in Adopted TMP?	Implementation Trigger	Mitigation Responsibility	Funding Program					Significant After Mitigation?
									City TIF	Partial City TIF	Co TIF	JPA TIF	RTP	
Livermore & Tracy - Existing + Project Phase 1a			#1: Corral Hollow Road / I-580 EB Ramps	Intersection	Install an AWSC Intersection / Signalize Intersection. Start Encroachment permit application and PSR immediately following EIR adoption.	Yes	AWSC at 196 / Signal at 832 PM Peak Hour Trips	Applicant		✓				Yes, Jurisdiction
			#3: Corral Hollow Road / Spine Road	Intersection	Signalize and Construct.	Yes	First Occupancy Permit	Applicant						Yes
	4.13-14	a	#4: Corral Hollow Road / Linne Road	Intersection	Signalize Intersection. Signalization requires railroad crossing improvements and interconnect. Commence with a preliminary and final design process for the intersection and railroad crossing improvements immediately following EIR adoption.	Yes	396 PM Peak Hour Trips	Applicant		✓				Yes
			#5: Tracy Boulevard / Linne Road	Intersection	Add turn lanes. Commence with a preliminary and final design process for the intersection and railroad crossing improvements immediately following EIR adoption..	Yes	469 PM Peak Hour Trips	Applicant		✓				Yes
			#7: Corral Hollow Road / Valpico Road	Intersection	See 4.15-5b.	Yes	None for Applicant	None		✓				No
			#13: Mountain House Parkway / I-580 EB Ramps	Intersection	None for Applicant	No, but is included in Approved Projects' Conditions	At application of building permit/final map approval	Previously Approved Projects (Cordes)						Not Applicable
			#14: Mountain House Parkway / I-580 WB Ramps	Intersection	None for Applicant	No, but is included in Approved Projects' Conditions	At application of building permit/final map approval	Previously Approved Projects (Cordes)						Not Applicable
		b	Corral Hollow Road b/w I-580 and Linne Road	Roadway	Overlay existing lanes between I-580 and Spine Road and between Spine Road and Linne Road. Turn lanes will be provided at Corral Hollow / Spine.	Yes	First Building Permit	Applicant		✓				No
		d	THSP Phase 1a Roadway Surrounding School	Roadway	Provide roadways to the school meeting acceptable on and off-site storage for drop-off/pickup queuing, safety considerations, vehicular circulation, and bike and pedestrian access. Details further specified in EIR.	No	First Building Permit	Applicant						No
	4.13-15	a	#1.1: Greenville Road / Patterson Pass Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval for each phase	Applicant				✓		Yes
			#1.2: Greenville Road / Tesla Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval for each phase	Applicant				✓		Yes
			#1.5: Isabel Avenue / Vallecitos Road	Intersection	Pay the applicable fees in SA.	No	At application of building permit/final map approval for each phase	Applicant				✓		Yes
		b	All Impacted Roadways	Roadway	Pay the applicable fees in SA.	Yes	At application of building permit/final map approval for each phase	Applicant				✓		Yes
		c	All Impacted Freeways	Freeway	Pay the applicable fees in SA.	Yes	At application of building permit/final map approval for each phase	Applicant				✓		Yes
		d	Project Roadways and School Site	Roadway	See Mitigation #4.13-14d.	No	Final Tentative Map and/or first student	Applicant						No
		e	Temporary School Off-Site (Tom Hawkins ES)	Roadway	Work with City, Tom Hawkins ES and Jefferson School District to develop a Traffic Management Plan for interim conditions.	No	First Student	Applicant						No
		f	Temporary On-site School Building	Roadway	Work with City Engineer, Police Department, and the Jefferson School District to develop a Traffic Management Plan for Interim Conditions (Location of modular school at BP location)	No	When Phase 1a Modular School opens	Applicant						No
		g	Corral Hollow Road	Bicycle/Pedestrian	Build bike/ped facilities from Spine and north along Corral Hollow	Yes	2,588 AM Peak Hour Trips	Applicant	✓					Yes

Notes
-This table is intended as a reference only to provide a summary of some mitigation measures for the reader. A comprehensive description of all mitigation measures are provided within the EIR text.
- City TIF refers to the City of Tracy Traffic Impact Fee Program
- Co TIF refers to the traffic impact fees associated with the San Joaquin County's Traffic Fee Program
- The JPA TIF refers to the traffic impact fees identified within the Settlement Agreement which is the agreement established with the defined Joint Powers Authority (JPA) in December 1998.
- RTP refers to the San Joaquin Council of Governments' Regional Transportation Program.

TABLE 4.13-68
Transportation & Circulation EIR Mitigation Matrix

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4.14 URBAN DECAY

4.14.1 INTRODUCTION

This section incorporates the information contained in the Tracy Hills Urban Decay Analysis, prepared for the Project by ALH Urban and Regional Economics (ALH) in December, 2014. The complete analysis is included as Appendix I in this DEIR.

4.14.2 CONSIDERATION OF URBAN DECAY

CEQA GUIDELINES

The State CEQA Guidelines define the parameters under which the consideration of socioeconomic impacts is included in an environmental evaluation. State CEQA Guidelines Section 15131 states that "economic or social information may be included in an EIR or may be presented in whatever form the agency desires." Further, Section 15131(a) of the Guidelines states that "economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." State CEQA Guidelines Section 15131(b) also provides that "economic or social effects of a project may be used to determine the significance of physical changes caused by the project." For example, the level of significance of a physical division of a community from the installation of rail lines could be measured by the social effect on the community.

In the case of the Project, concern has been expressed in NOP comment letters received that the location of a new major retail, commercial, office and industrial establishment could through its economic effects, result in secondary environmental impacts. For the purpose of this analysis, urban decay is defined as extended long-term business vacancies, directly or indirectly resulting in physical deterioration to properties or structures that are so prevalent, substantial, and lasting a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. Physical deterioration includes abandoned buildings, boarded doors and windows, parked trucks and long-term unauthorized use of the properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth.[1]

LEGAL CONTEXT

Before considering how THSP might affect the market and environs, it is useful to focus on what constitutes the environmental impact known as urban decay. In *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1204, the court described the phenomenon as "a chain reaction of store closures and long-term vacancies, ultimately destroying existing neighborhoods and leaving decaying shells in their wake."

[1] ALH, 2014.

The court also discussed prior case law that addressed the potential for large retail projects to cause "physical deterioration of [a] downtown area" or "a general deterioration of [a] downtown area." (Id. at pp. 1206, 1207).

When looking at the phenomenon of urban decay, it is also helpful to note economic impacts that do not constitute urban decay. For example, a vacant building is not urban decay, even if the building were to be vacant over a relatively long time. Similarly, even a number of empty storefronts would not constitute urban decay. Based on the preceding descriptions regarding urban decay, therefore, ALH's analysis examined whether there was sufficient market demand to support THSP without affecting existing retailers so severely such as to lead to a downward spiral toward decay of the existing physical environment. In developing a conclusion regarding the potential for urban decay, ALH focused on determining whether or not physical deterioration would likely result from the development of the Project's retail space, as well as other cumulative retail developments.

STUDY METHODOLOGY

ALH's tasks included the following:

- Conduct site and field reconnaissance
- Estimate volume of existing Tracy retail, office, and industrial inventory
- Identify Tracy General Plan maximum retail, office, and industrial potential
- Estimate internally-generated retail demand
- Prepare highway-serving commercial assumption
- Characterize Tracy's retail base
- Project long-term resident and regional retail supportability
- Assess regional supportability remaining after Tracy Hills development
- Identify urban decay implications of Tracy Hills retail space
- Assess the regional context of Tracy's Hill's planned office and industrial space

4.14.3 ENVIRONMENTAL ANALYSIS

DEVELOPMENT CONTEXT

The Urban Decay Analysis prepared for the Project developed an estimate of the City of Tracy's long-term development potential pursuant to analysis of the land use designations included in the General Plan. The land use designations were then converted to prospective buildout capacity for the corresponding zoning districts in the THSP and the urban decay analysis based upon floor area ratio assumptions of 0.25 – 0.35 for commercial, 0.35 for office, and 0.45 for industrial. This information is summarized in Table 4.14-1, *Buildout Capacity for Commercial and Industrial Land Uses –City of Tracy and SOI,* below.

Table 4.14-1: Buildout Capacity for Commercial and Industrial Land Uses – City of Tracy and SOI

	City of Tracy			Sphere of Influence			Total	
	Land Area (Acres)	**FAR**	**Sq Ft.**	**Land Area (Acres)**	**FAR**	**Sq. Ft.**	**Land Area (Acres)**	**Sq. Ft.**
Commercial (Retail)	874	0.25 – 0.35	9,513,504 – 13,318,906	370	0.25 – 0.35	4,033,656 – 5,647,118	1,244	13,547,160 - 18,966,024
Office	696	0.35	10,611,216	0	0.35	0	696	10,611,216
Industrial	3,759	0.45	73,683,918	104	0.45	3,863	3,863	75,722,526

Source: ALH, 2014.

Pursuant to the General Plan land use designations and FAR assumptions, ALH estimates the buildout capacity within the City of Tracy to comprise 9.5 to 13.3 million square feet of commercial space, 10.6 million square feet of office space, and 73.7 million square feet of industrial space. The buildout capacity within the City of Tracy and Sphere of Influence is estimated to comprise approximately 13.5 to 19 million square feet of commercial space, 10.6 million square feet of office space, and 75.7 million square feet of industrial space. These figures indicate that Tracy's current commercial and industrial inventories comprise an average of 29% of the City's buildout capacity in retail, 3% in office, and 16% in industrial. Thus, the City of Tracy has substantial growth potential relative to its developable land inventory.

ALH estimated the buildout of THSP to increase the City of Tracy's supply of retail by 27%, office by 219%, and industrial space by 35%. However, in terms of total capacity, each of these three land uses represents less than 10% of total buildout capacity.

These figures are presented in Table 4.14-2, *City of Tracy Existing Land Use Inventory, Buildout Capacity, and Tracy Hills Buildout,* below. The results of this analysis indicate that the THSP will be developed against a backdrop of substantial physical growth potential.

Table 4.14-2: City of Tracy Existing Land Use Inventory, Buildout Capacity, and Tracy Hills Buildout

Land Use Characteristic	**Retail**	**Office**	**Industrial**
Existing Inventory (Sq. Ft.)	3,266,900	285,550	12,104,000
Tracy Buildout Capacity	9,513,504 – 13,318,906	10,611,216	73,683,918
Existing Inventory Share of Buildout Capacity	29%	3%	16%
Tracy Hills Buildout (Sq. Ft.)	875,300	624,200	4,197,300
Percent Increase Over Existing Base	27%	219%	35%
Percent of City Buildout Capacity	7% - 9%	6%	6%

Source: ALH, 2014.

TRACY HILLS COMMERCIAL SPACE

The THSP retail land uses are assumed to be developed in the General Highway Commercial zone, and in up to 25% of the Mixed-Use Business Park zone. Permitted uses include lodging, business offices and professional offices, consumer services and retail trade, and eating and/or drinking establishments. Conditionally permitted uses include multi-family housing, educational and commercial amusement establishments. The General Highway Commercial zone of THSP is assumed to include a range of retail uses and some lodging facilities. This includes demand generated from the residents and employees located within the Project Area and highway serving commercial uses. Retail demand generated by the THSP is shown in Table 4.14-3, *Tracy Hills Specific Plan Retail Components (Sq. Ft*), below.

Table 4.14-3: Tracy Hills Specific Plan Retail Components (Sq. Ft)

Demand Generator	Phase I	2035	Buildout
Residential	50,000	195,000	230,000
Employment	20,500	81,400	180,600
Hotel	0	80,000	80,000
Other Highway	0	24,000	24,000
Total	**70,500**	**380,400**	**514,600**
Balance of Other Demand	23,400	466,000	360,700
Total Planned	**93,900**	**846,400**	**875,300**

Source: ALH, 2014.

These estimates indicate that internally-generated retail demand, complemented by highway-serving demand, will be less than the total amount planned for the Project. This additional amount of demand will need to be derived from other sources outside of the Project, which will likely include other Tracy households and the broader region.

The City of Tracy's retail base is supported by sales generated from households (40%) and other consumers outside the City of Tracy (60%), meaning that Tracy is an "attraction" retail market. Over time, as Tracy's population increases, there will be a corresponding increase in total demand for retail. Based upon the share of Tracy's retail base that serves City households and regional consumers, the city is estimated to require an additional 950,000 to 2.55 million square feet of retail space by 2035 to meet local and regional retail shopping needs, increasing to an additional 1.19 million to 2.875 million square feet of retail space by 2040. This amount of future retail demand is greater than the retail space planned for Tracy Hills that is not anticipated to be served internally, with unmet retail demand still remaining at the 2035 and 2040 time periods.

This condition remains even after consideration of cumulative retail projects, which includes one small project in Tracy. There are other projects with the potential for development in nearby Mountain House, but these projects are not reasonably foreseeable cumulative projects due to long term delays in project initiation. Therefore, the THSP retail space and reasonably foreseeable cumulative projects are not anticipated to have a negative impact on existing retail outlets within the time frames studied.

PREVAILING RETAIL MARKET CONDITIONS AND REGULATORY CONTROLS

Tracy's retail base occurs in several concentrated nodes and along major arterials, ranging from newer centers in expansion mode to older centers with existing vacancy. Generally speaking, the retail properties are in good physical and clean condition. The one exception is a long-term vacant property subject to a sublease characterized by one

boarded up window, which is not an indicator of urban decay. Thus, in general, Tracy's existing retail real estate is in moderate to good physical condition with no evidence of trash or other conditions contributing to urban decay and deterioration.

Retail absorption in Tracy has been strong for the past 12 to 24 months, and vacancy rates are relatively low. Between August 2013 and August 2014, there were 29 retail leases executed in Tracy totaling approximately 72,000 square feet of retail space. The largest lease transaction was for about 24,000 square feet, while the average transaction was for about 2,500 square feet (ALH, 2014). These lease transactions indicate that Tracy's retail market is characterized by momentum, including successful backfilling of small to moderate-sized retail spaces. Estimates of retail vacancy in Tracy are generally in the range of 10% overall retail vacancy including sublease space, and even lower without the sublease space, possibly even 5% or less. Therefore, Tracy's retail market appears to be operating within generally healthy parameters.

The Municipal Code in Tracy requires property owners to maintain their properties so as to avoid nuisances that could promote blight and neighborhood deterioration and thereby reduce property values. Enforcement of these ordinances helps prevent physical deterioration due to long-term closures of retail spaces. According to the Code Enforcement Division, most violations such as garbage, debris, and graffiti, are quickly and voluntarily resolved after the initial verbal or written notice is received. Project-related fieldwork revealed little-to-no visible signs of litter, graffiti, weeds, or rubbish associated with existing commercial nodes in Tracy. Existing measures to maintain private commercial property in good condition are generally effective, and as such, help preclude the potential for urban decay in the event any existing retailers close following the development of THSP.

OFFICE AND INDUSTRIAL MARKET CONTEXT

In addition to providing a new community for homes and retail-serving uses, THSP includes a significant employment-generating component. Buildout of the THSP includes up to 624,200 square feet of office space and 4,197,300 square feet of industrial space. This amount of development will establish the Project Area as a significant employment node, and will position THSP within a regional context for these uses.

Currently, employment in Tracy totals approximately 26,310.[2] Employment projections for San Joaquin County were 209,400 in 2013, indicating that the City of Tracy comprises approximately 13% of the County's total. The California Department of Transportation prepares countywide employment projections for all counties in California. Their projections for San Joaquin County are estimated to increase by 6.7% from 2014 to 2017, which is the time period that coincides with Phase I of Tracy Hills. San Joaquin County employment is then projected to increase by 23% between 2017 and 2035, and 4.6% from 2035 to 2040. These growth estimates indicate that THSP office and industrial space will be developed in a growth-oriented environment.

The City of Tracy currently has a limited supply of office space, estimated at just under 300,000 square feet. However, based on existing General Plan land use designations, there is buildout potential for future office development of over 10 million square feet (see Table 4.14-2, *City of Tracy Existing Land Use Inventory, Buildout Capacity, and Tracy Hills Buildout).* Thus, while the THSP office space buildout of 624,200 square feet will

[2] ALH, 2014.

comprise a substantial addition to the City of Tracy, this amount of development is less than 6% of the City's total office space buildout capacity.

To achieve full absorption, THSP and cumulative projects will need to capture almost 100% of Tracy office demand between 2014 and 2035, estimated to total 520,000 square feet, based on county-wide demand. This capture rate suggests that for the Project to optimize its office space absorption, Tracy will need to capture a greater share of countywide office demand. This expectation is reasonable given Tracy's commitment to economic development, with Tracy positioned as a relatively inexpensive alternative to more costly locations such as Livermore, the Tri-Valley area, and Silicon Valley.

The THSP industrial space buildout of approximately 4.2 million square feet will comprise only about 6% of the 73 million square feet build-out capacity designated in the City's General Plan (see Table 4.14-2: *City of Tracy Existing Land Use Inventory, Buildout Capacity, and Tracy Hills Buildout*). Of the total planned THSP Industrial space, 805,125 square feet is assumed to be developed by 2035, with the remaining balance (approximately 4.2 million square feet) occurring at some indeterminate future point in time.

ALH estimated the future industrial space demand for both San Joaquin County and Tracy. In the absence of any other current basis for estimating Tracy's share, the analysis assumed Tracy's capture rate to be at least comparable to Tracy's recent share of the county's occupied inventory of industrial space, which is 19% for 2014. As shown in Table 4.14-4, *Industrial Demand*, at buildout, the THSP is estimated to make up 53% of the total industrial space demand in the City of Tracy and 10% to the total demand county-wide.

Table 4.14-4: Industrial Demand

Years	THSP Buildout (Sq. Ft)	City of Tracy Demand (Sq. Ft)	San Joaquin Demand (Sq. Ft)
2014 - 2017	153,710	1,600,000	8,300,000
2018 - 2035	805,125	5,200,000	27,300,000
2036 - 2040	N/A	1,100,000	5,900,000
Total	**4,197,300**	**7,900,000**	**41,500,000**

Source: ALH, 2014.

In addition to the THSP, there are six industrial projects engaged in the planning process in Tracy totaling 3.9 million square feet. These projects are variously engaged in the entitlements process, with some approved and others still in the planning stages. All but one of these projects may be completed concurrent with the estimated Phase I timing of the Project (i.e., 2017). The amount of industrial development planned within the Project Area and the competitive projects during Phase I is estimated to exceed the level of demand forecasted for Tracy. However, by the 2035 timeframe, these projects would need to capture a lesser 66% of forecasted demand. This finding suggests that if development of the Tracy Hills Phase I industrial space extends beyond the 2017 timeframe, overall market demand conditions may be more favorable and consistent with a reasonable expectation of market capture.

For Tracy Hills to optimize its industrial space absorption it may require that Tracy achieve an increasing share of countywide demand, and/or that overall demand be greater than projected. Similar to office space, this is a reasonable expectation given Tracy's commitment to economic development. Industrial development in Tracy has recently demonstrated this demand by the absorption of 4.4 million square feet of industrial space from 2007 to present. These large, recent additions to Tracy's industrial base, as well as the projects currently planned,

indicate that Tracy's location as a gateway to the Central Valley as well as its opportune location close to the I-5 corridor and other freeways that lead to the Bay Area and beyond position it well for continue industrial growth.

CONCLUSIONS

The findings of the Urban Decay Analysis suggest that there is no basis to believe that existing retail would experience negative impacts following the addition of the Project. There is no evidence to suggest that existing stores will close and exhibit traditional signs of deterioration and decay, such as graffiti, refuse dumping, and dilapidated fencing. Existing vacant spaces throughout Tracy appear well-maintained, with only scant exception. This, plus the recent market area leasing activity, indicates that Tracy is an inherently appealing retail market. Based upon these findings and the preceding analysis, it is reasonable to assume that the THSP retail development and associated cumulative projects will not cause or contribute to urban decay.

In addition, the development of 4.8 million square feet of office and industrial space within the THSP Project Area will occur within a projected growth of 8.3 million square feet in San Joaquin County from 2014 to 2017. As such, impacts on existing office and industrial space in Tracy are unlikely, as new nodes are created to meet specific needs of emerging and growing businesses. Based upon the long-range demand estimates and recognition of Tracy's economic development efforts, it is reasonable to assume that the THSP office and industrial space will provide a sub-regional node of office space and employment supply, which when considered in light of both City General Plan buildout capacity and county-wide demand will not contribute to a condition of urban decay among existing properties.

IMPACTS AND MITIGATION MEASURES

Implementation of the Project would not cause or contribute to urban decay. Therefore, impacts would be *Less-than-significant* and no mitigation measures would be required.

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5 OTHER CEQA REQUIRED TOPICS

The California Environmental Quality Act (CEQA) Guidelines Section 15126 requires an Environmental Impact Report (EIR) to describe the broader effects of a project in relationship to the surrounding environment, in addition to detailed technical analysis of a project's impacts on the environment. The topics covered in this chapter address this requirement and identify significant and unavoidable Project impacts, growth inducement associated with the Project, and significant irreversible changes associated with the Project. In addition, this Chapter addresses Appendix F of the CEQA Guidelines and provides a discussion of the potentially significant energy implications of the Project. A more detailed analysis of the effects the Project would have on the environment is provided in Chapter 4: *Environmental Analysis*.

5.1 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15162(b) of the CEQA Guidelines requires an EIR to discuss the significant environmental effects of a proposed project that cannot be avoided if the proposed project is implemented, including those which can be mitigated, but not reduced to a less than significant level. These impacts are referred to as "significant and unavoidable impacts" of the Project. More information on these impacts is found in Chapter 4, *Environmental Analysis* of this Draft EIR.

5.1.1 DRAFT EIR

AESTHETICS

The following lists the significant and unavoidable impacts identified in Section 4.1, *Aesthetics* of this Draft EIR:

Impact 4.1-1 The Project would substantially alter the visual character of the site, including views to, from and across the THSP Project Area, resulting in a significant impact to scenic vistas.

Impact 4.1-2 The Project would substantially alter the existing scenic resources by adding new development directly adjacent to a State-designated route, which would be a significant impact.

Impact 4.1-3 The Project would bring urban development to a rural and agricultural area, thereby changing its character and resulting in a significant impact.

Impact 4.1-5 The Project would change the visual aspect of and views from, to, and across the THSP Project Area, add new development to viewsheds, bring urban development to a rural and agricultural area, resulting in cumulatively considerable contributions to significant impacts on scenic vistas, scenic resources within a State scenic highway, and visual character.

AGRICULTURAL RESOURCES

The following lists the significant and unavoidable impacts identified in Section 4.2, *Agricultural Resources* of this Draft EIR:

Impact 4.2-1 Implementation of the Project would result in the conversion of 25 acres of Prime Farmland, approximately 2,200 acres of Farmland of Local Importance and approximately 500 acres of Grazing Land. Impacts to Prime Farmland and Farmland of Local Importance would remain significant and unavoidable.

Impact 4.2-3 Development of the Project, together with other cumulative projects, would result in an incremental reduction in agricultural resources. Impacts to Prime Farmland and Farmland of Local Importance would remain significant and unavoidable.

AIR QUALITY

Impact 4.3-1 Implementation of the Tracy Hills Specific Plan would result in temporary potentially significant construction-related dust and vehicle emissions.

Impact 4.3-2 The Project would result in potentially significant overall increase in the local and regional pollutant load due to direct impacts from vehicle emissions and indirect impacts from area sources and electricity consumption.

Impact 4.3-3 Due to the Project exceedances of SJVAPCD's air quality standards, future development projects would not be consistent with the most recent Air Quality Management Plan and therefore is a potentially significant impact.

Impact 4.3-5 Implementation of the Project could result in a potentially significant localized emissions impact or expose sensitive receptors to substantial pollutant concentrations.

GREENHOUSE GAS EMISSIONS

Impact 4.7-1 Implementation of the Tracy Hills Specific Plan would generate potentially significant greenhouse gas emissions.

Impact 4.7-3 Future development facilitated by the Project and other related cumulative projects could have a cumulatively considerable and potentially significant contribution to greenhouse gas emissions.

NOISE

Impact 4.11-2 Implementation of the Project would result in a potentially significant increase in off-site ambient noise levels due to operational noise impacts.

Impact 4.11-3 Implementation of the Project would result in a potentially significant increase in onsite ambient noise levels due to operational noise impacts.

Impact 4.11-4: Development facilitated by the Project and other related cumulative projects could result in cumulatively potentially significant noise impacts.

TRAFFIC AND CIRCULATION

Impact 4.13-7a: Development within the THSP would result in additional traffic on the City-wide roadway network and would result in cumulatively considerable impacts to intersections under the Cumulative Plus Project 2035 scenario.

5.2 GROWTH INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical growth inducing factors might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development. This section evaluates the Project's potential to create such growth inducements.

Section 15126.2(d) also states that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. However, it should be noted that growth can be detrimental if it is not consistent with land use plans and growth management policies established to ensure orderly growth and development that is supported by adequate public services. Should a proposed project induce growth beyond planned levels or rates or exceed reliable population projections, it could indirectly cause additional adverse impacts on the environment and public services beyond those identified, mitigated, or acknowledged in local planning documents. Therefore, this growth inducement analysis evaluates the consistency of the growth caused or induced by the Project with the growth envisioned for the City of Tracy in the City's General Plan.

The Project would provide opportunities for new retail, office, commercial, and industrial space within the City of Tracy. This new space could attract businesses that would provide new employment opportunities within the City. Employment growth for the area is anticipated by the Tracy General Plan, which identifies the THSP Project Area as an area suitable for industrial, office, and commercial uses. Further, the Project has been contemplated by the City's various infrastructure and transportation master plans. It is possible that existing businesses located elsewhere in the City would choose to relocate to some of this new space and would not create new jobs in the City. The City's Growth Management Ordinance would help reduce the potential adverse impacts to Tracy from future development by setting controls on development and managing growth in a manner that is commensurate with available services and utilities.

Although full buildout of the Project would result in the extension of infrastructure to a previously (or largely) unserved area, this growth, including the additional infrastructure, was planned for and envisioned under the Tracy General Plan as well as the City's various infrastructure master plans and would therefore be considered *less-than-significant.*

Implementation of the Project would also be expected to directly induce growth since the Project would include the addition of up to 5,499 residential units. As described in the 2011 General Plan EIR, residential

growth under the General Plan is limited by the City's Growth Management Ordinance (GMO). Growth within the THSP Project Area was anticipated and planned for in the City's 2011 General Plan EIR. Hence, the potential household growth induced by implementation of the Project would not exceed the City's planned level. Therefore, impacts are considered *less-than-significant*.

5.3 ENERGY CONSERVATION

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Appendix F requires a description (where relevant) of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, the California State Legislature adopted Assembly Bill 1575 (AB 1575) in response to the oil crisis of the 1970s. Appendix F of the CEQA Guidelines provides guidance for assessing potential impacts that a project could have on energy supplies, focusing on the goal of conserving energy by ensuring that projects use energy wisely and efficiently. Because Appendix F does not include specific significance criteria, this threshold is based on the goal of Appendix F. Therefore, an energy impact is considered significant if the Project would develop land uses and patterns that cause wasteful, inefficient, and unnecessary consumption of energy or construct new or retrofitted buildings that would have excessive energy requirements for daily operation.

5.3.1 ENERGY CONSUMPTION

SHORT-TERM CONSTRUCTION

In 1994, the U.S. Environmental Protection Agency (EPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NOX emissions from these engines by 30 percent. The EPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NOX and 40 percent for particulate matter from Tier 1 emission levels. In 2004, the EPA issued the Clean Air Non-road Diesel Rule. This rule will decrease emissions from off-road diesel engines by more than 90 percent, and will be fully phased in by 2014.

Development of the THSP Project Area would occur in phases, with no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

LONG-TERM OPERATIONS

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

The Project would create a pedestrian-friendly, connected, planned development that includes commercial and office uses. The plan is also designed to accommodate future bus service, and is not expected to result in any unusual characteristics that would result in excessive long-term operational fuel consumption.

Alternative Transportation Options

As discussed in Chapter 4.13, *Traffic and Circulation*, the Project shall comply with the goals, objectives, and policies of the 2011 General Plan, including the specific intent of the General Plan with respect to Urban Reserve 10. Goal CIR-4 of the General Plan provides for a balanced transportation system that encourages the use of public transit and high occupancy vehicles. Policy P4 under CIR-4.1 states that the City shall require large developments to provide for transit with adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots, and multi-modal transit centers, if appropriate.

The THSP shall also comply with the goals, objectives, and policies of the 2011 General Plan with respect to bicycle and pedestrian modes. A Class I bike path is proposed along all extents of Spine Road and through the business park, extending to Corral Hollow Road (see page 3-45 in the THSP). In addition, pedestrian facilities would be provided along neighborhood streets providing access to various Village Centers. This discourages vehicular traffic and promotes a multi-modal approach to transportation within the site. Goal CIR-3 of the General Plan provides for safe and convenient bicycle and pedestrian travel as alternative modes of transportation in and around the City. This goal details several policy statements designed to enhance safe and convenient travel for bicyclists and pedestrians. For example, policies P4 and P6 under CIR-3 state that the City's bicycle and pedestrian system shall have a high level of connectivity, and that new development shall include pedestrian and bicycle facilities internal to the development and which connect to citywide facilities, such as parks, schools, and recreational corridors. When developed, the THSP Project would include pedestrian and bicycle facilities internal to the site and that connect to the existing pedestrian system via street frontage improvements that include sidewalks and bicycle lanes.

Building Energy Demand

The Project would not result in any unusual characteristics that would result in excessive long-term operational building energy demand. The Project would require electricity and natural gas for typical lighting, climate control, and day-to-day activities. The THSP provides design standards and guidelines (pages 3-1 through 3-96) that would ensure energy and water efficiency. Additionally, as stated in Chapter 4.7, *Greenhouse Gas Emissions*, the Project would incorporate several water, energy, solid waste, and land use efficiency measures. Therefore, the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar residential subdivisions within the region.

Energy Efficiency Measures

Title 24, California's Energy Efficiency Standards for Residential and Non-residential Buildings, was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. In 2010, the CEC updated Title 24 standards with more stringent requirements. The 2010 Standards are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the Standards on building alterations. For

example, requirements for cool roofs, lighting, and air distribution ducts are expected to save additional electricity. These savings are cumulative, doubling as years go by.

5.4 SIGNIFICANT AND IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the significant irreversible environmental changes that would result from implementation of a proposed project. Examples include: primary or secondary impacts of the project that would generally commit future generations to similar uses (e.g., highway improvements that would provide access to a previously inaccessible area); uses of nonrenewable resources during the initial and continued phases of the project (because a large commitment of such resources make removal or nonuse thereafter unlikely); and/or, irreversible damage that could result from any potential environmental accidents associated with the project.

5.4.1 CHANGES IN LAND USE WHICH COMMIT FUTURE GENERATIONS

Implementation of the Project would result in the conversion of approximately 2,732 acres of open space/agricultural land to a mix of residential, commercial, retail, industrial, educational, and recreational uses. Development of the Project would constitute a long-term commitment to these uses, as it is unlikely that circumstances would arise that would justify the return of the land to its original condition.

5.4.2 CONSUMPTION OF NON-RENEWABLE RESOURCES

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the Project's initial construction, infrastructure installation, and connection to existing utilities and its continued maintenance. Construction of the Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing maintenance and life of the Project. An increase in the public use of land use on the site would result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the Project would increase consumption of available supplies, including gasoline. These energy resource demands relate to initial Project construction, Project operation, and on-going maintenance, as well as the transport of people and goods to and from the Project site.

5.4.3 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

No explosives or other hazardous materials would be used within the planning area. Accidental spills of fuel, paints, or other construction-related materials might occur during construction. However, these types of accidents would be limited because site development would be implemented and overseen by experienced construction workers. Such potential spills would not result in irreversible environmental changes. While no explosives would be used in the Project Area, allowable commercial uses include service stations, medical and dental offices, and research and development offices, among others. Should these uses develop, they would use hazardous materials (in the case of a service station) or could be likely to use hazardous materials (in the case of medical or research and development offices). The use of such materials in the Project Area would be regulated by applicable Federal, State, and local government agencies and would not be any more likely to result in irreversible environmental changes than if used in other similar settings.

6 EFFECTS FOUND NOT TO BE SIGNIFICANT

Environmental issues presented under the Thresholds of Significance sub-section of all environmental topics in Chapter 4 of this EIR were derived from environmental issues and topics identified in Appendix G of the *CEQA Guidelines*. The only environmental issues in Appendix G not presented in Chapter 4, *Environmental Analysis* were those where the Project either had no impact or a less-than-significant impact under all issues under an environmental topic. The following section provides a brief description of effects found not to be significant or less-than-significant based on the analysis conducted through the Draft EIR preparation process.

6.1 MINERAL RESOURCES

The main mineral resources found in San Joaquin County, and the Tracy Planning Area are sand and gravel (aggregate), which are primarily used for construction materials like asphalt and concrete. The City of Tracy has an adopted Aggregate Mining Overlay zone, which has been approved by the State Division of Mines and Geology (Resolution 2000-12 of State Division of Mines and Geology). In order to protect aggregate land and mitigate conflicts between mining activities and urban uses, the Tracy General Plan designates lands with production quality mineral reserves as Aggregate in the southern portion of Tracy. Of the area classified by the State Division of Mines and Geology as having potentially significant mineral deposits, the City has designated the bulk of this area as Aggregate in the General Plan. Some additional areas identified as having potentially significant aggregate deposits are designated as Industrial in the General Plan. The City and State have agreed to protect identified areas south of Linne Road for aggregate uses and allow for urban development north of Linne Road (much of which has already occurred).

There is a small Aggregate area south of the California Aqueduct, along Corral Hollow Road that falls within the Project Area. Impacts to mineral resources within the THSP Project Area were evaluated and considered less-than-significant in the 2011 General Plan EIR. The THSP boundary has not been expanded since certification of the 2011 General Plan EIR, or as part of the comprehensive update to the THSP; therefore impacts would remain *Less-than-significant*.

6.2 POPULATION AND HOUSING

The Project would serve existing and planned development consistent with the General Plan. The Specific Plan does not exceed the maximum dwelling units or non-residential square footage already anticipated in the certified 2011 General Plan EIR for the THSP area. The General Plan EIR did not find any significant impacts related to population, employment or housing, therefore, the Project would not induce population growth, either directly or indirectly, which has not already been anticipated in the 2011 General Plan EIR.

The THSP Project Area currently contains five single-family homes. Upon implantation of future phases of the Project, the existing housing would likely be demolished and replaced with new single family and multi-family homes. Since the Project includes the construction of new residential areas, the displacement of the five existing houses would not substantiate the need for construction of replacement housing. Therefore, impacts related to population and housing would be *Less-than-significant*.

6.3 RECREATION

Development within the Project Area has the potential to increase the demand for parks and recreational facilities. However, the THSP would be consistent with the City's planned growth for the Project Area. The City's General Plan policies require that new residential projects provide 4 acres of parks per 1,000 residents added.[1] Implementation of this policy would ensure that there is no shortage of park facilities for current and future residents. This policy also requires that new developments provide new park acreage or in-lieu fees at this ratio.

Objective OSC-4.2, P2 and P3 provide guidelines for developers in this regard, mainly that land dedicated towards the parkland requirement must meet certain usability criteria and that golf courses and active detention basins would not count toward dedication requirements. Objective OSC-4.2, P4 through P6 provide design direction for ensuring that new parks are easily accessible and match the area's needs. Objective OSC-4.3 also contains four policies and one action related to the establishment of a regional parkways system that bolsters park and recreation opportunities for residents of Tracy.

The 2011 General Plan EIR evaluated impacts related to recreational facilities, including those within the THSP Project Area. No changes to recreational facilities have been proposed as part of the comprehensive update to the THSP, therefore impacts related to an increase in the use of existing neighborhood parks, regional parks or other recreational facilities or the expansion of recreational facilities remain *Less-than-significant*.

[1] City of Tracy, 2011 General Plan EIR.

7 ALTERNATIVES

7.1 INTRODUCTION

The State CEQA Guidelines Section 15126.6 mandates that an EIR include a comparative evaluation of the proposed project with a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project while simultaneously avoiding or substantially lessening any of the significant effects of the project. Pursuant to Section 15126.6 (f)(1) of the State *CEQA Guidelines*, "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent)." Although these factors do not present a strict limit on the scope of reasonable alternatives to be considered, they help establish the context in which "the rule of reason" is measured against when determining an appropriate range of alternatives sufficient to establish and foster meaningful public participation and informed decision-making.

As described in Chapter 3, *Project Description,* the Project includes the development of a mixture of residential, commercial, business park, office, industrial, schools, parks, and open space land uses on approximately 2,732 acres.

PROJECT OBJECTIVES

The objectives of the Project include the following:

- Implement the City's General Plan Area of Special Consideration Number 8: Tracy Hills Specific Plan Area.
- Create a master planned community that has a unique character and quality with a commitment to exemplary living, working, and recreational environments.
- Protect and enhance environmental features and wildlife habitats within and near the Project Area through the preservation of large tracts of contiguous open space lands.
- Facilitate development of infrastructure needed to serve the project through efficient and phased infrastructure design.
- Provide a range of housing opportunities to support a diverse population, lifestyles and family groups.
- Develop residential neighborhoods that respect natural landforms and scenic valley views with a commitment to quality site design, architecture, and landscape design.
- Provide public parks, open space, and an integrated trails network with pedestrian and bicycle amenities, to create passive and active recreational opportunities to serve its residents.
- Provide a comprehensive circulation network with integrated mobility options including pedestrian and bicycle amenities, with enhanced connectivity and safety, as alternatives to automobile use.
- Provide mixed use business park land uses for commercial retail, office, institutional and other services that meet local, community, and regional needs.

- Create opportunities for quality employment-generating uses and economic development opportunities that meet local, community and regional needs.
- Establish a planning/zoning concept that is responsive to the market.
- Enhance the character and quality of I-580 freeway corridor and edge.
- Implement the Circulation Element of the City's General Plan which envisions transportation infrastructure improvements such as the Lammers/580 interchange.
- Implement the City's General Plan which envisions that the geographical area governed by the THSP will be developed into a mixed use master planned community consisting of a variety of interconnected uses.
- Implement a comprehensive Specific Plan that contains a variety of housing and jobs-producing land uses to achieve a relatively strong jobs to housing balance within the Specific Plan boundaries so as to reduce the vehicle miles traveled in the region.
- Implement the City's Infrastructure Master Plans.

SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

As noted in Sections 4.1 through 4.13, most of the potentially significant impacts identified can be mitigated to a less than significant level through implementation of feasible mitigation measures. However, *significant and unavoidable* impacts related to aesthetics, agricultural resources, air quality, greenhouse gas emissions, and traffic and circulation would occur as a result of implementation of the Project.

7.2 RATIONALE BEHIND THE SELECTION OF ALTERNATIVES

PREVIOUSLY ANALYZED ALTERNATIVES

The Project includes a comprehensive update to the previously adopted 1998 Tracy Hills Specific Plan. The 1998 Tracy Hills Specific Plan EIR considered a range of alternatives, including the following:

- Alternative 1: No Development Alternative (no development and buildout under the existing land use designations in place at the time the previous EIR was prepared)
- Alternative 2: Urban Center Relocation Alternative (relocating urban center defined in the 1998 Tracy Hills Specific Plan
- Alternative 3: Reduced Density Alternative (decreased overall project density)
- Alternative 4: Increased Density/Alternative Distribution

It was determined that Alternative 3, Reduced Density Alternative would result in the least environmental impacts when compared to the previous project. As noted in Section 2.1, *Project History and Overview*, the Tracy Hills Specific Plan ("THSP") was approved by the City Council in 1998. In addition to the approval of the Tracy Hills Specific Plan, the "Project" that was examined in the certified Tracy Hills Final Environmental Impact Report (SCH No. 95122045) also included corresponding amendments to the City's General Plan and Zoning Ordinance, and annexation into the City. While the aforementioned alternatives were analyzed, they were never adopted as part of the 1998 Tracy Hills Specific Plan.

SELECTION OF NEW ALTERNATIVES

The Applicant has requested certain modifications to the 1998 THSP which would require formal amendments. Because the proposed text modifications (including the Project goals, zoning and development standards, and zoning districts), graphics and format to the previously approved THSP are substantial, the applicant, in consultation with City Staff, has decided to submit a comprehensive update to the Specific Plan as opposed to submitting amendments to sections of the 1998 THSP. Though the THSP has few land use changes (compared to what was previously approved), it was determined that an entirely re-written Specific Plan would provide for greater clarity, definition and contemporary policy direction, and would reduce the possibility of confusion created by separately amending Specific Plan sections. While this comprehensive update would achieve a more contemporary organizational presentation and layout, the development contemplated by the THSP would remain largely the same as that authorized by the 1998 THSP.

Following the City's 1998 approval of the THSP, various regional and local steps were taken to begin implementing the Project. For example, as part of a settlement agreement reached between the County of Alameda, the City of Livermore, the City of Tracy, Sierra Club, and the original applicant, the parties agreed to the creating a governing structure in the form of a joint powers authority ("JPA") which would serve as a mechanism to fund needed regional transportation infrastructure improvements. This JPA was ultimately formed and served as the model followed by the San Joaquin COG in subsequent years when it formed a Regional Transportation Infrastructure Fund to mitigate regional traffic impacts. The City's previous approval of the THSP also resulted in the permanent dedication of 3,500 acres for open space uses west of I-580. Lastly, in the interim years since the City's approval of the THSP, the City has embarked on numerous planning efforts aimed at ultimately implementing the THSP. These planning efforts have included the adoption of a revised General Plan in 2011 that included the anticipated build out of the THSP. In addition, in order to implement the City's General Plan as it relates to the THSP, the City has adopted numerous city-wide infrastructure plans designed to accommodate the build out of the THSP. These infrastructure plans were subjected to their own CEQA review and are now part of the City's adopted infrastructure plans to implement the THSP. The City's previously-certified EIR prepared for the THSP is incorporated by reference into this EIR and is available on the City's website.

Given that the general development density and intensity of development associated with the Specific Plan was both contemplated and analyzed as part of the City's General Plan (2011), corresponding (certified) General Plan EIR, and citywide infrastructure master plans; that the Specific Plan Area has been annexed into the City of Tracy (thus is within its jurisdictional boundaries) and is largely under control of the Project Applicant, the alternative analyzed herein is purposely focused on the availability of infrastructure and feasibly attaining most of the basic objectives of the Project while simultaneously avoiding or substantially lessening any of the significant effects of the Project. No "new" alternatives were raised during either the Public Scoping Meeting (held on November 6, 2013) nor submitted in response to either of the two Notices of Preparation (NOP) that were circulated on October 23, 2013 or April 21, 2014.

7.3 SUMMARY OF ALTERNATIVES

Based on the purpose of the alternatives analysis as described above, and as prescribed in Section 15126.6 of the State CEQA Guidelines, the following alternatives were selected by the City of Tracy for evaluation in the EIR:

- Alternative 1: No Project/Current Zoning Alternative
- Alternative 2: No Project/No Build Alternative
- Alternative 3: Reduced Density Alternative

Section 15126.6(e) specifically requires that an EIR evaluate the impacts associated with the alternative of "no project" to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

The analysis of alternatives takes into consideration the base assumption that all applicable mitigation measures associated with the Project would be implemented with the appropriate alternatives. However, applicable mitigation measures may be scaled to reduce or avoid the potential impacts of the alternative under consideration, and may not precisely match those identified for the Project. If a specific impact is not raised within the discussion of an alternative, it is because the effect is expected to be the same as that associated with the implementation of the Project. Table 7-1, *Comparison of Alternative Project Impacts to the THSP Project*, presents a comparison of the alternative Project impacts with those of the THSP Project.

Table 7-1: Comparison of Alternative Project Impacts to the THSP Project

Topic	Alternative 1: No Project/Current Zoning Alternative	Alternative 2: No Project/No Build Alternative	Alternative 3: Reduced Density Alternative
Aesthetics, Light, and Glare	No Change in Impacts	Reduced Impacts	No Change in Impacts
Agricultural Resources	No Change in Impacts	Reduced Impacts	No Change in Impacts
Air Quality	No Change in Impacts	Reduced Impacts	Reduced Impacts
Biological Resources	No Change in Impacts	Reduced Impacts	No Change in Impacts
Cultural Resources	No Change in Impacts	Reduced Impacts	No Change in Impacts
Geological Resources	No Change in Impacts	Reduced Impacts	No Change in Impacts
Greenhouse Gas Emissions	No Change in Impacts	Reduced Impacts	Reduced Impacts
Hazards and Hazardous Materials	No Change in Impacts	Reduced Impacts	No Change in Impacts
Hydrology, Drainage and Water Quality	No Change in Impacts	Reduced Impacts	Reduced Impacts
Land Use	No Change in Impacts	Greater Impacts	No Change in Impacts
Noise	No Change in Impacts	Reduced Impacts	Reduced Impacts
Public Services and Utilities	No Change	Reduced Impacts	Reduced Impacts
Transportation and Circulation	No Change in Impacts	Reduced Impacts	Reduced Impacts

No Change in Impacts=No change in impacts when compared to Project.
Reduced Impacts=Reduced impacts when compared to Project.
Greater Impacts=Greater impacts when compared to the Project.

ALTERNATIVE 1: NO PROJECT/CURRENT ZONING ALTERNATIVE

Under the No Project/Current Zoning Alternative, the land uses described in the THSP would not be implemented. Future development of the Project site would occur in accordance with the City's General Plan land use designations for the Project site. The THSP Project Area is currently designated primarily Residential Medium and Residential Low mixed with some Office, Industrial, Commercial, Village Center and Residential High uses south of the California Aqueduct. The Project Area is located north of the California Aqueduct and is designated primarily Industrial and Residential Medium. The developable uses for the site under the General Plan include a maximum of 5,499 residential units, up to 6 million square feet of commercial, office, and industrial uses, parks, schools, and various open space uses on approximately 2,732 acres. The most substantive difference between the No Project/Current Zoning Alternative and the Project would be the timing and pace of phased development. Under this alternative, the Vesting Tentative Map for Phase 1a would not proceed in the timeframe contemplated in this Draft EIR, and in fact it is reasonable to assume that the overall timing of the entirety of Phase 1 would be protracted. Nonetheless, it is anticipated that the development that could occur under Alternative 1 would be similar in nature to the Project.

AESTHETICS, LIGHT, AND GLARE

Currently, the Project site is largely undeveloped. The Project site currently consists of largely undeveloped land primarily used for grazing and crop growth. Development under Alternative 1 could greatly change the existing landscape of the Project site, as a large number of residential, commercial, industrial, and office uses could be developed. The intensity of development allowed on the Project site under the General Plan would permanently alter the scenic vista of the Project site. Additionally, new development would create new and significant sources of light and glare within the area.

Implementation of the Project would change the visual character of the site from a rural, vacant land to a developed community. The implementation of the uses associated with the Project would increase the amount of light and glare within the area. Implementation of the Project would also significantly and permanently alter the scenic vista of the area. Therefore, implementation of the Project would create *Significant and unavoidable* aesthetic impacts.

Aesthetics impacts associated with the implementation of Alternative 1 would be similar to that of the Project. Implementation of both Alternative 1 and the Project would result in *Significant and unavoidable* aesthetic impacts.

AGRICULTURAL RESOURCES

Development within the THSP Project Area (under both Alternative 1 and the Project scenario) would require the conversion of the Project site from grazing and agricultural uses to urban uses, which includes 25 acres of Prime Farmland as well as approximately 2,732 acres of other farmland. The 25 acres of Prime Farmland is located along Lammers Road, just south of the Delta-Mendota Canal and is made up of an existing vineyard. Although conversion of the Project Area to urban uses is consistent with the City's overall planning vision, General Plan and Zoning Ordinance, the elimination of farmland to urban uses would permanently eliminate a source of food and fiber which cannot be recreated.

There were 2,581 total acres of land identified as either Prime Farmland, Farmland of Statewide Importance and Unique Farmland in the City of Tracy at the time of certification of the 2011 General Plan EIR. As such, the General Plan EIR analyzed the impacts to Prime Farmland areas within the Tracy Planning Area. The impacts related to agricultural resources within the THSP Project Area were considered in the impact analysis in the 2011 General Plan EIR, however, no mitigation measures were identified to reduce this impact, and the City Council adopted a statement of overriding considerations with respect to the anticipated loss of farmland.

Although the City has established the Agricultural Mitigation Fee and Right-to-Farm Ordinance to reduce the conversion of farmland, permanent loss of farmland would occur with implementation of the THSP. Since implementation of development on the Project site would result in a net loss of Prime Agricultural Land, the impact would be significant.

Therefore, with implementation of both Alternative 1 and the Project, impacts associated with agricultural resources would be *Significant and unavoidable*.

AIR QUALITY

Development associated with both Alternative 1 and the Project would be similar in nature. Due to the size of development that could occur under both Alternative 1 and the Project, it is anticipated that both scenarios would result in *Significant and unavoidable* impacts to regional construction related emissions, long term operational emissions, consistency with applicable air quality plans, and cumulative emissions.

BIOLOGICAL RESOURCES

Implementation of development under the No Project/Current Zoning Alternative could potentially disturb biological resources that exist on the Project site. However, as previously discussed in Chapter 4.4, *Biological Resources* of this Draft EIR, a portion of the Project site is covered under the existing San Joaquin Multi-Species Conservation Plan (SJMSCP). Prior to the finalization of the SJMSCP, the Tracy Hills Development (under the 1998 THSP) opted to create a separate HCP rather than participate in the SJMSCP. As a result, the Tracy Hills Development was called out as a project specifically not covered by the SJMSCP in Section 8.2.2.2 of the plan. The Tracy Hills HCP was never finalized, but as a result of recent coordination with SJCOG, coverage for Phase 1 under the SJMSCP was obtained in July 2013. [1] Future phases of the THSP are not currently amended by the SJMSCP and would need to apply independently for coverage. Future development of the property under Alternative 1 would need to apply for and be independently evaluated for coverage under the SJMSCP. Participation in the SJMSCP is voluntary for both local jurisdictions and future Project Applicants. Because participation in the SJMSCP is voluntary, no conflicts with the SJMSCP would occur. All permanent impacts to habitats within San Joaquin County and associated species to which impacts could occur are covered by the SJMSCP.

Biological resources impacts associated with implementation of the Project would be similar in nature to that of Alternative 1. Under both scenarios, impacts associated with biological resources would be *Less-than-significant*.

[1]USFWS. Determination of a Minor Amendment for Inclusion of the Tracy 580 Business Park Project under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, San Joaquin County. May 6, 2012

CULTURAL RESOURCES

Both Alternative 1 and the Project would include varying levels of ground disturbance within the same proposed footprint, and therefore each has the potential to impact previously discovered and undiscovered cultural resources through site preparation (e.g., vegetation removal, grading and filling), development of utility infrastructure or subsurface construction associated with any of the proposed elements. Development of the Project Area may require ground disturbance for proposed trail construction or other recreational enhancements. Development of the open space would also allow for potential vandalism and artifact collecting at resource locations. Mitigation measures identified in Chapter 4.5, *Cultural Resources* of this Draft EIR would reduce potential cultural resources impacts associated with both Alternative 1 and the Project to a level of *Less-than-significant.*

GEOLOGICAL RESOURCES

Similar numbers of buildings and people could be exposed to geologic hazards under both the Alternative 1 and Project scenarios. As previously stated, both Alternative 1 and the Project would be developed within the same project footprint. No significant geologic hazards are anticipated to occur onsite with the exception of expansive soil. As previously discussed in Chapter 4.6, *Geological Resources* of this Draft EIR, the implementation of mitigation measures would reduce expansive soil potential to a level of *Less-than-significant*. Therefore, implementation of both Alternative 1 and the Project would result in similar geologic resource impacts.

GREENHOUSE GAS ANALYSIS

As previously stated, development associated with both Alternative 1 and the Project would be similar in nature. Due to the size, magnitude, density and intensity of development that could occur under both Alternative 1 and the Project, it is anticipated that both scenarios would generate *Significant and unavoidable* amounts of greenhouse gas emissions.

HAZARDS AND HAZARDOUS MATERIALS

As previously stated, due to the comparable size of the THSP development footprint, development density/intensity and land uses contemplated Alternative 1 and the Project would be similar. Therefore, implementation of both Alternative 1 and the Project would be subject to the same existing potential environmental hazards located on site (natural gas pipelines, aqueduct and wildland fires). Additionally, because both Alternative 1 and the Project would include the development of similar uses (residential, commercial, office, and industrial), it is anticipated that similar hazardous materials would be utilized during both construction and operation of both developments. As identified in Chapter 4.8, *Hazards and Hazardous Materials* of this Draft EIR, with the implementation of mitigation measures, impacts associated with hazards and hazardous materials would be *Less-than-significant.*

HYDROLOGY, DRAINAGE, AND WATER QUALITY

Alternative 1 would result in impacts to groundwater supplies and recharge capabilities comparable to or less than those projected for the Project. Additionally, water quality and drainage would be similarly impacted when compared to the Project. Under both scenarios, water quality and drainage improvements would be developed. Similar mitigation would be required to reduce potential hydrology, drainage, and water quality impacts to a level of less than significant. Therefore, with implementation of the mitigation measures

identified in Chapter 4.9, *Hydrology, Drainage, and Water Quality* impacts associated with both Alternative 1 and the Project would be *Less-than-significant.*

LAND USE

Alternative 1 is entirely consistent with the existing land use policies set forth for the Project site in the City's General Plan. Any development that would occur under Alternative 1 would be consistent with the General Plan land use designations for the site. *No impacts* would occur.

Implementation of the Project would require a General Plan amendment to reflect the THSP Zoning Districts identified in Figure 3-5, *Tracy Hills Land Use Plan* in Chapter 4.10, *Land Use* of this Draft EIR. In addition to the map changes, the General Plan Land Use Element text would require minor modifications to reflect the comprehensive update of the THSP in the "Area of Special Consideration," Area No. 8 (Tracy Hills) and may need to reference other amended locations in the General Plan. Future development within the THSP Project Area would implement the goals and policies of the General Plan (identified in Table 4.10-1, *General Plan Policies Relevant to Land Use*). These goals and policies relate to expanding economic opportunities, particularly along the I-580 corridor, providing parks, open space, recreation facilities and services that maintain and improve the quality of life for Tracy residents, and designing neighborhoods with a superior design aesthetic and small-town character throughout Tracy. The Project is consistent with these goals and policies identified in the General Plan, thus, impacts related to consistency with the General Plan are *Less-than-significant.*

In comparison to the Project, Alternative 1 would result in similar land use impacts.

NOISE

As previously stated, development associated with both Alternative 1 and the Project would be similar in nature. Due to the comparable size of the THSP development footprint, development density/intensity and land uses contemplated that could occur under both Alternative 1 and the Project, it is anticipated that both scenarios would result in *Significant and unavoidable* impacts to both short term (construction) and long term operational noise impacts.

PUBLIC SERVICES AND UTILITIES

Under both the Alternative 1 and Project scenarios, increased impacts on all public services and utilities would occur, as the Project site is currently undeveloped and therefore does not include the demand for public services and/or utilities. However, it should be noted that both public services and utilities for the Project Area were contemplated in the City's General Plan.

As described in Chapter 4.12, *Public Services and Utilities* of this Draft EIR, with the implementation of mitigation measures, *Less-than-significant* impacts would occur with regard to public services and utilities under both scenarios.

TRANSPORTATION AND CIRCULATION

Due to the similar development potential possible under Alternative 1, it is anticipated that transportation and circulation impacts would be significant and unavoidable. Currently, the Project site is undeveloped. A

maximum of 5,499 residential units, up to 6 million square feet of commercial, office, and industrial uses, parks, schools, and various open space uses could be developed under Alternative 1. Mitigation measures similar to what are identified in Chapter 4.12, *Transportation and Circulation* of this Draft EIR would be required. However, even with the implementation of mitigation, it is anticipated that impacts under Alternative 1 would also be *Significant and unavoidable.*

ALTERNATIVE 2: NO PROJECT/NO BUILD ALTERNATIVE

Under the No Project/No Build Alternative, the land uses described in the THSP would not be implemented, and no development would occur on the Project site in the future. The site would remain largely vacant and in its current state. Additionally, the comprehensive update to the THSP would not be adopted with the implementation of Alternative 2. The Amendment to the General Plan would not occur under Alternative 2.

AESTHETICS, LIGHT, AND GLARE

Currently, the Project site is largely undeveloped. The Project site currently consists of largely undeveloped land primarily used for grazing and crop growth. As previously stated, no development would occur under Alternative 2 and thus no changes to the existing landscape of the Project site would occur. Additionally, because no new development would occur, no new sources of light and glare would be generated.

Aesthetics impacts associated with the implementation of Alternative 2 would be less than that of the Project. Implementation of Alternative 2 would result in no impacts relative to aesthetics, light, and glare. Comparatively, the Project would result in *Significant and unavoidable* aesthetic impacts.

AGRICULTURAL RESOURCES

No development would occur under Alternative 2, and thus the Project site would remain undeveloped and grazing and agricultural uses could continue to occur on the site. Additionally, the site includes 25 acres of Prime Farmland as well as approximately 2,732 acres of other farmland, which would remain unaltered. The 25 acres of Prime Farmland is located along Lammers Road, just south of the Delta-Mendota Canal and is made up of an existing vineyard. Therefore, Alternative 2 would allow the continued use of farming and agricultural activities to occur, and thus would not result in a future conversion to urban uses, and would not permanently eliminate a source of food and fiber which cannot be recreated.

Implementation of Alternative 2 would result in no impacts relative to agricultural uses. Agricultural impacts associated with the Project would be *Significant and unavoidable.*

AIR QUALITY

Under Alternative 2, no development would occur on the Project site. Therefore, no emissions from either the construction or operation of developed uses would occur. No new significant sources of air quality emissions would be generated by uses on the Project site. Dust emissions could occur from time to time during agricultural activities and general erosion. However, this is not anticipated to be significant, and currently already occurs onsite. Therefore, *no impacts* would occur.

BIOLOGICAL RESOURCES

No development would occur with implementation of Alternative 2. Therefore, no impacts to any potential onsite biological resources would occur. However, because no development would occur onsite, there would be inadequate funding necessary to adequately manage and maintain the 3,550 acres of open space adjacent to the THSP Project Area. Impacts would be *Less-than-significant*.

CULTURAL RESOURCES

Implementation of Alternative 2 would avoid any potential cultural resources impacts because no physical or operational changes to the site or its surroundings would occur. The rural, vacant landscape that currently occupies the site would remain, and therefore, no potential cultural resources would be disturbed during construction or operation of the Project. Impacts would be Less-than-significant.

GEOLOGICAL RESOURCES

No physical changes to the Project site would occur with the implementation of Alternative 2. Therefore, implementation of Alternative 2 would avoid all impacts associated with geology and soils. *No impacts* would occur.

GREENHOUSE GAS ANALYSIS

As previously stated, no development would occur with Alternative 2 and therefore, no greenhouse gas emissions would be generated by development of the Project site. *No impacts* would occur.

HAZARDS AND HAZARDOUS EMISSIONS

Alternative 2 would not include development of any type. Therefore, no new structures or people would be exposed to geologic hazards when compared to the Project. *No impacts* would occur.

HYDROLOGY, DRAINAGE, AND WATER QUALITY

Under Alternative 2, no physical changes to the Project site would occur. In addition, no detention basins or storm drainage systems would be constructed, and the Project site would remain in its undeveloped state. Due to the lack of infrastructure improvements associated with Alternative 2, marginal water quality impacts may occur due to uncaptured storm water runoff. Additionally, ongoing agricultural uses may generate water quality impacts. However, when compared to the Project, this is anticipated to be minor. *Less-than-significant* impacts would occur.

LAND USE

Alternative 2 would not be consistent with the existing land use policies set forth for the Project site in the City's General Plan. Because no development would occur under Alternative 2, no goals and policies relative to expanding economic opportunities, particularly along the I-580 corridor (General Plan Policy P3) would occur. Similarly, alternative 2 would be inconsistent with General Plan Objective LU 1.3 which identifies the need for providing parks, open space, recreation facilities and services that maintain and improve the quality of life for Tracy residents would occur.

In comparison to the Project, Alternative 2 would result in greater land use impacts.

NOISE

With the implementation of Alternative 2, the Project site would remain in its existing state and no new significant sources of noise would be introduced to the area. Therefore, *no impacts* would occur.

PUBLIC SERVICES AND UTILITIES

Under Alternative 2, there would not be an increase in demand for public services and/or utilities since no new land uses would be developed. The Project site would not generate any new sources of revenue, which could potentially fund future public service and utility needs. However, the site would not be directly generating the need for additional public services or utilities, and thus *Less-than-significant* impacts would occur.

TRANSPORTATION AND CIRCULATION

The Project site would remain in its existing state and no new significant sources of traffic would occur with the implementation of Alternative 2. The Project site itself would not be generating the demand for traffic improvements, and thus impacts would be *Less-than-significant.*

ALTERNATIVE 3: REDUCED DENSITY ALTERNATIVE

As noted in Chapter 4.12, *Public Services and Utilities* of this Draft EIR , the Project would require a substantial investment in new infrastructure to mitigate for 2035 conditions. As a result, the focus of this alternative was to determine what level of development would be feasible, remain economically viable, while also serving to minimize (in particular) potentially significant air quality, greenhouse gas emissions and transportation-related impacts, all the while attempting to achieve the majority of the Project objectives.

As such, a trigger analysis was performed to determine to what extent the THSP could be developed with Transportation Master Plan (TMP) identified improvements at the Corral Hollow interchange for 2035 conditions. The Corral Hollow Road interchange is an existing roadway and is the only existing roadway that provides access to the THSP. As the THSP develops, improvements would be made to Corral Hollow Road and the Corral Hollow Road interchange up to the geometry identified in the TMP. Any additional development in the THSP beyond the TMP capacity would require the construction of Lammers Road and the Lammers Road interchange. The analysis indicates that an overall project trip generation of 2,588 trips in the AM peak hour would cause operational degradation along Corral Hollow Road and would merit the construction of Lammers Road and the Lammers Road/I-580 interchange, or result in major improvements to the Corral Hollow interchange. Therefore, Alternative 3, Reduced Density Alternative, is based upon the highest number of trips that can be generated by development of the Project site before the construction of Lammers Road and the I-580 interchange is triggered. It is anticipated that a mix of uses would be developed under Alternative 3 similar in nature to the mix of land uses identified in the Project. However, under Alternative 3, no more than 2,588 residential equivalent trips could be generated by any combination of these uses. This accounts for an approximately 40 percent reduction in overall trips generated from the Project site. Thus, Alternative 3 would include the development of reduced land uses overall within the same development footprint identified in the Project description.

AESTHETICS, LIGHT, AND GLARE

Compared to the Project, the reduced development density of Alternative 3 could lessen the impacts on site character, if the development footprint is reduced. The reduction of residences and/or buildings would have significantly fewer new sources of light and glare as compared to the Project. Regardless, in relation to the current conditions, this alternative still introduces a significant new light source and would change the scenic character of the site. Thus, impacts would remain *Significant and unavoidable* when compared to the Project.

AGRICULTURAL RESOURCES

Development within the Project Area (under both Alternative 3 and the Project scenario) would require the conversion of the Project site from grazing and agricultural uses to urban uses, which includes 25 acres of Prime Farmland as well as approximately 2,732 acres of other farmland. The 25 acres of Prime Farmland is located along Lammers Road, just south of the Delta-Mendota Canal and is made up of an existing vineyard. Although conversion of the Project Area to urban uses is consistent with the City's overall planning vision, General Plan and Zoning Ordinance, the elimination of farmland to urban uses would permanently eliminate a source of food and fiber which cannot be recreated.

There were 2,581 total acres of land identified as either Prime Farmland, Farmland of Statewide Importance and Unique Farmland in the City of Tracy at the time of certification of the 2011 General Plan EIR. As such, the General Plan EIR analyzed the impacts to Prime Farmland areas within the Tracy Planning Area. The impacts related to agricultural resources within the THSP Project Area were considered in the impact analysis in the 2011 General Plan EIR, however, no mitigation measures were identified to reduce this impact, and the City Council adopted a statement of overriding considerations with respect to the anticipated loss of farmland.

Although the City has established the Agricultural Mitigation Fee and Right-to-Farm Ordinance to reduce the conversion of farmland, permanent loss of farmland would occur with implementation of the THSP. Since implementation of development on the Project site would result in a net loss of Prime Agricultural Land, the impact would be significant.

Although implementation of Alternative 3 would result in less density, and likely a smaller overall building footprint on the Project site, the Project site would be developed nonetheless. Therefore, with implementation of both Alternative 3 and the Project, impacts associated with agricultural resources would be *Significant and unavoidable.*

AIR QUALITY

AM and PM peak-hour trips under Alternative 3 would decrease by approximately 40 percent compared to the Project. Reducing trips would result in a reduction of mobile source emissions, which accounts for the majority of the air pollutant emissions associated with the Project. Reducing the amount of development also results in fewer area source and energy source emissions. Alternative 3 would result in approximately 40 percent reduction in generalized emissions. The emissions associated with Alternative 3 would be reduced from the Project. They are not anticipated to exceed San Joaquin Valley Air Pollution Control District (SJVAPCD) significance thresholds and would therefore be *Less-than-significant.*

BIOLOGICAL RESOURCES

Implementation of development under the Alternative 3 could potentially disturb biological resources that exist on the Project site even if development would occur at a reduced intensity. However, as previously discussed in Chapter 4.4, *Biological Resources* of this Draft EIR, a portion of the Project site is covered under the existing San Joaquin Multi-Species Conservation Plan (SJMSCP). Prior to the finalization of the SJMSCP, the Tracy Hills Development (under the 1998 THSP) opted to create a separate HCP rather than participate in the SJMSCP. As a result, the Tracy Hills Development was called out as a project specifically not covered by the SJMSCP in Section 8.2.2.2 of the plan. The Tracy Hills HCP was never finalized, but as a result with recent coordination with SJCOG Inc., coverage for Phase 1 under the SJMSCP was obtained in July 2013. [2] Future phases of the THSP are not currently amended by the SJMSCP and would need to apply independently for coverage. Future development of the property under Alternative 1 would need to apply for and be independently evaluated for coverage under the SJMSCP. Participation in the SJMSCP is voluntary for both local jurisdictions and future Project Applicants. Because participation in the SJMSCP is voluntary, no conflicts with the SJMSCP would occur. All permanent impacts to habitats within San Joaquin County and associated species to which impacts could occur are covered by the SJMSCP.

Biological resources impacts associated with implementation of the Project would be similar in nature to that of Alternative 3. Under both scenarios, impacts associated with biological resources would be *Less-than-significant.*

CULTURAL RESOURCES

Both Alternative 3 and the Project would include varying levels of ground disturbance within the same proposed footprint, and therefore each has the potential to impact previously discovered and undiscovered cultural resources through site preparation (e.g., vegetation removal, grading and filling), development of utility infrastructure or subsurface construction associated with any of the proposed elements. Development of the Project Area may require ground disturbance for proposed trail construction or other recreational enhancements. Development of the open space would also allow for potential vandalism and artifact collecting at resource locations. Mitigation measures identified in Chapter 4.5, *Cultural Resources* of this Draft EIR would reduce potential cultural resources impacts associated with both Alternative 1 and the Project to a level of *Less-than-significant.*

GEOLOGICAL RESOURCES

Because of the reduction in development, Alternative 3 would reduce the number of neighborhoods and commercial, office, and industrial uses developed and thereby reduce grading quantities and impacts compared to the Project. Additionally, the reduced density implemented by Alternative 3 would potentially reduce the amount of people and buildings that would be exposed to potential adverse impacts from seismic events compared to the Project. No significant geologic hazards are anticipated to occur onsite with the exception of expansive soil. As previously discussed in Chapter 4.6, *Geological Resources* of this Draft EIR, the implementation of mitigation measures would reduce expansive soil potential to a level of *Less-than-significant.* Therefore, implementation of both Alternative 3 and the Project would result in similar geologic resource impacts.

[2]USFWS. Determination of a Minor Amendment for Inclusion of the Tracy 580 Business Park Project under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, San Joaquin County. May 6, 2012

GREENHOUSE GAS ANALYSIS

The SJVAPCD requires projects to reduce their "business as usual" GHG emissions by 29 percent in order to result in less than significant project level and cumulative GHG impacts. The reduction in density that would occur under Alternative 3 would reduce the overall GHG emissions associated with mobile source, area source, energy consumption, water demand, and waste generation as compared to the Project. Therefore, it is anticipated that Alternative 3 would generate *Less-than-significant* amounts of greenhouse gas emissions. Comparatively, the Project would result in *Significant and unavoidable* greenhouse gas emissions.

HAZARDS AND HAZARDOUS MATERIALS

As previously stated, both Alternative 3 and the Project would be developed within the same project footprint and would be developed with similar land uses, although Alternative 3 would be developed at a reduced density and intensity of development. Therefore, implementation of both Alternative 3 and the Project would be subject to the same existing potential environmental hazards located on site (natural gas pipelines, aqueduct and wildland fires). Additionally, because both Alternative 3 and the Project would include the development of similar uses (residential, commercial, office, and industrial), it is anticipated that similar hazardous materials would be utilized during both construction and operation of both developments. As identified in Chapter 4.8, *Hazards and Hazardous Materials* of this Draft EIR, with the implementation of mitigation measures, impacts associated with hazards and hazardous materials would be *less-than-significant.*

HYDROLOGY, DRAINAGE, AND WATER QUALITY

Alternative 3 would develop the Project site at a reduced density, which would potentially decrease the amount of impervious surface on the site compared to the Project. This would decrease stormwater runoff generation and flows compared to the Project. Similar mitigation would be required to reduce potential hydrology, drainage, and water quality impacts to a level of less than significant. Therefore, with implementation of the mitigation measures identified in Chapter 4.9, *Hydrology, Drainage, and Water Quality* impacts associated with both Alternative 3 and the Project would be *Less-than-significant.*

LAND USE

Implementation of both Alternative 3 and the Project would require a General Plan amendment to reflect the THSP Zoning Districts identified in Figure 3-5, *Tracy Hills Land Use Plan* in Chapter 4.10, *Land Use* of this Draft EIR. In addition to the map changes, the General Plan Land Use Element text would require minor modifications to reflect the comprehensive update of the THSP in the "Area of Special Consideration," Area No. 8 (Tracy Hills). Future development within the THSP Project Area would implement the goals and policies of the General Plan (identified in Table 4.10-1, *General Plan Policies Relevant to Land Use*). These goals and policies relate to expanding economic opportunities, particularly along the I-580 corridor, providing parks, open space, recreation facilities and services that maintain and improve the quality of life for Tracy residents, and designing neighborhoods with a superior design aesthetic and small-town character throughout Tracy. The THSP Project is consistent with these goals and policies identified in the General Plan, thus, impacts related to consistency with the General Plan are *Less-than-significant.*

In comparison to the Project, Alternative 3 would result in similar impacts.

NOISE

Alternative 3 would result in fewer vehicle trips, which correlates to a reduction in noise impacts as compared to the Project. Less construction would occur with the development of fewer buildings, thus reducing short-term impacts. Accordingly, short-term and long-term noise impacts would be substantially less than those of the Project, and therefore would be *Less-than-significant.* Comparatively, Project noise impacts would be *Significant and unavoidable.*

PUBLIC SERVICES AND UTILITIES

Alternative 3 proposes a reduced intensity of development, thus decreasing the need for public utilities compared to the Project. With implementation of mitigation measures similar to those identified for the Project, it is anticipated that public services and utilities would be *Less-than-significant.* Similarly, the Project's public services and utilities impacts would be *Less-than-significant with mitigation.*

TRANSPORTATION AND CIRCULATION

Implementation of Alternative 3 would result in an approximate 40 percent reduction in overall trips generated by the Project. Under the Alternative 3 scenario, the Lammers Road and I-580 interchange would not be developed, as the volume of trips would not warrant the need for the magnitude of the improvement. Therefore, while the trips generated by Alternative 3 would be reduced by 40 percent, a significant circulation improvement (as identified in the Citywide Transportation Master Plan (TMP) would not be implemented, or at minimum, not implemented in the timeframe contemplated in the TMP or this Draft EIR. While the interchange improvement at Lammers Road and I-580 would not be warranted by Alternative 3, future development within the surrounding areas would result in the need for the interchange improvements at Lammers Road and I-580. With the reduction in Project trips in Alternative 3, the Project Applicant would still be required to pay a traffic impact fee based on the number of units developed and these fees would partially fund the Lammers Road interchange. Alternative 3 would result in fewer overall trips when compared to the Project. Due to the size of development proposed with Alternative 3, it is anticipated that significant transportation impacts would still occur. Mitigation similar to what is identified in Chapter 4.13, *Transportation and Circulation* of this Draft EIR would be required. However, even with the implementation of mitigation, it is anticipated that impacts under Alternative 3 would be *Significant and unavoidable.*

7.4 ALTERNATIVES CONSIDERED BUT REJECTED

ALTERNATIVE SITE ALTERNATIVE

Section 15126.6 of the State CEQA Guidelines mandates that an EIR include a comparative evaluation of the Project with a range of reasonable alternatives to the Project which would feasibly attain most of the basic objectives of the Project while simultaneously avoiding or substantially lessening any of its significant effects. Pursuant to Section 15126.6(f) (1) of the CEQA Guidelines, "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)." Although these factors do not present a strict limit on the scope of reasonable alternatives to be considered, they help establish the context in which the "rule of reason" is

measured against when determining an appropriate range of alternatives sufficient to establish and foster meaningful public participation and informed decision-making.

An EIR does not need to consider every conceivable alternative to a Project, nor is it required that an EIR consider alternatives that are infeasible. Rather (as noted above), it must consider alternatives that could feasibly attain most of the project's basic objectives, while minimizing or avoiding any of the identified significant adverse environmental effects of the project.

In the case of the THSP Project, an alternative site has been rejected from consideration for the following reasons:

- The Project Area has already been contemplated by the General Plan for future development with land uses consistent with those prescribed by the THSP (General Plan Area of Special Consideration Number 8: Tracy Hills Specific Plan);
- Extensive planning efforts have included the adoption of a revised General Plan in 2011 that included the anticipated build out of the THSP. In addition, in order to implement the City's General Plan as it relates to the THSP, the City has adopted numerous infrastructure plans designed to ultimately implement the THSP. These infrastructure plans were subjected to their own CEQA review and are now part of the City's official infrastructure plans to implement the THSP.
- The Project Area is currently designated " Tracy Hills Specific Plan" on the City of Tracy Zoning Map, thus the THSP is consistent with the intent of the prevailing zoning;
- The City's master plans of infrastructure (which serve to implement development under the General Plan) have accommodated the development density and pace of development identified in the THSP, and thus future infrastructure demands have been accounted for in the City's long range planning efforts;
- There are no other remaining large-scale properties within either the City of Tracy or within its sphere of influence that can accommodate a similar range of housing, commercial, industrial, office, institutional and public park and open space areas that would meet the local, community and regional needs as expressed through the vision of the THSP and the goals of the General Plan;
- The Project Area is largely within the control of the Project Applicant; there are no other sites of this size within the City or the City's sphere that the Project Applicant would be able to reasonably acquire, control or otherwise have access to that would meet the basic objectives of the Project.

7.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives.

In comparison to the alternatives analyzed, Alternative 3, Reduced Density Alternative, is considered the environmentally superior alternative. Alternative 3 marginally reduces some impacts due to the reduced development intensity potential. This alternative reduces overall trips generated by the Project by approximately 40 percent. This accounts for a reduction in air quality, GHG, noise and traffic impacts. Other impacts would be similar in nature when compared to the Project. Alternative 3 meets some of the

Project objectives identified in Section 7.1 of this Draft EIR. However, it does not fully meet many of the objectives, including implementation of the City's General Plan Area of Special Consideration Number 8: Tracy Hills Specific Plan Area. Additionally, this alternative would avoid significant and unavoidable Project impacts with respect to air quality, greenhouse gas emissions, and noise.

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10 GLOSSARY

ACRONYM	DEFINITION
AADT	Annual Average Daily Traffic–An estimate of the average daily traffic along a defined segment of roadway. This value is calculated from short term counts taken along the same section which are then factored to produce the estimate of AADT.
AB	Assembly Bill
AB 1575	Assembly Bill 1575
AC	Advisory Circular
ACE	Altamont Corridor Express
ACTA	Alameda County Transportation Authority
ADT	Average Daily Traffic
AIA	Air Impact Assessment
Alameda CTC	Alameda County Transportation Commission
ALS	Advanced Life Support
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AOA	Airport Operations Area
APCD	Air Pollution Control District
APN	Assessor's Parcel Numbers
APS	Alternative Planning Strategy
AQAP	Air Quality Attainment Plan
AQMD	Air Quality Management District
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASR	Aquifer Storage And Recovery
AUL	Activity Use Limitations
AWSC	All-Way Stop Controlled–An intersection that is controlled by a stop sign on all approaches.
BACT	Best Available Control Technology
BART	Bay Area Rapid Transit
Basin	San Joaquin Valley Air Basin
BAT	Best Available Technology Economically Achievable
BAU	Business as Usual
BBID	Byron Bethany Irrigation District
bbl/hr	Barrels per hour
BCID	Banta Carbona Irrigation District
BEP	Bond Expenditure Plan
BMPs	Best Management Practices
BPS	Best Performance Standards
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fleet Fuel Economy
Cal EPA	California Environmental Protection Agency

ACRONYM	DEFINITION
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CAT	California Climate Action Team
CAT	County Area Transit
CBC	California Building Code
CCAA	California Clean Air Act
CCIC	Central California Information Center
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDMG	California Division of Mines and Geology
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
CESA	California Endangered Species Act
CESQG	Conditionally Exempt Small Quantity Generators
CFC	California Fire Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH4	Methane
CHMIRS	California Hazardous Material Incident Report System
CHRIS	California Historical Resources Information System
CIP	Capital Improvement Program
Citywide SDMP	Citywide Storm Drainage Master Plan
CIWMB	California Integrated Waste Management Board
CMP	San Joaquin Regional Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2eq	Carbon Dioxide Equivalent
Code	City of Tracy's Municipal Code
Corps	United States Army Corp of Engineers
CPFMP	Citywide Public Facilities Master Plan
CPMP	Citywide Parks Master Plan
CPRA	California Public Records Act
CPSMP	Citywide Public Safety Master Plan

ACRONYM	DEFINITION
CPUC	California Public Utilities Commission
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRLF	California Red-legged Frog
CRMP	Cultural Resources Management Plan
CSFM	California State Fire Marshal
CSMP	Construction Site Monitoring Program
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CWIB	California Workforce Investment Board
DA	Development Agreement
DAR	Dial-A-Ride
dB	Decibel
dBA	A-weighted decibel
DHV	Design Hourly Volume–The estimated or counted hourly volume divided by the peak hour factor.
DMC	Delta Mendota Canal
DOE	Department of Energy
DOT	U.S. Department of Transportation
DPH	Department of Public Health
DPM	Diesel Particulate Matter
DSHC	Caltrans District Scenic Highway Coordinator
DTSC	Department of Toxic Substances Control
du/acre	Dwelling units per acre
DUE	Dwelling Unit Equivalents–The equivalent number of dwelling units that would generate a defined number of trips in a specified period of time.
DWR	Department of Water Resources
EDR	Environmental Data Resources, Inc.
EHD	San Joaquin County Environmental Health Department
EIR	Environmental Impact Report
EMT	Emergency Medical Technician
ENR	Engineering News Record
EPA	United States Environmental Protection Agency
ERD	Environmental Restoration Department
ERNS	Federal Emergency Response Notification System
ESA	Environmentally Sensitive Area
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
FCAA	Federal Clean Air Act
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Age

ACRONYM	DEFINITION
FESA	Federal Endangered Species Act
FFA	Federal Facility Agreement
FFS	Free Flow Speed–The speed of travel on a roadway that occurs when density and flow are zero. It is commonly thought of as the speed at which vehicles travel on a given facility in non-congested conditions.
FHWA	Federal Highway Administration
FHWA RD-77-108	Federal Highway Administration's Highway Noise Prediction Model
FIRM	FEMA Flood Insurance Rate Map
Flood Protection Plan	Central Valley Flood Protection Plan
FMMP	California Department of Conservation Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GCJC	Green Collar Jobs Council
GHG	Greenhouse Gas
GMO	Growth Management Ordinance
GMP	Groundwater Management Plan
gpcd	Gallons per Capita Daily
GWP	Global Warming Potential
H2O	Water Vapor
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HMP	Habitat Management Plan
HOV	High Occupancy Vehicle–A motor vehicle with seating for several passengers, specifically, one that is carrying carpoolers.
HVAC	Heating, Ventilation, and Air Conditioning
IBC	International Building Code
ICE	Intersection Control Evaluation–A process that identifies the best intersection control through a comprehensive analysis and documentation of the technical (safety and operational), economic, and political issues of viable alternatives.
IMP	Integrity Management Plans
IPCC	Intergovernmental Panel on Climate Change
ISC	Industrial Source Complex
ISR	Indirect Source Review
IWMB	Integrated Waste Management Board
JJWTP	John Jones Water Treatment Plant
JPA	Joint Exercise of Powers Agreement
JSD	Jefferson School District
LCA	California Land Conservation Act
Ldn	Day/Night Average
LEA	Local Enforcement Agency

ACRONYM	DEFINITION
LEDs	Light Emitting Diodes
Leq	Equivalent Sound Level
LESD	Lammersville Elementary School District
LID	Low Impact Design
LLNL	Lawrence Livermore National Laboratory
Lmax	Maximum Sound Level
Lmin	Minimum Sound Level
LOS	Level of Service–A grading system used to describe operational performance of a roadway network.
LRA	Local Responsibility Area
LTA	Lakeside Tracy Associates
LUST/LAST	Lists of Leaking Storage Tanks
M&I	Municipal and Industrial
MACT	Maximum Available Control Technology
MBTA	Migratory Bird Treaty Act
MEP	Maximum Extent Practicable
MERV	Minimum Efficiency Reporting Value
MGD	Million gallons per day
MMI	Modified Mercalli Intensity
MMT	Million Metric Tons
mpg	Miles per Gallon
mph	Miles per hour
MPO	Metropolitan Planning Organization
MRF	Material Recovery Factory
MSL	Mean Sea Level
MTCO2eq	Metric Tons of Carbon Dioxide Equivalent
MUTCD	Manual on Uniform Traffic Control Devices
MWELO	Model Water Efficient Landscape Ordinance
N2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Pollutant
NFA	No Further Action Determination
NFE	Properties Needing Further Evaluation
NFIP	National Flood Insurance Program
NFRAP	No Further Response Actions Planned
NHPA	National Historical Preservation Act
NN	National Network
NO2	Nitrogen Dioxide
NOI	Notice of Intent
NOV	Notice of Violation
NOX	Nitrogen Oxides

ACRONYM	DEFINITION
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPMS	National Pipeline Mapping System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRPA	National Recreation and Parks Association
NTC	Notice to Comply
NTSA	National Highway Traffic and Safety Administration
O3	Ozone
O3	Ozone
OHP	State Office of Historic Properties
OPR	Governor's Office of Planning and Research
OSHA	Federal Occupational Safety and Health Administration
OU	Operable Unit
PASR	Pipeline and Aqueduct Safety Report
Pb	Lead
PCB	Polychlorinated biphenyl
PEA	Preliminary Endangerment Assessment
PFCs	Perfluorocarbons
PG&E	Pacific Gas & Electric
PHMSA	Pipeline and Hazardous Materials Safety Administration (formerly the Office of Pipeline Safety or OPS)
PI	Plasticity Index
PIPA	Pipelines and Informed Planning Alliance
PIR	Potential Impact Radius
PM10	Coarse Particulate Matter, particulate matter 2.5 microns in diameter or less
PM2.5	Fine Particulate Matter, particulate matter 2.5 microns in diameter or less
ppb	Parts per Billion
PPL	The Conoco Phillips 66 pipeline
ppm	Parts per Million
ppt	Parts per Trillion
PPV	Peak Particle Velocity
PRC	Public Resources Code
PSE	Particle Size Efficiency
PSHA	Pipeline Safety Hazard Assessment
PSR	Project Study Reports
PVWD	Plain View Water District
RAB	Roundabout–A traffic circle intersection at which all approaches are required to yield to internal circulating traffic, all lanes are fed into the roundabout to the right by channelization, and all pedestrian facilities are outside the circulating flow areas; by-pass lanes may also be present.
RBF	RBF Consulting
RCMP	San Joaquin Regional Congestion Management Program

ACRONYM	DEFINITION
RCRA	Resource Conservation and Recovery Act
REAP	Rain Event Action Plan
REC	Recognized Environmental Conditions
REF	Unconfirmed Properties Referred to Another Agency
RME	Reasonable Maximum Exposures
RMP	Risk Management Plan
RMP	Roadway Master Plan
RMS	Root Mean Square
ROG	Reactive Organic Gases
ROW	Right-of-way
ROWD	Report of Waste Discharge
RPS	Renewable Portfolio Standard
RR	Railroad–A track or set of tracks along which passenger and freight trains run.
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SAP	Sustainability Action Plan
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SCFA	South County Fire Authority
SCH	School Property Evaluation Program
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SCWSP	South County Water Supply Project
SF6	Sulfur hexafluoride
SFM	State Fire Marshal's Office
SJAPCD	San Joaquin Valley Air Pollution Control District
SJCOES	San Joaquin County Office of Emergency Services
SJCOG	San Joaquin Council of Government
SJEMSA	San Joaquin Emergency Medical Services Agency
SJID	South San Joaquin Irrigation District
SJKF	San Joaquin Kit Fox
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJRTD	San Joaquin Regional Transit District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLIC	Spills, Leaks, Investigation and Cleanup
SO2	Sulfur Dioxide
SOI	Sphere of Influence
SOI	Sphere of Influence
SOX	Sulfur Oxides
SRA	State Responsibility Area

ACRONYM	DEFINITION
SSJID	South San Joaquin Irrigation District
SSP	Stockpile Stewardship Program
SSSC	Side Street Stop Controlled–An intersection that has one or more, but not all, approaches controlled by a stop sign.
STAA	Surface Transportation Assistance Act
Stantec	Stantec Consulting Services Inc.
SWF/LF, also referred to as SWIS	IWMB Solid Waste Information System
SW-MEI	Site-Wide Maximally Exposed Individual
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
T-BACT	Best Available Control Technologies for Toxics
TCE	Primarily trichloroethylene
TCM	Transportation Control Measure
TDM	San Joaquin Travel Demand Management
TDSWM	Tracy Delta Solid Waste Management
TFD	Tracy Fire Department
THSP	Tracy Hills Specific Plan
TIF	Transportation Impact Fee
TIS	Traffic Impact Study
TMDL	Total Maximum Daily Loads
TMP	City of Tracy Citywide Roadway and Transportation Master Plan
TNW	Traditional Navigable Water
TPD	Tracy Police Department
TRU	Transport Refrigeration Unit
TUSD	Tracy Unified School District
TWLTL	Two-Way Left Turn Lane–A median treatment on roadways that allows left turns from both directions.
ULOP	Urban Level of Flood Protection
UNFCCC	United Nations Framework Convention on Climate Change
UPRR	Union Pacific Railroad
USA	Underground Service Alert
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UVCE	Unconfined Vapor Cloud Explosion
UWMP	Urban Water Management Plan
VMT	Vehicle Miles Traveled–A measurement of miles traveled by vehicles in a specified region for a specified period of time. The FHWA compiles monthly and yearly VMT statistics nationally and by state.

ACRONYM	DEFINITION
VOC	Volatile Organic Compound
VOC	Volatile Organic Compounds
VPH	Vehicles Per Hour–The number of vehicles passing a specified point within one hour.
VTM	Vested Tentative Map
WSA	Water Supply Assessment
WSID	West Side Irrigation District
WSMP	Water Service Master Plan
WTP	Water Treatment Plant
WWMP	Waste Water Management Plan
WWTP	Wastewater Treatment Plant
µg/m3	Micrograms per cubic meter

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